ORAL PRESENTATIONS

OP-01: Obstetric and neonatal outcomes of Female Genital Mutilation/Cutting (FGM/C) in The Gambia; results from a multicentre prospective observational study

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Introduction: 76.3% of adult women in The Gambia have undergone Female Genital Mutilation/Cutting (FGM/C). This practice was banned in 2015, but there is fear that it may be driven underground. There is a lack of local data on healthcare outcomes of this practice.
Methods: Inclusion criteria: Consenting women presenting in early labour (singleton foetus) with or without FGM/C from May to September 2016 at 4 healthcare facilities in the Gambia. Data collection: Demographics, examination for the presence and type of FGM/C (WHO classification) and outcomes. Primary outcome: Post-partum haemorrhage (PPH) >500ml Secondary outcomes: Need for caesarean section, episiotomy or perineal tear, perinatal death, neonatal resuscitation, low birth weight.
Results: 1,569 women were recruited from a range of tribal groups. 77% had FGM/C. Mean age was 26.5 and parity 2.1. Adjusted relative risk of PPH was 2.3 for type I FGM/C, 2.8 in type II and 5.1 for those with type III and IV ($p<0.001$), for perineal tear or episiotomy was 1.7, 1.8 and 2.8 respectively ($p<0.001$), for caesarean section risk was 2.6, 3.1 and 2.7 ($p=0.02$) and for neonatal resuscitation was 1.9, 2.5 and 3.9 ($p<0.001$). No significant differences in other neonatal outcomes were demonstrated in this study.
Conclusion: This study provides evidence of the obstetric harm posed by FGM/C in The Gambia. It is hoped that this will be useful in the advocacy and sensitisation needed to end this practice.

OP-02: Diagnostic accuracy of Xpert MTB/Rif Ultra for TB Meningitis in HIV-infected adults: a prospective cohort study

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World Health Organization recommends Xpert MTB/Rif as the initial investigation for TB meningitis (TBM). However, diagnosis remains challenging due to imperfect sensitivity of

Xpert (~50-70%) and culture (~60%). We are evaluating the diagnostic performance of the next generation assay Xpert 'Ultra' for TBM.
We have been evaluating Ultra on the cerebrospinal fluid (CSF) of adults presenting to Mulago and Mbarara Hospitals in Uganda with meningitis and negative CSF cryptococcal antigen since March 2015, and will continue to 2018. We assessed diagnostic performance against the *consensus case definition* and *composite reference standard* (Xpert MTB/Rif, culture or Ultra). So far, 164 CSF samples have undergone testing with Ultra. 34 cases were classified as probable/definite TBM by the *consensus case definition* (excluding 11 only positive on Ultra). Ultra's sensitivity was 58.8% (20/34) for probable/definite TBM, compared to 42.4% (14/33) for Xpert MTB/Rif and 44% (12/27) for culture. By *composite reference standard*, TBM was detected in 29/164 (17.7%) samples. Ultra had a higher sensitivity 93.1% (27/29) than Xpert MTB/Rif 48.3% (14/29) or culture 46.2% (12/26). Of the 27 Ultra participants, 10 were culture positive, 13 were Xpert positive. Of the 11 participants positive only by Ultra: 4 were 'probable', 5 were 'possible' and 2 were 'not TBM' using the consensus case definition. Xpert Ultra detected significantly more TBM than Xpert and culture and is likely to be a major step forward in the diagnosis of TBM.

OP-03: Policymaker, health care provider and community perspectives on male involvement in maternal health in Southern Mozambique: a mixed method study

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Purpose: Most intervention studies to improve maternal health target mothers while their partners play a crucial role in the women's ability to seek and obtain ANC (antenatal care) and to prevent and treat infectious diseases like HIV and malaria. This study explores the beliefs of policymakers, health providers and communities regarding the benefits, challenges, risks and approaches to increase male involvement in maternal health in Southern Mozambique.
Methods: Fifteen in depth individual interviews with community leaders, health officers and stakeholders have been carried out to assess their attitudes and perspectives regarding male involvement in maternal health. Subsequently 14 focus group discussions have been conducted in the community and at provider level. Currently, a survey is being administered among 500 households to assess the current level of male involvement, attitude and practices in the community.
Results: Preliminary results show a high interest but a lack of strategy at policy level to stimulate male involvement in maternal health. Providers tend to have a passive attitude regarding male involvement initiatives and don't consider the invitation of men in ANC as a priority. In the community, pregnancy and childbirth is seen as a women's business and men accompanying their wife to ANC are considered as being HIV positive or weak. Men are willing to be involved but describe a hostile feminine environment and non-flexible hours of the clinic as the main barriers.
Conclusion: Context specific interventions and sensitization activities, targeting both providers and communities, should be designed and implemented to remove persistent barriers.

OP-04: The role of HLA-driven viral adaptation in immune control of HIV infection in a maternal population in Durban, South Africa

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HLA-restricted Cytotoxic T-lymphocytes that are capable of suppressing HIV replication exert a strong pressure on the virus favoring the selection of escape mutations. Protective HLA molecules drive the selection of escape mutants that reduce viral replicative capacity. Transmission of viruses with low viral replicative capacity result in lowering of early viral set-point and a higher CD4 count in recipients.
We investigated two maternal cohorts of HIV-infected, antiretroviral-therapy-naïve women recruited from Durban, South Africa in 2002-5 (n=328) and in 2012-13 (n=250) respectively. We hypothesized that the total number of HLA-associated polymorphisms at a population-level adaptation of HIV is contributing to the reduction in viral set-point over a 10-year period. Preliminary results demonstrate lower viral loads, increased CD4 counts and increased number of HLA-associated polymorphisms in the 2012-13 cohort compared with the 2002-5 cohort ($p<0.001$). Moreover we found a decrease in viral load and increase in CD4 count when correlated with total number of HLA-associated polymorphisms per Gag sequence across the two cohorts ($p<0.001$).
These results suggest that the lower viral loads observed in the 2012-13 cohort is correlated with the accumulation of HLA-associated polymorphisms at a population level, with reductions in viral replicative capacity and improved immune control. Further analyses are required to evaluate the impact of HIV adaptation to protective HLA molecules such as HLA-B*57 on changing virulence in the HIV epidemic.

OP-05: Evaluation of the SafeCare programme to improve quality of care in Tanzania's private healthcare facilities

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The private healthcare sector in Tanzania is growing rapidly, and approximately 30% of Tanzanian health facilities are private (for-profit and non-profit). However, regulation of private facilities remains weak and there are concerns with quality of care. An innovative approach to addressing some of these challenges is the SafeCare model, developed and implemented by the International NGO PharmAccess. SafeCare is a stepwise quality improvement programme that assesses health facilities on a set of structural criteria, provides mentoring and training to support implementation of quality improvement measures, and

offers access to investment capital through loan underwriting. This research aims to evaluate the impact of the SafeCare model on quality of care and business performance provided in private health facilities in Tanzania.
The major part of the evaluation is a randomised controlled trial of 237 private-for-profit and faith-based-organisation health facilities, with half receiving the full SafeCare package and half receiving a single assessment and no other support. Facilities were enrolled in March-December 2016 and will be followed up after 18 months. The co-primary outcomes will be clinical quality of care as measured by standardised patients (SPs) and compliance to infection prevention and control (IPC) practices as measured by direct observation of healthcare professionals' interactions with patients. . The evaluation also includes quantitative analysis of programmatic data already collected by PharmAccess in Tanzania and Kenya, and in-depth interviews with government, parastatals, NGOs and banks in Tanzania and Kenya to understand how PharmAccess shapes the private healthcare market and policy environment.

OP-06: Leprosy mapping in Ethiopia

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Purpose: Although, the leprosy elimination target of less than 1 case per 10,000 inhabitants has been reached at national level since 1999, the new case notification has remained the same for over ten years. The proportions of multi- bacillary (MB) cases, children with leprosy, and new cases with disability grade II among have remained high which indicate that there is still an ongoing transmission of the disease within the community. There are places and communities in Ethiopia where the prevalence of leprosy is above the elimination target and that need special attention. It is therefore necessary to study the spatial distribution of cases at different levels of administrative units to identify areas and groups of population with high endemic or high leprosy burden areas in order to utilize the limited resource appropriately and provide the necessary response in further reducing the burden of the disease at all levels of the health system- National, Zonal, Woreda and health facility.
Principal results: The mapping exercise has identified 93 leprosy hot-spot Woredas contributing to over half of national burden as well the level of leprosy services and training provided.
Major conclusion: These help the control program to institute a locally adjusted intensive and targeted leprosy interventions to reduce the burden in hotspot areas. This was a very useful low budget exercise that focused the attention of TBL workers, and has led to a pilot study on value and feasibility of active case finding and contact tracing.

