

## **8TH ANNUAL JOINT ADVANCED SEMINAR (JAS4) CONFERENCE HELD VIRTUALLY**

**23<sup>rd</sup>-24<sup>th</sup> SEPTEMBER, 2021**

## **COHORT 8 CARTA FELLOWS' ABSTRACTS**

### **BOOK OF ABSTRACTS**

## Welcome Note

Central to the training program for CARTA Fellows is a series of residential Joint Advanced Seminars (JAS), designed to enhance their skills and knowledge; guide and propel them through the research process; and provide a foundation for building networks of researchers, peers, and mentors. The JAS requirement promises to produce strong common quality expertise that can help the long-term disciplinary cohesion of scholars, who come from different universities and with varied quality in previous education. Residential training offers the advantage of getting the Fellows to focus fully on specific program tasks, learn collaboratively, interact with local and international facilitators, and develop and consolidate professional networks.

The JAS is offered once annually for four years to each Cohort, and builds skills and conceptual depth from year to year. Each JAS runs for 3 to 4 weeks thus:

- ❖ JAS-1 builds critical thinking, technical skills, and other core research competencies, and introduces students to the essential concepts and seminal articles of the disciplines brought together under CARTA.
- ❖ JAS-2 focuses on data management and analysis. Fellows will learn to use software packages for qualitative and quantitative data management and analyses. Practice sessions use real research data and current software packages for hands-on training.
- ❖ JAS-3 focuses on data presentation, the doctoral dissertation, and scientific writing and communication skills to facilitate results dissemination and policy engagement.
- ❖ JAS-4 addresses professional development including skills necessary to raise and manage research funds, grant writing, development of courses, management of large class sizes, and supervision of graduate students. JAS-4 is also an opportunity for senior fellows to mentor junior fellows through discussion and laboratory sessions, software training, and general information sharing.

We take this opportunity to welcome you to the JAS 4 conference highlighting a section of the research by our fellows in the 8<sup>th</sup> cohort.

Sincerely,

CARTA Secretariat

## **Plan of Activities of the 8th Annual Joint Advanced Seminars Conference**

**Date: 23<sup>rd</sup>-24<sup>th</sup> September, 2021**

**Virtual Conference**

**DAY 1 (Thursday 23<sup>rd</sup> September, 2021)**

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**Opening Remarks & Introduction to CARTA Conference**

**Moderator: Dr. Charles D Kato**

15:55 - 16:05 EAT: Zoom login and Registration (write names, institution, specialty, and expectations in the zoom chat).

16:05 – 16:10 EAT: Opening Remarks: Dr. John Bosco Isunju, CARTA focal person, Makerere University

16:10 -16-15 EAT: Conference Modalities: Dr. Charles D Kato

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## SESSION 1 (Breakout Room 1)

### Research on Sexual and Reproductive Health

#### Sessional Chair: Dr. Alexander Kagaha

16:15-16:25	Paper 1: Condom knowledge and attitudes of very young adolescents in Rwanda: a cross-sectional study ( <b>Valens Mbarushimana</b> )
16:25-16:35	<i>Paper 2:</i> Organisational and individual readiness for change to respectful maternity care practice and its associated factors in Ibadan, Nigeria: a cross-sectional study ( <b>Esan, OT</b> )
16:35-16:45	<i>Paper3:</i> Effect of a mobile health intervention on uptake of postnatal care services in Nigeria ( <b>Olajubu A.O. Availability??</b> )
16:45-16:55	<i>Paper4:</i> Prevalence and Consumption Pattern of Kolanut Among Pregnant Women In Ibadan Metropolis ( <b>Atiba F.A</b> )
16:55-17:05	<i>Paper 5:</i> Fostering Pregnant Women's Birth Preparedness and Complication Readiness through Goal-Oriented Prenatal Education In Semi-Urban Areas Of Ibadan, Nigeria ( <b>Akinwaare, M. O</b> )
17:05-17:15	<i>Paper6:</i> Genital and Systemic Cytokine Profile in <i>Neisseria gonorrhoeae</i> infection among individuals seeking STI services at a Health Centre in Nairobi, Kenya ( <b>Maina, AN</b> )
17:15-16:35	Questions and Answers
17:35-17:45	Reflections from facilitators in the room.

## SESSION 2 (Break out room 2)

### Research on Infectious Diseases and Drugs

#### Sessional Chair: Dr. Justine Bukenya

16:15-16:25	<i>Paper7</i> : Antiretroviral therapy uptake and predictors of virological failure in patients receiving first line and second-line regimens: a retrospective cohort data analysis ( <b>Siphamandla B Gumebe</b> )
16:25-16:35	<i>Paper8</i> : Antimicrobial Resistance Profiles and Genes of Staphylococci Isolated from Mastitic Cow's Milk in Kenya ( <b>Mbindyo C. M</b> )
16:35-16:45	<i>Paper9</i> : Antibiotic use and disposal among informal settlements using groundwater sources in Kisumu county Kenya ( <b>Karimi KJ</b> )
16:45-16:55	<i>Paper10</i> : Detection of emerging tick-borne pathogens in dairy cattle in peri-urban Nairobi, Kenya ( <b>Peter Shepelo G</b> )
16:55-17:05	<i>Paper11</i> : Detection of swine erysipelas infection based on <i>Erysipelothrix rhusiopathiae</i> R32E11, serotype B and associated risk factors in Mukono and Masaka district, Uganda, 2021 ( <b>Musewa Angella</b> )
17:05-17:15	<i>Paper12</i> : Initial Loss To Follow up of Tuberculosis Patients in South Africa: Perspectives of Program Managers ( <b>Judith Mwansa-Kambafwile</b> )
17:15-16:35	Questions and Answers
17:35-17:45	Reflections from facilitators

## DAY2 (Friday 24<sup>th</sup> September, 2021)

### SESSION 3 (Break out room 1)

#### Research on Non-communicable diseases

##### Sessional Chair: Dr. Andrew Tamale

16:05-16:15	<i>Paper13:</i> Unmet Needs for Support in Activities of Daily Living Among Older Adults in Southwestern Nigeria: Do Family and Household Structures Matter? ( <b>Mobolaji, J.W</b> )
16:15-16:25	<i>Paper14:</i> The microeconomic impact of out-of-pocket medical expenditure on the households of cardiovascular disease patients in general and specialized heart hospitals in Ibadan, Nigeria ( <b>Adeniji F.I.P</b> )
16:25-16:35	<i>Paper15:</i> Rehabilitation of individuals with Schizophrenia in Nigeria; The present and Future focus ( <b>Oyeyemi Olajumoke Oyelade</b> )
16:35-16:45	<i>Paper16:</i> Double burden of malnutrition among school-aged children and adolescents: evidence from a community-based cross-sectional survey in two Nigerian States ( <b>Adeomi A.A</b> )
16:45-16:55	<i>Paper17:</i> Understanding and experiences of patient centered care in Southern Malawi: Exploring its extent and drivers in diabetes mellitus management ( <b>Martha Kabudula Makwero</b> )
16:55-17:05	<i>Paper 18:</i> Predicting breast cancer molecular subtypes using clinical and histopathology findings ( <b>Faustin Ntirenganya</b> ). Availability???
17:05-17:15	<i>Paper19:</i> Utilization of Ecological Sanitation Technology and Associated Factors in Burera district, Rwanda ( <b>Celestin Banamwana</b> )
17:15-17:35	Questions and Answers
17:35 – 17:45	Reflections from facilitators

## SESSION 4 (Breakout room 2)

### Research on Health systems

#### Sessional Chair: Dr. Henry Zakumumpa

16:05-16:15	<i>Paper20:</i> Patient Safety Culture in a Southwest Nigerian Tertiary Hospital: Are there differences across the clinical team ( <b>Popoola, O.A</b> )
16:15-16:25	<i>Paper21:</i> Examining the incidence of catastrophic health expenditures and its determinants using multilevel logistic regression in Malawi ( <b>Atupele N. Mulaga</b> )
16:25-16:35	<i>Paper22:</i> Accessibility analysis of childbirth service centres using geospatial and statistical techniques in rural Magadi, Kenya ( <b>Maleyo A. J.</b> )
16:35-16:45	<i>Paper23:</i> Assessing the expectations and reality of integrating rehabilitation services in Primary Healthcare (PHC) in South Africa ( <b>Lebogang Maseko</b> ). <b>Availability???</b>
16:45-16:55	<i>Paper24:</i> Strategic Leader Attributes for Clinical Leaders in a Healthcare System: Perspectives of Healthcare Providers in an HIV Facility in Eldoret, Kenya ( <b>Cherop F</b> )
16:55-17:05	<i>Paper25:</i> Context, types, and utilisation of decentralised training platforms in undergraduate medical education at four South African universities ( <b>Abigail R. Dreyer</b> )
17:05-17:15	<i>Paper 26:</i> Addressing unsafe abortion among adolescents in Kenya: Views of news sources in televised abortion coverage, 2016-2019. ( <b>Catherine Kafu</b> )
17:15-17:35	Questions and Answers
17:35-17:45	Reflections from facilitators