OP-07: Loss to follow-up among HIV infected women in Option B+ in Moshi municipality, Tanzania: a retrospective cohort study

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Aim: This study aimed to determine Loss to follow-up (LTFU) in care among HIV infected women initiated on Option B+, and to investigate possible predictors of LTFU
Methods: This was a historical cohort design among HIV positive women who initiated on option B+ between February 2014 and December 2015 in Moshi municipality, Tanzania. Logistic regression analyzed factors for LTFU in the first 3 months. Survival analysis estimated cohort survival functions for the whole period of follow up and Cox proportion regression analysis examined factors associated with LTFU.
Results: Among 468 women included in the analysis, 375(80.13%) of women were retained in care at 3 months. The overall retention during follow up time of 8 months was 54.9%. Younger age at ART initiation (OR; 2.219 (95% CI; 1.239-3.971), breastfeeding as reason for ART initiation (OR; 4.100 (95% CI; 1.476-11.38) and having no treatment supporter (OR; 3.758 (95% CI; (2.286-6.176) were associated with the higher odds of early LTFU (3 months). Having no treatment support was the only significant factor that was associated with the increased risk of LTFU for entire period of follow-up (aHR: 1.354; 95%CI [1.326-2.214]).
Conclusions: Younger age at ART initiation, breastfeeding as reason for ART initiation and having no treatment supporter was associated with risks on LTFU. Special attention to HIV infected women with limited treatment and social support and concerns about starting treatment for life in younger age may be crucial in improving engagement in care.

OP-08: Prevalence of Streptococcus pneumoniae nasopharyngeal carriage, risk factors and antibiotic resistance patterns among under two years children attending primary health care facilities in urban Moshi 2015

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Background: Streptococcus pneumoniae is the most common cause of bacterium pneumonia in children, especially less than 2 years. It is well known pneumonia is the leading cause of under 5 deaths globally, causing 17% of the 6.6 million child deaths.
Objective: To determine prevalence and risk factors of nasopharyngeal carriage of S pneumoniae in children <2 years in Moshi municipal and describe antimicrobial resistance patterns.
Methods: This was a cross sectional study carried out from February to May 2015. Interviews using questionnaires was used to collect social demographic information and medical history. Nasopharyngeal samples were collected and cultured on blood agar for identification of S pneumoniae. Resistance test on pneumococcal isolates was performed using Kirby-Bauer disc diffusion method. Proportions were used to summarize the data and chi-square test to test the difference of S pneumoniae carriage between different groups.
Results: Of the 213 enrolled children, the prevalence of S pneumoniae carriage was 25.8% (n=55). Of the 55 tested isolates, 41.8% were nonsusceptible to penicillin. The resistance to

trimethoprim-sulfamethoxazole, erythromycin and clindamycin were 100%, 12.7% and 3.6% respectively. Nearly 13% of S pneumoniae isolates were not susceptible to ≥ 3 antibiotics.
Conclusion: A quarter of children were carrier of S pneumoniae, which was resistant to some antibiotics which are recommended as first line in the management of pneumonia. There is a need to inform district managers, but a robust surveillance system for monitoring S pneumoniae resistance over time is needed on their setting.

OP-09: Yellow fever surveillance: study of *Aedes* mosquito in South Omo Region, Ethiopia

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Yellow Fever (YF) remains an important public health problem across Africa and South America due to its high case-fatality rate. A YF outbreak occurred in South Omo Region, SNNPR, Ethiopia in 2012-2014. This study aims to incriminate the local *Aedes* vector species and to assess the risk for future YF transmission. From October 2012 to March 2014, 165 cases and 62 deaths were reported, principally in the South Ari region (83.6%). The overall male to female case ratio was 62%:38%. The majority of patients were 15-44 year olds (74.5%) and most case deaths were males (76%). Shepi and Arkisha villages in South Ari have so far been sampled, with *Ensete ventricosum* (false banana) identified as the primary natural breeding site, and clay pots outside the home as the most productive artificial breeding site. The entomological risk indices calculated for Shepi were: House Index (HI) - 85; Container Index (CI) – 59.9; and Breteau Index (BI) – 265 and for Arkisha: HI – 38.5; CI -17.6; BI – 73.1. Additional risk factors responsible for the spread of cases include the migration of individuals from all 16 indigenous tribes to Jinka Market (South Ari) to sell produce on Saturdays. Molecular testing of vector specimens for the presence of YF virus is ongoing. In 2014, the Ministry of Health organised a mass vaccination campaign in the region and reported an average coverage of 89%. Study outputs will provide crucial information for the National Vector Control Programme to guide future finite resource allocations.

OP-10: Antibiotics use and outcomes in non-culture confirmed neonatal sepsis at district and teaching hospital neonatal units in Rwanda

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Introduction: With the introduction of respiratory support (CPAP), infection is now the most common cause of death in the neonatal period (first 28 days of life). Globally, infection accounts for 1.6 million deaths annually (32%). Antibiotics are lifesaving in genuine infection

but have been shown to be detrimental if overused in infants who have no evidence of infection. This study aims to assess the antibiotic use in a district (Muhima District Hospital, MDH) and tertiary hospital (University Teaching Hospital of Kigali, UTHK) in Rwanda.
Methods: A retrospective, descriptive study was conducted among neonates admitted to neonatal intensive care units (NICU) at MDH and UTHK. A chart review was conducted using an electronic questionnaire. Data entry, processing and statistical analysis was performed using Statistical packages for social sciences (SPSS).
Results: 178 neonates were enrolled from MDH (n=112) and UTHK (n=66). These sites were found to have mortality of 30% and 36% respectively. 88% of infants received antibiotics, for a median of 6 days. Infants spent a mean of 72% of their admission on antibiotics. Blood culture was ordered in 70 cases (41.2%) and a positive culture was found in 16 cases with *Klebsiella* and *Staph aureus* being the only organisms cultured.
Conclusion: Infection remains a significant problem for neonates. With increasing challenges of antibiotic resistance, the results of this study demonstrate the need for antibiotic stewardship programs in Rwandan NICUs. This project was a pilot study in preparation for a larger study looking at antibiotic use at UTHK.

OP-11: Preliminary Safety and Tolerability of Radiation Attenuated *Plasmodium falciparum* Sporozoite (PfSPZ) Vaccine Administered by Direct Venous Inoculation to Healthy Children and Infants 5 Months through 9 Years of Age in Western Kenya

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Sanaria® PfSPZ Vaccine is a preerythrocytic malaria vaccine candidate composed of radiation-attenuated, aseptic, cryopreserved *Plasmodium falciparum* sporozoites administered by direct venous inoculation (DVI). We conducted an age-deescalating, dose-escalating, randomized, double-blind, placebo-controlled trial to assess safety and tolerability of PfSPZ Vaccine in children from Siaya County, western Kenya. From July 2016 to February 2017, we vaccinated 165 children in three age groups (5–9 years, 13–59 months, 5–12 months) with doses of 1.35/2.7/4.5/9.0/18.0 x 10^5 PfSPZ or placebo. Each dose group had 8 vaccine and 4 placebo recipients. The two highest doses were given twice, 8 weeks apart, lower doses administered once. Safety and tolerability were evaluated for 5 days post vaccination, on days 8 and 29. We performed 233 vaccinations, including 10 partial vaccinations. No Grade 3 related adverse events (AEs), laboratory abnormalities, or significant electrocardiogram changes occurred. Possibly to definitely related solicited local and systemic AEs (Grade 1/2) during 7 days post vaccination occurred in 20.6% and 10.3% of participants, respectively; possibly related unsolicited AEs during 28 days post vaccination occurred in 6.1%; all resolved. Three malaria-related serious AEs, and one grade 3 blood draw-related AE resolved. All 27

possibly-related Grade 1/2 laboratory abnormalities at day 8 resolved. Data remain blinded. DVI with PfSPZ Vaccine was tolerable and safe in children and infants. Data provided the foundation for an ongoing PfSPZ Vaccine trial assessing safety, immunogenicity, and efficacy in 5–12-month-olds in Siaya.

OP-12: Feasibility of direct venous inoculation of the radiation-attenuated *Plasmodium falciparum* whole sporozoite vaccine in children and infants in Siaya, western Kenya.

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Vaccinations are traditionally administered intramuscularly, subcutaneously, or orally. Sanaria® PfSPZ Vaccine, composed of radiation-attenuated, aseptic, purified *Plasmodium falciparum* sporozoites is administered by direct venous inoculation (DVI) for maximal efficacy. As part of an efficacy, safety, and immunogenicity trial in western Kenya, feasibility and tolerability of one or 2 doses given by DVI to children and infants was evaluated, including ease of venous access, time required for injection, and mothers' pain perceptions. 896 injections (target 0.5mL) were administered by DVI to 501/512 eligible participants (36/36 5–9-year-olds, 64/65 1–5-year-olds, and 401/411 5–12-month-olds); venous access was not obtained in 11/512 (2.1%) participants. Twenty-seven participants (3% of injections) received <0.5mL: one 5-9-year-old, five 1–5-year-olds, twenty-one 5–12-month-olds. The majority (56%) of partial injections were estimated as > 0.4 mL. Vaccination by single injection was accomplished in 91.5% of 5–9-year-olds, 86.6% of 1–5-year-olds, 90.3% of 5–12-month-olds; injectors' performance improved over time. Mothers of 5-9 year olds rated DVI as painless (83% of injections) or mildly painful (17%), and of infants and children under five as painless (16%), mildly (35%), moderately (36%), or severely painful (12%). Fourteen percent of infants did not cry with injections. Vaccine administration took between 1.8 to 4.6 minutes depending on age group. These data show vaccination by DVI is feasible in children and infants.