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## Closing ceremony (All in one room)

17:45-16:55      Reflections from facilitators (Dr. Andrew Tamale)

17:55-18:00      Closing remarks (Dr. John Bosco Isunju)

## Subtheme1: Research on Sexual and Reproductive Health

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### Paper 1: Condom knowledge and attitudes of very young adolescents in Rwanda: a cross-sectional study.

Valens Mbarushimana<sup>1,2\*</sup>, Daphney Nozizwe Conco<sup>1</sup>, Susan Goldstein<sup>3</sup>

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#### Abstract

#### Introduction

Used with adequate knowledge, condoms provide protection against pregnancy and sexually transmitted diseases. However, many adolescents including very young ones continue to harbour misconceptions about condoms. Condom knowledge enables very young adolescents to engage in safer sexual behaviours upon sexual debut as they emerge as sexual beings. Evidence of condom knowledge of very young adolescents is limited. This study assessed the knowledge, attitudes towards condoms among of schooling very young adolescents in Rwanda.

#### Methods

A descriptive cross-sectional study was undertaken. A multistage sampling strategy was applied. The study tool adapted from a standard questionnaire developed for the World Health Organization. We measured condom knowledge using participants' answers (agree, do not know, and disagree) on six questions, e.g. condoms are an effective method for preventing pregnancy.

We measured condom attitude using eight questions, e. g: condoms reduce sexual pleasure, with answers ranging from agree, do not know, and disagree. We computed knowledge and attitudes scores. Data were analysed as recommended by the author of the tool and other scholars. Participants' characteristics were also collected. Data were analysed in Stata 14. Frequency tables, and mean (95% CI) were used to summarize data.

## Results

Overall, 811 very young adolescents of whom 50.9% were females participated in the study. Their mean age was 13.41[95% CI: 13.36-13.46]. Most participants (46.08%) were Protestants, followed by the Roman Catholic Church (36.11%). The mean score for condom knowledge was 3.71 out of 6 (95%CI: 3.61-3.81). The overall mean score for condom attitude was 3.41 out of 8 (95% CI: 3.27-3.55). The overall mean score for condom knowledge and attitudes was 7.11 out of 14 (95% CI: 6.90-7.32).

## Conclusion

Very young adolescents hold low knowledge and attitudes towards condoms. Educational interventions need to foster their knowledge and attitudes towards condoms.

## **Paper 2: Organisational and individual readiness for change to respectful maternity care practice and its associated factors in Ibadan, Nigeria: a cross-sectional study**

Esan, OT<sup>1</sup>, Maswime, TS<sup>2</sup>, Blaauw, D<sup>3</sup>.

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<sup>2</sup>*Global Surgery Division, Faculty of Health Sciences, University of Cape Town, Cape Town. South Africa.*

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## Abstract

Organisational and individual readiness for change are precursors to implementation. Yet, these have not been reported in respectful maternal care literature. An analytical cross-sectional study of 212 health providers selected via a two-stage cluster sampling technique was conducted in nine public health facilities in Ibadan, Nigeria using a structured questionnaire. The Organisational readiness and individual readiness for change are the outcome variables with maximum mean scores of 5 and 7 respectively. Higher scores indicated higher readiness for change. Their predictors were the providers' change valence, informational assessments, self-core evaluation, job description. Others include provider perception on women's rights, available resources to implement RMC, and awareness of mistreatment during childbirth in their facilities. Data was analysed using the STATA 15 software. Relationships were determined using Spearman's correlation statistics, and associations using parametric and non-parametric tests. Multivariate regression was used to identify influencing factors at  $p<0.05$ . Data analysis was adjusted for clustering. The health providers' mean age was  $43.8\pm9.8$  with  $15.5\pm10.0$  years of work experience. They had high organisational ( $4.01\pm0.9$ ) and individual ( $6.04\pm0.9$ ) readiness for change scores, though these had weak positive correlation ( $r_s=0.325$ ,  $p<0.001$ ). They also had high change valence and high perception of women's rights during childbirth but low perception of resource availability and adequacy for implementation. Individual readiness could be influenced by the providers' age, income, working in the labour unit and perceived resource availability. Organisational readiness could be influenced by the providers' perceived adequacy of available resources and feasibility of respectful maternity care implementation. Both by the providers' change valence, years of work experience and years since last promotion. The health providers studied and their organisations both highly value a change to a respectful maternity care practice, and are ready for it. They however need to be supported with the resources to implement it.

## Paper3: Effect of a mobile health intervention on uptake of postnatal care services in Nigeria.

<sup>1</sup>Olajubu A.O\*; <sup>1</sup>Fajemilehin B.R; <sup>2</sup>Olajubu T.O; <sup>3</sup>Afolabi B.S

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## Abstract

Studies have linked the large percentage of maternal and neonatal mortality that occur in postnatal period to low uptake of postnatal care (PNC) services. Mobile health (mHealth) intervention has resulted in significant increase in antenatal care utilisation in previous studies. However, its use in the utilisation of PNC services has not been adequately investigated in Nigeria. This study aimed to evaluate the effect of a mobile health intervention on PNC attendance among mothers in selected primary healthcare facilities in Osun State, Nigeria. A quasi-experimental research design was utilised. Participants were allocated to Intervention Group and Control Group. One hundred and ninety pregnant women were recruited in each group. A mobile health intervention software was developed and used to send educational and reminder messages to mothers in the intervention group from the 35th week of pregnancy to six weeks after delivery. Uptake of PNC services was assessed at birth, 3 days, 10 days and 42 days after delivery. Data were analysed using descriptive statistics, chi-square and logistic regression models. About one-third (30.9%) of respondents in the intervention group attended four postnatal care visits while only 3.7% in the control group attended four visits ( $p < 0.001$ ). After controlling for the effect of confounding variables, group membership remained a significant predictor of PNC uptake (AOR: 10.869, 95% CI: 4.479 – 26.374). Also, for each of the recommended visits, the odds of utilisation were significantly higher among mothers in intervention group. The odds ratio was highest with regard to the second PNC visit which was utilised by 44.6% of those in intervention group compared to 7.9% in control group (AOR: 9.261, 95% CI: 4.794–17.888) and lowest for the fourth visit (85.1% vs. 65.9%, AOR: 2.749, 95% CI: 1.595–4.738). Mobile health intervention significantly improved utilisation of the recommended four postnatal care visits.

**Paper4: Prevalence and Consumption Pattern of Kolanut Among Pregnant Women In Ibadan Metropolis**

Atiba F.A.<sup>1,2\*</sup>, Popoola O.A.<sup>3</sup>, Odukogbe A.O.<sup>4</sup>. Ihunwo A.O.<sup>2</sup>

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**Abstract**

Kolanut is popular in Nigeria and other Sub-Saharan African Countries where it is widely eaten as a snack. Some studies have suggested that kolanut is consumed by pregnant women. There is, however, a dearth of information on the prevalence, consumption pattern and perceived reasons for kolanut consumption. This study investigated these gaps among pregnant women in Ibadan, Oyo State, Nigeria. A cross-sectional study involving consented 478 pregnant women in all three trimesters and registered at health facilities was conducted in Ibadan. Semi-structured questionnaires were used to collect data on socio-demographic characteristics, obstetrics history and kolanut use.in pregnancy. Association between kolanut use and variables was investigated using Chi-square test and logistic regression analysis. The mean age of the women was 28.7yrs ( $\pm 6.3$ ) and 50.8% with secondary school certificate while 43.9% were semiskilled. Most women (38.7%) were studied in PHCs and 18% from Secondary Health Centres with 11.1% in first trimester while 34.7% and 54.2% were in 2<sup>nd</sup> and 3<sup>rd</sup> trimester respectively. About two thirds (66.5%) were multiparous and 5.2% were nulliparous. About a third of the women used kolanut in current pregnancy with 29% reporting use while 26.9% reported frequent use, while 12.3% used in high quantity. Significant associations were found between current kolanut use and ethnicity ( $p = 0.002$ ), educational level ( $p = 0.004$ ), facility centre ( $p < 0.001$ ) and parity ( $p = 0.043$ ). Majority (93.7%) used kolanut to prevent spitting, nausea and vomiting and 77.7% were introduced to kolanut by relatives and friends. This study has shown that kolanut use is quite common among

pregnant women and frequently consumed in large quantities by users. The results of this study justify public health interventions focusing on raising awareness of the consequences of kolanut use in pregnant women and those of reproductive age.