OP-13: Prevalence of HIV Integrase Strand Transfer Inhibitor Resistance Mutations in ARV Naïve Patients in Botswana and Optimisation of a Cost-effective In-house HIV Integrase Genotyping Assay

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Background: Many Antiretroviral therapy (ART) guidelines do not recommend baseline Integrase Strand Transfer Inhibitors (INSTI) drug resistance testing mainly due to their low prevalence. Botswana is the first country in Sub-Saharan Africa (SSA) to rollout Dolutegravir (DTG) based combination antiretroviral therapy (cART) in June 2016. Currently there are about 40 000 patients on DTG cART but baseline data on Integrase drug resistance is lacking and commercial genotypic testing for (INSTI) is expensive. We aim to optimise a cost effective in-house INSTI genotyping assay and determine the prevalence of INSTI resistance mutations in ARV naïve patients in Botswana.
Methods: Integrase genotypic resistance testing was performed in 61 samples from ARV naïve patients collected between 2012 and 2014 using an in-house assay. Genotyping was performed by amplifying a 1078 amplicon and sequencing was performed using a Big-Dye terminator on a 3130 XL Genetic Analyser.
Results: The amplification first round success rate is 87% (53/61). Second round Polymerase Chain Reactions (PCR) and Sequencing Analysis is ongoing. 24 samples have been sequenced thus far with all achieving over 50% quality sequences from three in-house primers.
Conclusion: These preliminary results demonstrate a good first round RT-PCR success rates of the in-house assay. Continued surveillance of Transmitted Drug resistance mutations is needed with expanded use of INSTI like Dolutegravir.

OP-14: Family planning services in southern Tanzania for women who would like to delay their first birth: a mixed method study

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Background: Family planning metrics categorise women as those desiring to space or limit future births, or according to age. We extended this categorisation to explore the family planning needs of Tanzanian women who want to delay their first birth.
Aim: To investigate the characteristics, needs, sources of modern contraception and provision of quality care for women who want to delay their first birth; and explore community and health provider's perceptions about using modern contraception to delay first birth in southern Tanzania.
Methods: The research applied a mixed-methods study design accessing quantitative population level household survey data, health facility data, and qualitative methods.
Results: From the survey, 4% of 2128 women were categorised as 'delayers of first birth', i.e. sexually active but not started childbearing and expressed intention to delay the first birth for at least two years. The majority were teenagers (82%) and unmarried (88%). About half were currently using modern contraception, predominantly injectables, accessed from public facilities. Indicators of quality service provision were low. From qualitative interviews, the majority of community members and health care providers said that the use of modern contraception to delay first birth was widely acceptable for students, young, unmarried and women in unstable marriage, but implants and intra-uterine devices and systems were perceived as inappropriate methods. Misaligned national policies for adolescents in Tanzania have direct implications for access, confidentiality and consent.

Conclusions: Routinely categorising and measuring delayers of first birth acknowledges their unique needs and could help to catalyse a policy and programmatic response.

OP-15: Risk factors for respiratory syncytial virus associated with acute lower respiratory infection in children under five years: Systematic review and meta-analysis

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Respiratory syncytial virus (RSV) is the most common pathogen identified in young children with acute lower respiratory infection (ALRI). High incidence of RSV infection and potential severe outcomes mean it is important to identify and prioritise children at higher risk of developing RSV-associated ALRI. We aimed to identify risk factors for RSV-associated ALRI in young children.
A systematic literature review was performed across 4 databases and unpublished studies from RSV Global Epidemiology Network collaborators were obtained. Quality of all eligible studies was assessed according to modified GRADE criteria. We conducted meta-analyses to estimate odds ratios with 95% confidence intervals (CI) for individual risk factors.
We identified 20 "good quality" studies investigating 18 risk factors for RSV-associated ALRI in children under five years old. 8 risk factors were significantly associated. The meta-estimates of their odds ratio with corresponding 95% confidence intervals are prematurity 1.96 (1.44-2.67), low birth weight 1.91 (1.45-2.53), being male 1.23 (1.13-1.33), having siblings 1.60 (1.32-1.95), maternal smoking 1.36 (1.24-1.50), history of atopy 1.47 (1.16-1.87), no breastfeeding 2.24 (1.56-3.20) and crowding 1.94 (1.29-2.93).
This study presents a comprehensive report of the strength of association between socio-demographic risk factors and RSV-associated ALRI in young children. Some are similar to those identified for (all cause) ALRI and thus, in addition to the impact of novel RSV vaccines, national action against ALRI risk factors from national control programmes should reduce the burden of disease from RSV.

OP-16: Estimating the need for inpatient neonatal services: an iterative approach employing evidence and expert consensus to guide local policy in Kenya

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Background: Universal access to quality newborn health services will be essential in meeting specific Sustainable Development Goals to reduce neonatal and overall child mortality. Data for decision-making is crucial for planning services and monitoring progress in these endeavours. However, gaps in local population-level and facility-based data hinder estimation of health service requirements for effective planning in many low- and middle-income settings.
Methods: We worked with local policy makers and experts in Nairobi City County to address these gaps, developing a systematic approach using available data to support policy and planning. We created a framework to identify major neonatal conditions likely to require inpatient care and identified incidence estimates through literature review and expert consultation, to give an overall estimate of the need for inpatient neonatal care, taking account of potential co-morbidities.
Results: Our estimates suggest almost 1 in 5 newborns (183/1000 live births) in Nairobi City County may need inpatient care, resulting in an estimated 24,161 newborns expected to require care in 2017. This estimate included adjustment, where possible, to avoid double counting of neonates with comorbidity. Severe infection and neonatal jaundice accounted for the majority of conditions requiring neonatal admission, comprising 27.8% and 33.1% of illness episodes, respectively.
Conclusion: Our approach has been well received by local experts, who showed a willingness to work together in the use of evidence in healthcare planning. The process highlighted the need for coordinated thinking on admission policy and referral care especially in a pluralistic provider environment helping build further appetite for data-informed decision making.

OP-17: Is deployment of trained nurses to rural villages a remedy for the low skilled birth attendance in Ethiopia? a cluster-randomized controlled community trial

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Very low coverage of Skilled Birth Attendance (SBA) is one of the major drivers of maternal
(CORN) to the rural communities in South Ethiopia on SBA. The intervention consisted of providing SBA services to 188 villages/clusters through CORN positioned either at health centers (HC-based intervention) or health post (HP-based intervention). Ninety-four control villages were included for comparison. Baseline and end line surveys were conducted to document and measure the effects of the intervention.
Data were collected from a total of 2147 and 2142 pregnant women from 282 villages at baseline and endline evaluation surveys respectively. SBA utilization rate increased by 81.1% (from 24.61 to 44.59) and 122.9% (from 16.41 to 36.59) in the HP and HC based- intervention arms, respectively. Conversely, a slight decline (2%) was observed in the control villages. This yielded a 21.32 and 20.52 percentage points (PP) increase for the two intervention arms compared to the baseline and control arm ($P < 0.001$). Deployment of trained reproductive health nurses to hard-to-reach communities in Ethiopia significantly improved utilization of SBA services by more than 80% in the ten months' intervention period.

Poster Presentations

PP-01: Awareness, Attitude and Practices of Evidence Based Medicine at KCMC, Moshi Tanzania

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Background: Integration of clinical epidemiological results into daily practices is the corner-stone of Evidence Based Medicine (EBM). Misunderstanding and implication of EBM on health service provision has led to patient's mismanagement due to most of the references being opinion based rather than evidence based. There is still minimal application of EBM in developing countries especially SSA due to limited information and resources scarcity. This study aimed to assess awareness, attitude and practice of EBM among health workers at KCMC.
Methodology: A descriptive cross sectional study involving registered nurses and doctors was conducted from May to June 2016 at KCMC, with a total of 300 sample size through a random sampling. Structured questionnaire were used to obtain data, the confidentiality was highly observed and data were checked for completeness and accuracy, then analyzed through SPSS version 20.
Results: [264(88%)] were aware of EBM, while [285(95%)] had a positive attitude on EBM improving patient's care, outcome, clinical decision making, and quick knowledge update, with [182(70.6%)] being positive on EBM reduction in hospital stay. Contrarily, [163 (54.3%)] had a negative attitude on application of EBM on daily practices. Additionally, 72.7% were practicing EBM, with most encountered barriers being lack of time, EBM basic skills insufficiency and EBM as a new concept.
Conclusion: EBM is the gold standard tool which helps the clinician to incorporate the scientific evidence into practices to improve patient's well-being. Recent improvement in online resources accessibility has enabled clinicians to practice EBM in daily practices.