**Keywords:** Kolanut, Consumption, Prevalence, Pattern, Pregnancy, Alternative-medications

**Paper 5: Fostering Pregnant Women's Birth Preparedness and Complication Readiness through Goal-Oriented Prenatal Education In Semi-Urban Areas Of Ibadan, Nigeria**

Akinwaare, M. O<sup>1</sup>. and Oluwatosin O. A<sup>2</sup>.

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**Abstract**

Pregnancy and childbirth periods are critical in the lives of women, and Birth Preparedness and Complication Readiness (BPCR) has been proven to be effective in reducing maternal mortality globally. However, maternal mortality, which is still high in Nigeria, and is associated with inadequate BPCR and non-institutional delivery despite high antenatal clinic attendance. Therefore, this study evaluated the effects of Goal-Oriented Prenatal Education (GOPE) on pregnant women's BPCR and institutional delivery in semi-urban areas of Ibadan, Nigeria. A quasi-experimental two group pre-post design was adopted. Two out of six semi-urban Local Government Areas (LGAs) of Ibadan were randomly selected and randomised into Intervention group (IG) and Control group (CG). Two Primary Healthcare Centres were selected based on clientele in each LGA and 200 pregnant women who met the inclusion criteria were purposively selected from each of IG and CG. John Hopkins Program for International Education in Gynaecology and Obstetrics (JHPIEGO) questionnaire was adapted for data collection at baseline (P0) and post intervention. The IG received GOPE which focused on BPCR while CG received routine PE. Data were collected at two weeks (P1) and six weeks (P2) post intervention. Respondents' place of birth was documented in IG and CG at delivery. Data were analysed using descriptive statistics, and Chi-sq test at  $\alpha=0.05$ . At P0, 65.5% of women in IG and 60.5% in CG had

good knowledge of BPCR, which increased to 91.8% in IG and 74.2% in CG at P1; 87.0% and 67.0%, respectively at P2. At delivery, 93.5% in IG and 53.5% in CG had institutional delivery. Significant differences ( $p<0.001$ ) were observed in BPCR knowledge at P1 and P2, and place of birth at delivery between IG and CG. Goal-oriented prenatal education improved BPCR and institutional delivery among pregnant women. This should therefore be integrated into routine prenatal education.

**Keywords:** Birth preparedness, Complication readiness, Prenatal education, Institutional delivery

**Paper6: Genital and Systemic Cytokine Profile in *Neisseria gonorrhoeae* infection among individuals seeking STI services at a Health Centre in Nairobi, Kenya**

Maina, AN<sup>1</sup>Mureithi, MW<sup>1</sup> Kiiru, JN<sup>2</sup> Revathi, G<sup>3</sup>

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### Abstract

**Introduction** The human-restricted sexually transmitted *Neisseria gonorrhoeae* (NG) has been shown to modulate the immune response against it and consequently the cytokines produced. The levels of cytokines in NG infection in the African population have not been well described. We aimed to quantify the systemic and genital cytokines in NG infection.

**Methods** This was a comparative cross-sectional study. Levels of nine cytokines (IL-1 $\beta$ , IL-2, IL-4, 1L-6, 1L-10, 1L-12p70, IL-17A and INF- $\gamma$ ) were measured from plasma and genital samples from 61 *Neisseria gonorrhoeae* infected individuals seeking treatment at Casino Health Centre in Nairobi, Kenya. A comparative group of 61 NG-uninfected individuals, seeking treatment at the same facility but with laboratory-confirmed negative *Neisseria gonorrhoeae*, *Chlamydia*

*trachomatis* (CT), *Mycoplasma genitalium* (MG) and *Trichomonas vaginalis* (TV) was also included. The Mann-Whitney U test was used to compare the cytokine levels between NG-infected and uninfected individuals. Data was analyzed using STATA ver. 15.1.

**Results** Overall, systemic IL-6, TNF- $\alpha$  and IL-10 were elevated while genital IL-10 and TNF- $\alpha$  were lower in NG positive participants. On subgroup analysis by sex, the levels of genital IL-1 $\beta$  and IL-6 and systemic IL-6 were elevated in NG-infected men. None of the genital cytokines were elevated in NG-infected women, while all systemic cytokines, except INF- $\gamma$ , were elevated in NG-infected women.

**Conclusion** *Neisseria gonorrhoeae* induced the production of different cytokines in men and women, with men having a pro-inflammatory genital response. These differences should be taken into consideration during development of various interventions e.g. vaccine development.

#### Keywords

*Neisseria gonorrhoeae*, genital cytokines, systemic cytokines, STIs, Kenya

## Sub-theme2: Research on Infectious Diseases and Drugs

### Paper7: Antiretroviral therapy uptake and predictors of virological failure in patients receiving first line and second-line regimens: a retrospective cohort data analysis

Siphamandla B Gumede,<sup>1,2\*</sup>; Willem Daniel Francois Venter,<sup>1</sup>; John Benjamin Frank de Wit,<sup>2</sup>; Annemarie Wensing,<sup>3</sup>; Samanta Tresha Lalla-Edward,<sup>1</sup>

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## Abstract

Despite improved antiretroviral therapy (ART) regimens being available in the South African national HIV program, up to 40% of patients experience virological failure or are not retained in care. This study described the demographics, treatment information and identified characteristics associated with virological failure and being lost to follow-up (LTFU) for patients on first-line and second-line ART regimens in a large South African cohort. A retrospective study was conducted of cohort data from seven Johannesburg inner-city facilities. Demographic characteristics, ART status, CD4 count information and retention status were collected, and analyzed as covariates of outcomes (viral load (VL) and retention in care). Unique records of 123,002 people with HIV receiving ART at any point in the period 1 April 2004 to 29 February 2020 were included. Of these, 95% (n=117,260) were on a first-line regimen and 5% (n=5,742) were on a second-line regimen. Almost two-thirds were female (64%, n=79,226). Most patients (60%, n=72,430) were initiated on a fixed dose combination. 91% (n =76,737) achieved viral suppression at least once since initiating on ART and 67% (n=82,912) remained in care as at the end of February 2020. Of patients on first-line and second-line regimens 91.8% (n=72,451) and 80.6% (n=4,286) achieved VL suppression, respectively. Patients on second-line regimens were less likely to reach viral suppression (OR=0.37, CI=0.35-0.40) and less likely to be lost to follow up (OR=0.82, CI=0.78-0.847). Being older ( $\geq 25$  years), female, on ART $\geq 5$  years and having a recent CD4 cell count  $\geq 100$  cells/ $\mu$ l were all predictors of viral suppression and retention in patients on first-line ART. Patients on first-line regimens had higher VL suppression rates but lower retention rates than those on a second-line regimen. Being younger, male, a longer duration on ART and low CD4 cell counts were associated with poor outcomes, suggesting priority groups for ART adherence support.

## Paper8: Antimicrobial Resistance Profiles and Genes of Staphylococci Isolated from Mastitic Cow's Milk in Kenya

**Mbindyo C. M<sup>1</sup>, Gitao G. C<sup>1</sup>, Plummer J.P<sup>2,3,4</sup>, Kulohoma B.W<sup>5</sup>, Mulei C.M<sup>6</sup> and Bett R<sup>7</sup>.**

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## Abstract

Increasing numbers of potentially zoonotic multidrug-resistant (MDR) staphylococci strains, associated with mastitis in dairy cows, are being reported globally and threaten disease management in both animal and human health. However, the prevalence and antimicrobial resistance profiles of these strains, including methicillin-resistant staphylococci (MRS), in Kenya is not well known. This study investigated the drug resistance profiles and genes carried by 183 staphylococci isolates from 142 dairy cows representing 93 farms recovered from mastitis milk of dairy cows in two selected counties in Kenya. Staphylococci isolates were characterized by phenotypic characteristics, polymerase chain reaction (PCR) amplification, partial sequencing and susceptibility testing for 10 antimicrobial drugs. Detection of seven resistance genes to the various antimicrobial drugs was conducted using PCR. Overall, phenotypic resistance among the