PP-02: Prevalence and factors associated with diabetes in pregnancy among women who delivered at a tertiary hospital in Northern Tanzania

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Aim: This study aimed to determine the prevalence and factors associated with diabetes in pregnancy among women who delivered at a tertiary hospital in Northern Tanzania.
Methods: Hospital-based retrospective cohort study was conducted from April to June, 2017 using maternally-linked data from Kilimanjaro Christian Medical Center (KCMC) medical birth

registry for the period of 2000 to 2015. A total of 53,543 singleton deliveries were studied. All women who were diagnosed with diabetes before or during the index pregnancy were included in the study. Data were analyzed using SPSS version 20. Descriptive statistics were summarized using frequencies and percentages for categorical variables while mean and standard deviation was used for continuous variables. Adjusted odds ratios with 95% CI for risk factors associated with diabetes in pregnancy were estimated using multivariable logistic regression models. Finally, statistical significance was tested at P-value <0.05.
Results: The prevalence of diabetes in pregnancy of 0.3%. Maternal age ≥ 30 years (OR 3.79; 95% CI: 1.33 – 10.84), gravidity ≥ 5 (OR 4.58; 95% CI: 1.94 – 10.81), chronic hypertension (OR 4.21; 95% CI: 1.67 – 10.62) and pre-pregnancy obesity (OR 3.61; 95% CI: 1.18 – 10.91) were significantly associated with higher odds of diabetes in pregnancy.
Conclusion: Multiple risk factors were identified. Efforts to screen at risk women during prenatal care is warranted in order to provide appropriate clinical management to reduce/ prevent adverse pregnancy outcome related to diabetes mellitus.

PP-03: Intensified case finding: contribution of contact tracing to tuberculosis case finding in South Nigeria

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Background: There are over 9 million cases of tuberculosis (TB) worldwide. Intensified case finding of TB is one of WHO STOP-TB strategies and 2017 was declared the year of accelerated TB case finding in Nigeria. Contact tracing as a key case finding strategy has been implemented for bacteriologically positive TB patients and has yield TB cases.
Objective: To highlight the contribution of contact tracing carried out by healthcare workers in 44 local government areas(LGA) covered by Challenge TB project in Akwa Ibom, Cross River, Enugu and Rivers State of Nigeria.
Methods: A desk review of contact tracing monthly summary tools from January to June 2017 was conducted to extract number of index TB cases visited, contacts screened, presumptive identified and tested, TB cases notified and placed on treatment. .
Result: Analysis revealed contact tracing increased as more health workers got sensitized and engaged to conduct the exercise. Circulation of National tools for contact tracing helped to ensure uniformity in documentation. 44.4% of all bacteriologically positive TB patients were traced and their contact screened. The strategy contributed 3.1% of all presumptive TB registered and 3.7% of all TB cases notified in the LGAs within the period.
Conclusion: Contact tracing gradually proves to yield TB cases if effectively and continuously practiced. More support should be allocated to the strategy and should be done for all bacteriologically positive TB clients. More health workers in the TB Programme should be actively involved in the process and resources should be invested to foster yield.

PP-04: Placental parasitic infections in term deliveries at Kilimanjaro Christian Medical Centre: A cross-section study

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Background: Despite interventions, placental parasitic infections continue to be a public health problem. The infections persist to cause poor pregnancy outcomes such as maternal anemia, low birth weight and stillbirth. There is limited information on the burden of placental parasitic infection among pregnant populations in Tanzania. This study aimed to determine the prevalence and pregnant outcomes associated with placental parasitic infections at KCMC
Methods: A cross sectional study was conducted at KCMC in Kilimanjaro region between June and July 2016. Pregnant women were interviewed before and after delivery. Malaria was tested using a rapid malaria diagnostic test (mRDT). A total of 80 placental slide sections were made following histological protocols. After staining, slide sections were examined for the presence of parasites microscopically. Pearson Chi-square and Fisher's exact test were used to test for associations.
Results: Malaria parasites were found with a prevalence of 10%, none of which had a positive MRDT. Other placental parasites like *Toxoplasma spp., Schistosoma spp., Borrelia spp., Amoeba, Leishmania* and *Trypanasoma spp.*, were negative. Education status was significantly associated with placental malaria (χ^2= 5.535, P value= 0.041). The outcomes that were significantly associated with placental malaria were stillbirth, maternal anemia and preeclampsia with (P value <0.05).
Conclusion: Placental malaria was found to be prevalent in the studied population and was associated with stillbirth, maternal anemia and preeclampsia. Efforts for early diagnosis and treatment for malaria among pregnant women should continue to be emphasized to prevent poor pregnant outcomes.

PP-05: Quality of the Intrapartum care and Evidence Based Practice in Health Facilities in Northern Ethiopia

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Purpose: To investigate quality of intrapartum care and evidence based practice in Northern Ethiopia.
Methods: Facility based survey was conducted from January to February 2015 in Northern Ethiopia. A total of 32 health facilities, 106 skilled birth attendants and 216 laboring mothers

for observation, facility audit, and in-depth interview were used to collect data. Each facility and skilled birth attendants were linked to the service given to mothers during intrapartum and immediate postpartum period. Standardized questionnaires and checklist were utilized to collect data. Binary and multiple Generalized Estimating Equation (GEE) with Binomial family was used to assess the factors associated with quality intrapartum service among the linked clusters of health facilities. Exchangeable correlation structure was used among each cluster of health facilities.

Result: During childbirth and immediate postpartum periods, 29.2% of mothers received quality intrapartum care and 67.6% newborns received quality care. Below half, 47.2% of mothers and newborns received friendly care during childbirths. Evidence based practice and infection prevention practice were poorly practiced during delivery by skilled providers. Appropriate use of partograph, and friendly maternal and newborn care, working experience were significant predictors of quality intrapartum care.

Conclusion: Quality intrapartum care and evidence based practice are poor in the study area and associated with appropriate use of partograph and friendly care. Systematic and sustained efforts need to be strengthened to improve quality in order to achieve the desired quality of delivery services and increase the proportion of skilled births occurring in health facilities.

PP-06: Prevalence of urinary Schistosomiasis and associated risk factors among Primary school children in Afgoi district, Somalia

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Background: Schistosomiasis is one of the most prevalent parasitic diseases and an important public health problem in many developing countries. In Somalia, urinary schistosomiasis is caused by *Schistosoma haematobium* and it causes considerable public health problems, mainly among school-age children. Somalia is a country already left behind in the field of neglected diseases and lags behind all other African countries in research, and this has led to a lack of disease mapping and baseline data that would provide information on the status of these diseases. This study aimed to assess the prevalence of urinary schistosomiasis and associated risk factors among primary school children in Afgoi, Somalia.

Methods: A cross sectional school based study was carried out on sample of 300 students. Ten millilitres of urine was collected from each study participant and processed for microscopic examination by the urine filtration method. Data on socio-demographic characteristics and risk factors were collected using an interview-based questionnaire. The data were entered into and analyzed with SPSS version 21.

Results: The overall prevalence of schistosomiasis among primary school children was 15.3%. Gender, toilet utilization and wearing shoes near the water had shown significant association with the infection.

Conclusion: Therefore, provision of safe water supply and health education at school level was recommended coupled with once per year administration of Praziquantel to all Primary School Children in the district.

PP-07: Exclusive breastfeeding practices among women in Moshi Municipality: trends and determinants, 2002-2014

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Background: There is a growing evidence on the benefits of exclusive breastfeeding to the child. Despite its benefits, the rate of exclusive breastfeeding globally and in Tanzania is still lower than the recommended target of 90%. Determinants for exclusive breastfeeding include individual, setting and structural factors. In Tanzania, the trend in the proportion of exclusive breastfeeding has been reported at a national level and determinants are mostly from cross-sectional studies. This study aimed to investigate the trends and determinants in exclusive breastfeeding practices in Moshi, Tanzania (2002-2014). This is crucial to monitor the progress of EBF proportion and guide interventions.
Methods: A longitudinal study was carried out using secondary data from a cohort of 2315 women in Moshi Municipality. Descriptive statistics and multilevel logistic regression for individual determinants for exclusive breastfeeding were utilized.
Results: The proportion of exclusive breastfeeding was 5.5%, 13.7% and 16.9% for 2002/04, 2005/2012, and 2013/14 respectively. About 40% of the total variance in the odds of practicing exclusive breastfeeding was accounted for the between mother characteristics differences. The year of delivery and age of the mother were key determinants for exclusive breastfeeding.
Conclusion: The proportion of exclusive breastfeeding has increased over years, however, the pace is slow towards meeting the recommended target. Interventions should focus on increasing the proportion of those exclusively breastfed beyond one month and on delaying pregnancy. Future studies need to focus on settings and structural determinants of exclusive breastfeeding.