staphylococci ranged between 66.1% (121/183) for ampicillin and 3.5% (8/183) for fluoroquinolones. Strikingly, 25% (23/91) of *Staphylococcus aureus* (*S. aureus*) and 10.8% (10/92) of the coagulase-negative *Staphylococcus* (CoNS) isolates, were methicillin-resistant staphylococci phenotypically (defined as resistance to cefoxitin disk diffusion). The most common genes found in *S. aureus* and CoNS were *blaZ* and *strB*. In *S. aureus*, *blaZ* gene was at 44.3% (35/90) and *strB* at 65.4% (55/90) while for CoNS it was at 26% (6/15) and 60% (9/15) respectively. Multidrug resistance was observed in 29.67% (27/91) and 16.3% (15/92) of *S. aureus* and CoNS, respectively. These findings signify a public health concern and a challenge to bovine mastitis therapy hence the need to control the emergence and spread of AMR in dairy farms.

## **Paper9: Antibiotic use and disposal among informal settlements using groundwater sources in Kisumu county Kenya**

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### **Abstract**

Use and abuse of antibiotics is directly related to development of drug resistance, which is a global health problem. Where the major focus is on misuse of antibiotics in drug resistance development, only little is known related to the improper disposal of antibiotics. Evidence has shown that improper use and disposal practices of antibiotics cause contamination of groundwater sources and technologies to remove pharmaceutical products in water are expensive. Therefore, this study sought to determine antibiotic use and disposal in informal settlements of Kisumu County, Kenya. A random cross-sectional sample of 447 household heads in selected informal settlements was interviewed in September 2019 to assess antibiotic use and disposal. Data was entered and

analyzed in SPSS version 20 for descriptive analysis and cross tabulation and STATA 14.0 for regression analysis. About half the households reported antibiotic use 43% (n=193). Among this, 74% (n=144) consulted a health worker in a healthcare facility for prescription. Respondents who had taken antibiotics did not always complete doses but reported to have kept the remainder for next time they would get sick (54%). About 32% disposed remainder of antibiotics in pit latrines, compost pits (10%) while 4% reported to have burnt them. Groundwater was used by 99.8% (n=446) for various purposes, including drinking (9%; n=40), cooking (18%; n=43), washing utensils (79%; n=353), clothes (96%; n=427) and house (95%; n=421). Antibiotic use was considerably high despite low level of awareness of health effects of consuming water contaminated with antibiotics at 35% (n=156);  $p=0.03$ . Groundwater is the major water source for domestic use in informal settlements, but few respondents used the water for drinking and opt for treated water supplied by government. Awareness creation on antibiotic use as well as safe disposal is important in mitigating against the looming global health concern due to antibiotic resistance.

**Paper10: Detection of emerging tick-borne pathogens in dairy cattle in peri-urban Nairobi, Kenya**

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**Abstract**

Tick-borne pathogens in the family *Anaplasmataceae* are of both veterinary and public health importance. The current status of these pathogens, including emerging species infecting cattle in Kenya, remain unclear, mainly because of limitation in the diagnostic techniques. Recent reports from the University of Nairobi Veterinary Hospital indicated possible rising cases. Therefore, this study was undertaken to investigate *Anaplasma* and *Ehrlichia* species infecting dairy cattle in Nairobi-Kenya using molecular techniques with the aim of informing appropriate management and control. A total of 306 whole blood samples were collected from apparently healthy dairy cattle. Whole blood DNA was extracted and tested for presence of *Anaplasma* and *Ehrlichia* DNA through amplification and sequencing of the 16S rDNA gene. Sequence identity was confirmed using BLASTn analysis while phylogenetic reconstruction was performed to determine the genetic relationship between the Kenyan isolates and other annotated genotypes available in GenBank. *Anaplasma* and *Ehrlichia* species were detected in 19.9% and 3.3% of all the samples analyzed, respectively. BLASTn analysis of the sequences against non-redundant GenBank nucleotide database revealed infections with *A. platys* (44.8%), *A. marginale* (31%) and *A. bovis* (13.8%). All four sequenced *Ehrlichia* spp. were similar to *Ehrlichia minasensis*. In conclusion, this study provided the first report of infection of dairy cattle in Kenya with *A. platys* and *E. minasensis*, which are emerging pathogens. Additionally, cattle in the peri-urban Nairobi were also infected with various other species of *Anaplasma* and *E. minasensis*. To understand the extent of these infections in other parts of the country, including *Anaplasma platys* which is a zoonotic pathogen, large-scale screening studies as well as vector identification is necessary to inform strategic control and pre-empt possible disease outbreaks.