PP-08: Outcomes following severe hand foot and mouth disease: a systematic review and meta-analysis

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Background*:* Hand, foot and mouth disease (HFMD) caused by enterovirus-A71 is associated with neurological disease in children. This study aimed to estimate the burden of long-term sequelae and death following severe HFMD.
Methods*:* This study pooled reports from both English (e.g. MEDLINE) and Chinese databases (e.g. Wangfang). Outbreaks of clinically diagnosed HFMD and/or laboratory-confirmed EV-A71 with at least 7 days' follow-up published between 1st January 1966 and 19th October 2015 were identified. Randomised controlled trials, observational studies, cohort studies, cross sectional studies, case series and reports and grey literature were included. Two independent reviewers assessed the literature and extracted data, with consensus reached with a third author in cases of disagreement. PRISMA guidelines were followed for assessing methodological and reporting quality. We used a random effects meta-analysis to estimate cumulative incidence of neurological sequelae or death. PROSPERO registration number: 10.15124/CRD42015021981
Results*:* 43 studies were included in the review, and 599 children from 9 studies were included in the primary analysis. Estimated cumulative incidence of death or neurological sequelae at maximum follow up was 19.8% (95% CI:10.2%, 31.3%), 0.00% (0.00, 0.00) for grade IIa; 17.0% (7.9, 28.2) for grade IIb/III; 81.6% (65.1, 94.5) for grade IV (p=0.00). Heterogeneity (I^2) was 88.57%, partly accounted for by year of data collection and reporting quality of studies.
Conclusion and relevance*:* HFMD with neurological involvement is associated with a substantial burden of long-term neurological sequelae. Grade of acute disease severity was a strong predictor of outcome. Strengths of this study include its bilingual approach and clinical applicability. Future prospective and interventional studies must use rigorous methodology to assess long-term outcomes in survivors.

PP-09: Distribution of phlebotomine sand flies (Diptera: Psychodidae) in Mwea Irrigation scheme, Kirinyaga County, Kenya

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Phlebotomine sand flies are vectors of the *Leishmania* parasites (Kinetoplastida: Trypanosomatidae), viruses (Vesiculoviruses, flaviruses, orbiviruses, phleboviruses and zoonotic bartonellosis. *Phlebotomus martini* has been incriminated as the vector for visceral leishmaniasis (VL/kala-azar) caused by *Leishmania donovani* within its range of distribution.
These results are from an ongoing study involving control of mosquitoes and sand flies in Mwea and Marigat counties respectively. A faunistic study of some Kenyan phlebotomine sand flies (Diptera: Psychodidae) was carried out in Mwea Irrigation Scheme. A total of 251 sand flies were collected, with *P. martini* comprising of 4.8% and *P. rodhaini* Parrot 0.8% and the species were previously unknown in the area. Other sand flies caught were mainly

Sergentomyia species. *Phlebotomus rodhaini* was previously known to be found in semi-arid areas of Eastern Province, with both sandflies known to be associated with termite mounds which are absent in the irrigation scheme. The finding of these *Phlebotomus* species in Mwea is an indication that they can breed in non-arid/semi-arid urbanized areas, and can be synanthropic unlike previously believed. It is therefore suggested that distribution studies for sand fly confirmed and suspected vectors in Kenya be revisited.

PP-10: Readiness of Facilities to Offer Routine Screening and Management of Gestational Diabetes Mellitus in Moshi, Northern Tanzania

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Objective: To assess the readiness of health facilities to offer routine screening and management of gestational diabetes mellitus in Moshi municipal, Tanzania.
Methodology: A cross-sectional descriptive study was conducted from April to May 2017 in 12 health facilities that offers antenatal care services in Moshi municipality. Questionnaires ware used to assess the knowledge of GDM among health care workers. Checklist was used to assess facility ability to screen and manage GDM (equipment and supplies).
Results: A total of 55 health care workers (HCW) were enrolled in the study with median years of practice as HCW of 9 (IQR: 6-20) years. Majority (49.1%) held diploma, and 58.2% of participants came from dispensaries. Only 3% had previously received train on GDM while in service. Majority were found to have inadequate knowledge on definition (58.2%), risk factors (63.6%), maternal complications (90.9%), complications to a child (85.5), screening (87.2%), management (85.5%). Only 2(16.7%) of the facilities were found to have all 3 basic supplies for laboratory diagnosis of GDM. Guidelines were observed in 3 out of 12 facilities while metformin was reported available in 8(66.6%) facilities.
Conclusion: Most of the facilities are not ready to manage GDM. There is inadequate knowledge of GDM among health care workers. Guidelines and laboratory capability were not available in most facilities. Training and seminars should be offered to HCW while in-service to increase their knowledge on GDM. Also laboratory capability should be strengthened by making sure all equipment and supplies are readily available before GDM screening and management can be introduced at health facilities in Moshi municipality.

PP-11: An increased detection of new leprosy cases in a house to house assessment in Kokosa Woreda, West Arsi zone, Oromia region, Ethiopia

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Objective: to assess the impact of active case detection and household contact tracing
Results: Knowledge, attitude and practice (KAP) of the health professionals working in the Woreda was assessed and training was provided. The health extension workers and TB/Leprosy Focal persons in each health center were engaged in the process. We have found 74 new cases by the active case detection where 62 are multibacillary (MB) and 12 are paucibacillary (PB). There were 15 children below the age of 14 who were found during the house hold contact (HHC) tracing. As compared with the 6 years average new case detection, the number of new cases detected is increased.
Conclusions: From the study we have seen that active case finding is a better tool which should be recommended to aid the control program. MB cases are more prevalent than the PB. Moreover, our preliminary result has shown many children with leprosy which is an alarming finding that shows the active transmission is still going on. The results from this study will provide essential information on the true burden of leprosy in the region. It would help the control program to initiate better control activities for other hotspot areas. Additional relevant information on active versus passive detection, household contacts tracing, circulating *M. leprae* strains in the region and assessment of drug resistance will be an input for the control strategies.

PP-12: Regulatory influence of ***Procambarus clarkii***, **Girad (Decapoda: Cambaridae) on schistosome-transmitting snails in lotic habitats**

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Background & Objective: Control of schistosomiasis, a neglected tropical disease has for a long time overly relied on praziquantel. Crayfish, though voracious snail eaters have been tested in small man-made impoundments but not in lotic habitats. The present study aimed to determine the ability of the crayfish, *Procambarus clarkii* to reduce populations of schistosome transmitting snails in lotic habitats.
Methods: Data was collected bi-monthly on the presence or absence of snails and crayfish in 4 stream habitats identified from a baseline survey to be habitats for *Biomphalaria* snails, transmitters of intestinal schistosomiasis, and located in the Machakos County within the Athi River basin in south-eastern Kenya over a period of 6 months. Subsequently, 2 of the habitats were selected for introduction of crayfish ("experimental sites") and the other 2 habitats were designated as "control sites" Study sites were sampled for snails using standard snail scoops and for crayfish using meat-baited crayfish traps. Bi-monthly sampling was done to evaluate snail abundance, crayfish survival and biotic and abiotic parameters taken. Study subjects include 220 Crayfish (*Procambarus clarkia*) and snails (*B. pfeifferi and B. africanus*) inhabiting the study streams.
Results: Snail abundance in habitats in which crayfish were introduced rapidly declined within 2 months to a significant level (paired *t test* = 5.524, *p value* = 0.0001), relative to the decline observed in the control habitats (paired *t test* = -7.727, *p value* = 0.082).

Interpretation & Conclusion: While *P.clarkii* holds much promise as a supplementary schistosomiasis control strategy, restocking should be borne in mind due to extreme weather conditions and a multi-disciplinary approach embraced.

PP-13: Leptospirosis Among Febrile Outpatients Attending Hospital in a Pastoral Area of Northern Tanzania

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Background: Leptospirosis is an important yet under-diagnosed cause of fever in Tanzania. Risk factors for leptospirosis identified in urban and small-holder farming areas include rural residence and contact with livestock. We sought to determine the prevalence of leptospirosis in a rural area where pastoralist Maasai livestock keepers were predominant.
Methods: Individuals presenting at Endulen Hospital in Ngorongoro from August 2016 until March 2017 with a history of fever within 72 hours, or a tympanic temperature of ≥38.0°C were eligible. Serum samples were collected at acute presentation and 4-6 weeks later. Sera were tested using the standard microscopic agglutination test (MAT) using 20 *Leptospira* serovars from 17 serogroups. We defined acute leptospirosis as a four-fold rise in antibody titre between the acute and convalescent serum samples, or a reciprocal titre ≥800 in either sample. We defined *Leptospira* seropositivity as a single reciprocal antibody titre ≥100 in either sample.
Results: We identified 6 (10.0%) cases of acute leptospirosis among 60 participants providing paired serum samples, and 0 (0.0%) among 44 participants providing only a single sample. In total, 31 of 104 (29.8%) participants were seropositive to *Leptospira*. The predominant reactive serogroups of seropositive participants, and those with acute leptospirosis included Australis, Djasiman, Icterohaemorrhagiae, Javanica and Tarassovi.
Conclusions: These data indicate leptospirosis is a common cause of fever in this predominantly Maasai pastoralist population. Further study is needed to establish the impact and epidemiology of leptospirosis.

PP-14: *Plasmodium falciparum* malaria *and Schistosoma mansoni* co-infection among pregnant women at term, North-western Tanzania: Prevalence, risk factors and impact on pregnancy outcomes

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Background: This study aims to determine the prevalence of *P. falciparum*, *S. mansoni*, co-infection pattern, associated risk factors and impact on pregnancy outcomes at term among pregnant women in North-western Tanzania.
Methods: An ongoing analytical-cross-sectional study was conducted among 390 pregnant women aged 15-45 years delivering Sengerema hospital. A finger prick, placenta and cord blood samples were examined for malaria parasite using thin and thick smears. Urine and stool samples were examined for *S.mansoni* eggs and antigens using Kato Katz (KK) technique and Circulating Cathodic Antigens (CCA). Haemoglobin levels were estimated using HemoCue system. Newborn status and weight were also recorded. A questionnaire was used to collect socio-demographic-economic information.
Results: The overall prevalence of maternal *P. falciparum* malaria both peripheral and placenta was 34.6% (95%CI: 29.8-39.4) and 23.3% (5%CI: 19.1-27.5) respectively. The prevalence of congenital *P. falciparum* malaria was 22.8% (95%CI: 18.6-27.0). Based on KK technique and CCA test, 9.7% (95%CI: 6.4-12.9) and 63.4% (95% CI: 58.5-68.3) of the participants had *S. mansoni* infection. Of these, 3% (9/30) and 37.8% (91/241) were co-infected with *P. falciparum* Overall, 55.9% (218/390) of the participants were anaemic (Hb<11g/dl). Multigravidae women co-infected with *P.falciparum-S.mansoni* had higher prevalence of placenta malaria (53.8% *versus* 46.2%, *P*<0.03). Only 8.2% (32/390) of the newborns had low birth weight. Malaria in pregnancy were mainly associated with being primigravidae AOR=1.88(95%CI: 1.003-3.49, *P*<0.04).
Conclusion: *Plasmodium falciparum malaria*, *S. mansoni* infection and anaemia are common in the pregnant women participated in this study. Integrated public health intervention measures against *P. falciparum* malaria, *S.mansoni* and anaemia during pregnancy are needed.

PP-15: Prevalence and factors associated with irrational use of antibiotics in Moshi municipality, Northern Tanzania

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Background: Antibiotic resistance is a direct result of antibiotic use. This study aimed to determine the prevalence and factors associated with irrational use of antibiotics in Moshi municipality, Northern Tanzania.
Methodology: A cross-sectional descriptive study was conducted in 12 drug outlets sampled randomly in Moshi municipality from April to May 2017. Exit interviews with all adults who bought antibiotics were conducted and data was collected using structured questionnaires.

Results: A total of 152 adults were enrolled in this study. The median age was 31 years (IQR= 25-42). Majority of the participants 94 (61.8%) were females. Part II and pharmacy respectively contributed 81 (53.3%) and 71 (46.7%) participants. Overall 135 (88.8%) of antibiotics bought were assessed to be irrational. Non-prescription sale of antibiotics was the most prevalent form of irrational use of antibiotics, 116 (76.7%). Most common symptoms presented for the antibiotics were URTS 73 (48.0%), LUTS 27 (17.8%) and Diarrhea 15 (9.9%).Incomplete antibiotic dosage was assessed to be 36 (23.7%).Poor knowledge on the use of antibiotics was significantly associated with the irrational use of antibiotics (OR=5.5, 95% CI: 1.79-16.70 p-value=0.003).
Conclusion: Prevalence of irrational use of antibiotics is very high in Moshi municipality. Most people buy antibiotics from the outlets without prescription and use antibiotics to treat otherwise non-bacterial illnesses and symptoms. Poor knowledge on the antibiotic use plays a significant role in influencing this.

PP-16: Knowledge on preeclampsia and eclampsia and management practices among health care workers in Moshi municipality, Tanzania

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Aim: To describe health care workers knowledge on preeclampsia/eclampsia and management practices at health facilities, in Moshi municipality.
Methodology: This was a cross section descriptive study that was conducted from April – June 2017 among HCWs working at antenatal, labor ward and postnatal clinics at 13 health facilities in Moshi municipal. Self-filled questionnaires were used to assess the level of knowledge and checklist was used to assess the ability of facility to screen and manage preeclampsia/ eclampsia by checking the availability of supplies and equipment. Data entry and analysis was done using SPSS version 23.
Results: Seventy nine HCWs from 13 health facilities were enrolled in the study, where 77% were female. More than half of the study participants (66%) had inadequate knowledge on definition of preeclampsia, eclampsia and their complications. Only 52% reported to routinely screen pregnant women for blood pressure and check urine for protein. Despite routine screening, (73%) had poor knowledge on management of preeclampsia after diagnosis. Medicines, equipment and transport mechanism to refer patients to higher level facility were the common barriers on management of preeclampsia and eclampsia as perceived by 20% of HCWs.
Conclusions: A study revealed that HCWs had inadequate knowledge and practice gaps in areas of management on preeclampsia/eclampsia, thus emphasis is needed on refresher trainings and professional development on HCWs for both theory and clinical practices. The availability of written guidelines, medicines and equipment are considered necessary for managing preeclampsia and eclampsia on health facilities.

PP-17: Prevalence, Awareness and Factors associated with Diabetes Mellitus and Hypertension among Older adults in Moshi Municipal, Northern Tanzania

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Aim: The purpose of the study was to determine the prevalence, awareness and factors associated with diabetes mellitus and hypertension among older adults (≥ 60 years) in Moshi municipality, northern Tanzania.
Methodology: Community-based cross-sectional study was conducted from April to June 2017. Multi stage sampling techniques was used to select participants. Questionnaires were used to collect information, followed by measurements of weight, height, waist circumference, blood pressure and blood sugar levels. Data was entered and analyzed using SPSS.
Results: A total of 240 participants were enrolled. Their mean age was 70.6 (SD 8.1) years; 56% were females and 52% were overweight and/or obese. The prevalence of diabetes mellitus and hypertension was 9.6% and 44.6% respectively. Of those with DM and HTN: 56% and 47.8% respectively were not aware they had a problem before the survey. High waist circumference (≥ 87 cm) was associated with diabetes [OR 3.0 (95% CI: 1.08 – 8.43)]. Hypertension was associated with alcohol drinking [OR 1.93 (95% CI:1.12-3.31)].
Conclusion: Hypertension and diabetes mellitus are common problem among older adults in Moshi, with few who are aware of their health condition, increasing their risk of complications and premature deaths. Community awareness on the importance of regular checkups for HTN and DM, regular population based screening for HTN and DM among older adults by the municipality as well as interventions to address overweight, obesity and physical inactivity and alcohol drinking are urgently needed.

PP-18: Prevalence of concurrent wasting and stunting among children 0-59 months in Kenya and Malawi: Secondary data analysis

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Background: Wasting and stunting in childhood have adverse health effects and are consequences of chronic undernutrition. An overlap between the two can occur in same child. Prevalence of this overlap is unknown, but may vary geographically and these two conditions

might share risk factors. We estimated the prevalence of concurrent wasting and stunting (WAST) and its risk factors among children 0-59 months old.
Methods: Secondary analysis of data from Demographic and Health Surveys (DHS) of Kenya (2014) and Malawi (2015). Stunting (height-for-age z-score) and wasting (weight-for-length z-score) (-2SD of reference median) respectively were computed using the WHO 2006 reference data. Risk factors of WAST were identified using logistic regression analysis.
Results: Among the total cohort of 24,121 children analyzed, 18,896 (78%) and 5,225 (22%) were from Kenya and Malawi, respectively. Stunting and wasting were 6,794 (28%) and 1,297 (5.4%) respectively: Notably, prevalence of stunting was higher in Malawi (P <0.001) whereas wasting was higher in Kenya (P<0.001). The prevalence of WAST for the total cohort was 382 (1.6%; 95% CI 1.4-1.7%), higher (P<0.001) in Kenya 331 (1.8%) than in Malawi 51 (1.0%). WAST was associated with child gender (female), household wealth index, care-giver's education level and country (Malawi).
Conclusion: Although stunting is common in sub-Saharan Africa, WAST was rare and varied between the two countries. Despite the low prevalence, more studies and interventions targeting WAST are needed to understand and reduce the risk of undernutrition.

PP-19: Frequency and factors associated with low birth weight among neonates delivered at a tertiary hospital in Northern Tanzania from 2013-2015; A registry based cohort study

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Aim: To determine the prevalence and factors associated with low birth weight among neonates delivered at Kilimanjaro Medical Center 2013-2015.
Methodology: A retrospective cohort study which was designed using maternally-linked data from Kilimanjaro Christian Medical Centre medical birth registry. A total of 8965 women who delivered singleton infants from 2013-2015 were enrolled. Data analysis was performed using SPSS version 20.0. Data were summarized using frequencies and percentage for categorical variables while mean and standard deviation were used for continuous variables. Multivariable logistic regression model was performed to determine association between set of factors with LBW. A P-value less than 0.05 was considered statistically significant.
Results: The frequency of low birth weight was 11.6%. Preeclampsia (RR 4.9, 95% CI 3.7-6.6), eclampsia (RR 16, 95% CI 7.2-33), maternal anemia (RR 2.4, 95% CI 1.1-5.4), induction of labor (RR 1.4, 95% CI 1.1-1.8), caesarean section (RR 1.2, 95% CI 1.0-1.4), Premature Rupture of Membrane (RR 2.0,95% CI 1.2-3.5), maternal underweight (RR 2.0, 95% CI 1.6-3.6) were associated with LBW. In addition, preterm birth (RR 12 95% CI 9.9-13), Apgar score<7 at 5^{th} min (RR 2.0, 95% CI 1.4-2.8) were also associated with an increased risk of low birth weight.
Conclusion: LBW has been increasing with preeclampsia and eclampsia complications having higher risks. Screening for hypertensions and danger signs during pregnancy should be reinforced and acted upon to reduce risk of low birth weight.

PP-20: Lessons for integrating intermittent preventive treatment for malaria in school systems in low income settings: experiences from Uganda

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The START-IPT trial was conducted in primary schools in Jinja district to assess if treating schoolchildren with dihydroartemisinin-piperaquine monthly to prevent malaria could improve the health of children and reduce the burden of malaria in the community. A qualitative study was conducted alongside the main trial to investigate the potential feasibility for integrating this intervention into routine health services and school systems. Ethnographic observations were conducted of the sensitization and consenting process at selected schools for one day each. During the roll-out of the intervention, the same schools that had been observed during the sensitization and consenting process were observed for the first three days of treatment distribution. A total of 19 in-depth interviews were held with district and national stakeholders, teachers, health workers and Village Health Team members. Three focus group discussions were held with study staff. Some community members had concerns and suspicions about the trial because it was a research study led by foreigners. The study presented opportunities and benefits for the different actors. Local involvement, the quality of community sensitization and attributes of the study team were pertinent in the running of study activities. Interventions that involve the giving of precious commodities free of charge generate both opportunity and suspicion among the targeted populations. Chemoprevention initiatives are implemented in a dynamic environment and this influences the way people are likely to perceive such programs. Two-way engagement with key influencers in the context of chemoprophylaxis interventions is important in determining the acceptability of such interventions.

PP-21: Changes in susceptibility to life threatening infections following treatment for complicated severe malnutrition in Kenya

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Background: Goals of treating childhood Severe Acute Malnutrition (SAM), besides anthropometric recovery, include reducing risks of subsequent life-threatening events (LTEs). Dynamics of this risk reduction is unknown, but could inform improving design of

interventions. We examined associations between anthropometry during follow-up and subsequent LTEs.
Methods: Secondary analysis of trial data from 1,778 HIV-uninfected children (2-59 months) with SAM admitted to hospital, followed for 12 months. The main outcome was LTEs defined as infections causing re-hospitalization or death. We examined baseline characteristics and follow-up weight-for-height/length z-score (WHZ).
Results: There were 823 LTEs (257 fatal), predominantly severe pneumonia or diarrhoea. At months one, three and six, 557(34%), 764(49%) and 842(56%) children had WHZ ≥-2 respectively, which compared to WHZ<-3, was associated with lower risks of subsequent LTEs: adjusted hazard ratios 0.50(95%CI 0.40-0.64), 0.30(95%CI 0.23-0.39) and 0.23(95% CI 0.16-0.32) respectively. However, children with WHZ≥-2 at one, three and six months still had 39(95%CI 32-47), 26(95%CI 22-32) and 15(95%CI 12-20) LTEs per 100 child-year of observation, respectively. The LTEs risk reduction was more at month six than at months one and three.
Conclusion: Anthropometric response was associated with rapid and substantial LTEs risk reduction. However, this reduction lagged behind anthropometric improvement. Health outcomes, rather than anthropometric assessment may provide clearer picture of the effectiveness of interventions.

PP-22: Prevalence of pathogenic enteric bacteria associated with diarrhoea in children under five and their sensitivity to antibiotics in Unguja Island, Zanzibar

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Background: Diarrhoea is an important cause of morbidity and mortality among children in developing countries. Resistance of microorganisms to common antibiotics used to treat diarrhoea is a global problem. The present study in Unguja Island, Zanzibar, aimed at determining the prevalence and identity of pathogenic enteric bacteria associated with diarrhoea in children under five years and to assess the resistance of these bacteria to antibiotics.
Methodology: A cross sectional quantitative study was conducted from September 2013 to February 2014. A total of 319 stool samples were collected. The prevalence and identity of pathogenic enteric bacteria were determined through conventional methods and antimicrobial resistance by the Kirbeur method.
Results: The prevalence of pathogenic enteric bacteria were *Shigella* (39 %), *Salmonella* (25%), *Vibrio parahaemolyticus* (19 %) and pathogenic *E. coli* (17%). Bacterial diarrhoea was higher in children between seven and 24 months. The prevalence of pathogenic enteric bacteria was higher in urban than in rural areas and during the rainy season. Pathogenic enteric bacteria were resistant to sulfamethoxazole/trimethoprim, erythromycin, tetracycline and ciproflaxin but susceptible to gentamycin, chloromphenicol and ampicillin.
Conclusion: The results indicated that the prevalence of pathogenic enteric bacteria was high and often they were resistant to antibiotics commonly used to treat diarrhoea in children under five in Unguja. We therefore recommend that the Zanzibar Ministry of Health should;

review the standard treatment guidelines for childhood diarrhoea, promote health education, scale up vaccination campaign against diarrheal diseases and regulate the use of antimicrobials to prevent further development of antibiotic resistance.

PP-23: Improving early Antenatal Clinic attendance before 16 weeks by the use of Community Health Volunteers – A case of Macalder Sub County Hospital, Kenya

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Purpose: Home visits by Community Health Volunteers(CHV) could be effective in early identification and referral of pregnant women before 16 weeks. This in turn could increase the number of pregnant women completing at least four Antenatal Clinic visits, number receiving Intermittent Prophylaxis Treatment(IPTp3 and more) as well as those accessing complete Antenatal Clinic Package as recommended by World Health Organization(WHO)
Expected Results: As part of the intervention, 10 CHV's Covering 10 villages surrounding the study hospital are continuing to conduct at least 2 home visits daily to identify early pregnancies and referral for early ANC attendance. It is expected that this intervention will improve early ANC attendance before 16 weeks from the current of 15% to possibly 50% within 12 Months from December 2016 to November 2017. For the past 5 Months of study, there has been a steady increase from the baseline of 15% to 26% with a median percentage of 18%.
Conclusions: The use of CHV's in identification and referral of pregnant women in their early pregnancy as an intervention is effective in increasing the number of Women attending their first ANC before 16 weeks. This intervention thus fulfills some of the conditions that are necessary for CHV to improve uptake of ANC package thereby averting unnecessary pregnancy related complications.

PP-24: Predictors of Failed Labor Induction and its associated Maternal and Neonatal outcomes in Northern-Tanzania 2000-2015: A Registry-based Retrospective Cross-sectional Study.

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Aim: The study aimed at determining the predictors for failed labor induction and the adverse maternal and neonatal outcomes that associate with failed induction in Northern-Tanzania.
Methodology: Retrospective cross-sectional was conducted using maternal data for deliveries from 2000 to 2015. All women whose labor was induced and records available at database were considered. 11,483 eligible deliveries were included .The analysis was done using STATA 13. Descriptive statistics were used to summarize characteristics of participants. A chi-squared test was used to determine maternal and neonatal characteristics associated

with failed induction. Relative Risk and 95% Confidence Interval for predictors, maternal and neonatal outcomes were estimated using Log-binomial regression.
Results: 11483 deliveries were analyzed. The proportion of failed induction was 19.2%. Multivariable log-binomial regression found Nulliparity [RRadj = 1.83(1.57 – 2.14)], Obesity [RRadj=1.58; (1.33-1.67)], and fetal macrosomia [RRadj = 5.30 (2.47 – 11.37)] as independent predictors for failed labor induction. Neonatal outcomes were Pediatric admission [RRadj=2.47; (2.17-2.82)] and Low Apgar score of <7 [RRadj= 1.08 (0.92-1.28)]. Maternal outcomes associating with failed labor induction was Post-Partum Hemorrhage [RRadj=4.05; (1.84-8.91)].
Conclusion: Parity and Body Mass Index of the mother should be assessed prior to labor induction as they are independently predicting the failures of the intervention which in turn linked to adverse maternal and neonatal outcomes. In addition, assessment of large-for-gestational-age (LGA) babies is important so as to diagnose fetal macrosomia timely prior to delivery.

PP-25: Uptake of HIV care service and associated factors among newly HIV diagnosed participants from voluntary counseling and HIV testing in Magu district, Tanzania

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Background: HIV Care services are important points of entry for HIV treatment, care and management to reduce HIV transmission, morbidity and mortality. However, uptake remains low and there is little information in developing countries.
Methods: Secondary data on 632 newly HIV diagnosed patients using voluntary counseling and testing aged 15 years and above were obtained from a Magu Health Demographic Sentinel Surveillance in Mwanza, Tanzania. Binary regression with a log link was used to assess factors associated with the uptake. Kaplan-Meier plot and log-rank test used to evaluate differences in timing pattern between groups.
Results: Among 632 participants, 214 (33.7%) were enrolled in HIV care services. Half of those enrolled, were enrolled after 3 months 120 (56.6%). Living in the urban areas (LR=0.008) were more likely to be enrolled. Factors associated with HIV care service uptake were: Living in a rural was less likely to be enrolled than lived in urban (RR 0.45, 95% CI; 0.25-0.83).
Conclusion: We concluded that, HIV care service is still low in Tanzania. To increase the potential of Antiretroviral therapy, our findings is a call to action to substantially improve linkage services and early uptake of HIV care services.

PP-26: Prevalence of viral hepatitis B and C and their co-infections among blood donors at the northern Zone Blood Transfusion Centre in Tanzania

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Aim: The aim of this study is to determine trends in prevalence and distribution of viral hepatitis B and C and their co- infections among blood donors from 2013-2016 at the Northern Zone Blood Transfusion Centre, Tanzania.
Methods: A study was a retrospective cross section study design comprising of the blood donors registered through the Northern Zone Blood Transfusion Centre database from 2013 to 2016. Data were extracted from Edelyphin into Statistical Package for Social Sciences (SPSS v24) then were cleaned. Categorical data was analyzed using proportions and numerical data using median with their respective measures of dispersion, p-value were used were appropriate.
Results: From the total of 43814 blood donors, 963(14.1%) had serological evidence of infection with at least one pathogen and 50 (0.1%) had coinfections. The overall seroprevalence of HBV and HCV was 4.3% and 0.9% respectively. Majority affected are males with 3.2% and 0.6% for HBV and HCV respectively. Age group of less than twenty-five years was the most prevalent with 2.2% (p-value <0.001) and 0.5%. Moreover, trends of HBV and HCV sero-positivity were observed to be almost similar over the study period.
Conclusion: A substantial percentage of the blood donors harbor HBV and HCV infections. Strict selection of blood donors and comprehensive screening of donors' blood using standard methods are highly recommended to ensure the safety of blood for recipients.

PP-27: An increased detection of new leprosy cases in a house to house assessment in Kokosa Woreda, West Arsi zone, Oromia region, Ethiopia

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Objective: to assess the impact of active case detection and household contact tracing.
Results: Knowledge, attitude and practice (KAP) of the health professionals working in the Woreda was assessed and training was provided. The health extension workers and TB/Leprosy Focal persons in each health center were engaged in the process. We have found 74 new cases by the active case detection where 62 are multibacillary (MB) and 12 are paucibacillary (PB). There were 15 children below the age of 14 who were found during the house hold contact (HHC) tracing. As compared with the 6 years average new case detection, the number of new cases detected.
Conclusions: From the study we have seen that active case finding is a better tool which should be recommended to aid the control program. MB cases are more prevalent than the PB. Moreover, our preliminary result has shown many children with leprosy which is an alarming finding that shows the active transmission is still going on. The results from this study will provide essential information on the true burden of leprosy in the region. It would help the control program to initiate better control activities for other hotspot areas. Additional

relevant information on active versus passive detection, household contacts tracing, circulating *M. leprae* strains in the region and assessment of drug resistance will be an input for the control strategies.

PP-28: Conjunctival transcription patterns in Ethiopians one month after trichiasis surgery: associations with the development of eyelid contour abnormalities and the effect of doxycycline treatment

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Surgery to correct trichiasis is a key component of the WHO trachoma control strategy, however unfavourable outcomes such as eyelid contour abnormalities (ECA) following surgery are relatively common. We sought to understand the transcriptional changes associated with the early development of ECA and the impact of doxycycline, which has anti-inflammatory and anti-fibrotic properties, upon these transcription patterns.
One thousand Ethiopians undergoing trichiasis surgery were enrolled in a randomised trial following informed consent. Equal groups of individuals were orally administered with 100mg/day of doxycycline or placebo for 28 days. 3' mRNA sequencing was performed on paired baseline and 28-day conjunctival swab samples from 48 individuals; 24 from each treatment group. All 48 individuals had moderate scarring and no eyelid distortion at baseline. Within each doxycycline and placebo group, 12 individuals had a bad outcome (scarring distortion and ECA at 1 and 6 months) and 12 had a good outcome (no distortion/ECA at 1 and 6 months). Differentially expressed genes in all four groups at one month relative to baseline were enriched for collagen synthesis, extracellular matrix and focal adhesion pathways. There were more differentially expressed (DE) genes in the bad outcome groups (placebo=853; doxycycline=807, FC>1.5 & Padj<0.05) relative to the good outcome groups (placebo=217; doxycycline=526). However, there were no significantly DE genes between the four groups. We were not able to detect significant associations between doxycycline or ECA and host gene expression.

PP-29: Stability of host immune responses and clinical signs in a treatment naive trachoma-endemic community and changes induced following Azithromycin mass drug administration

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Purpose: The pathogenesis of trachoma is thought to be immunologically mediated. We assessed the stability of host immune responses, *Chlamydia trachomatis* infection (infection)

and clinical signs in a longitudinal cohort of Tanzanian children from trachoma endemic community before and after mass azithromycin treatment (MDA).
Results: A cohort of 666 children, aged 6-10 years at enrolment were recruited. Participants were assessed every 3 months for clinical signs (follicular and papillary inflammation), : infection and immune responses by qPCR, 3times prior to MDA and twice after. MDA was administered immediately following the third time point. MDA vastly reduced the prevalence of infection, from 15.4%, 14.9% and 11.8% to 1.1% and 2.5% in the 5 time points respectively. Papillary inflammation was strongly reduced after MDA, following a similar pattern to infection, however the prevalence of follicular inflammation remained high (33.8%, 30.4%, 22.4%, 27.6% and 22.3% in time point 1-5 respectively). After adjustment for clinical signs and infection status there was some variation in gene expression in the three time points prior to MDA, however following MDA there were significantly larger changes in host gene expression, which returned to pre-MDA levels by time point 5. The greatest differences post-MDA relative to pre-MDA were in *S100A7* (FC=2.5, P=1.2E-33); *SPARCL1* (FC=0.2 P=1.22E-71)
Conclusion: MDA effectively reduced the prevalence of infection and papillary inflammation, however follicular inflammation remained high. MDA induced significant and temporary changes in host gene expression, the significance of which remains unclear.

PP-30: Testing the recording of priority facility-based, maternal and new-born coverage indicators for use in health management information systems - A multi centered observational study

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Background: Every year, 3 million babies are dying in their first month of life, and an additional 2.9 million babies are stillborn. These deaths are often avoidable through quality healthcare and timely provision of routine health interventions, but the lack of data is a major impediment to action.
What is Every Newborn Action Plan (ENAP)? ENAP is based on evidence published in *The Lancet Every Newborn* series and is supported by 197 countries through a World Health Assembly resolution. The ENAP aims to help countries in reaching the Sustainable Development Goal (SDG) target of fewer than 12 newborn deaths per 1000 live and fewer than 12 stillbirths per 1,000 total births by 2030.
What is the purpose of the study? The study aims at assessing the quality of maternal and newborn health care in order to provide recommendations to national and global health facility monitoring systems. Indicators tested in terms of denominators and numerators includes: Uterotonic use for 3rd stage of labour, Antenatal corticosteroid (ACS) use, Newborn resuscitation, Kangaroo mother care and treatment of neonatal possible serious bacterial infection (PSBI). This study will generate a better understanding of the current practices of

care at birth and care for small or sick babies as well as helping to reduce maternal and newborn mortality and preventable stillbirths in Tanzania.

How long will the research take? Facility-based observation and data collection should be completed by March 2018.

Data collection team: The data collection team includes: Tracking officers, Clinical observers and exit interviewers.