**Paper11: Detection of swine erysipelas infection based on *Erysipelothrix rhusiopathiae* R32E11, serotype B and associated risk factors in Mukono and Masaka district, Uganda, 2021.**

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## Abstract

Swine erysipelas is an economically significant disease affecting all stages of pork production.

Domestic swine are believed to be the most important animal reservoir of *E. rhusiopathiae*. The organism is shed by infected animals in feces, urine, saliva, and nasal secretions, which can contaminate food, water, soil, and bedding. Maintenance of the organism in nature appears to result from asymptomatic carriage in animals and subsequent dissemination of the organism to the environment.

To determine the sero-prevalence of *E. rhusiopathiae* in pigs, serum samples from 835 randomly selected pigs were collected in two districts; Masaka and Mukono district, as part of a multi-pathogen survey conducted by the International Livestock Research Institute in 2013.

Overall, 360/845 (42.6%) of the pig sera carried antibodies against *E. rhusiopathiae*. Mukono district had a higher sero-prevalence (218/835, 54.5%), compared to Masaka district (142/435, 32.6%). Associated risk factors included; district of specimen origin, pig sera from Masaka district was protected from developing *E. rhusiopathiae* infection ( $OR=0.40$ , 95% CI: 0.31-0.54). The odds developing ER infection among the exotic breed was 2.6 times compared to local breed ( $OR=2.62$ , 95% CI: 1.89-3.64). Gilts had 4 odds higher than the piglets of developing infection compared to the piglet ( $OR=4.66$ , 95% CI: 3.1-7.00), while the sows had two odds high of being infected with *E. rhusiopathiae* compared to piglet ( $OR=2.37$ , 95% CI: 1.64-3.44).

Farms that practiced semi-intensive feeding system were protected against the *E. rhusiopathiae* infection ( $OR=0.68$ , 95% CI: 0.49-0.95). Pigs keep on houses with raised floor were protected from developing *E. rhusiopathiae* infection compared to those that were tethered ( $OR=0.37$ , 95% CI: 0.26-0.54). Also pigs keep on house floor not raised were also protected against *E. rhusiopathiae* infection ( $OR=0.66$ , 95% CI: 0.46-0.97). Pigs kept on free range system had 2 odds of developing disease compared to those kept by tethering ( $OR=2.29$ , 95% CI: 0.77-1.16).

**Paper12: Initial Loss To Follow up of Tuberculosis Patients in South Africa: Perspectives of Program Managers**

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**Abstract**

Tuberculosis (TB) remains a serious public health problem in South Africa. Initial loss to follow up (LTFU) rates among TB patients are high, varying between 14.9% and 22.5%. Reasons include poor communication, not being aware that results are ready and competing priorities. Ward-based Outreach Teams (WBOTs) routinely conduct home visits to ensure adherence to medication for various conditions including TB. We aimed to explore TB initial loss to follow up from the perspectives of TB program managers and WBOT program managers, with a focus on the WBOT's (potential) role in reducing initial LTFU, in particular. Key informant interviews with five WBOT program managers and four TB program managers were conducted. The interviews were audio-recorded, then transcribed and exported to NVivo 11 software for coding. A hybrid analytic approach consisting of both inductive and deductive coding was used to identify themes. The age of the participants ranged between 28 and 52 years old, of which two were male. They

had been in their current position for between 2 to 12 years. WBOTs screen household members for TB and refer them for TB testing if need be, but integration of the two programs is emphasized only after TB treatment has been initiated. Counselling of patients testing for TB is not guaranteed due to frequent staff rotations and staff shortages. Possible dissatisfaction with services as well as stigma associated with the TB diagnosis could explain loss to follow up prior to treatment initiation. Program managers view health system related factors such as staff rotations, poor communication with patients and lack of counselling as contributing to the problem of initial LTFU among TB patients. The integration of the WBOT and TB programs is limited to referring suspected cases for testing and patients already on treatment.

## Sub-theme3: Research on Non-communicable diseases

### Paper13: Unmet Needs for Support in Activities of Daily Living Among Older Adults in Southwestern Nigeria: Do Family and Household Structures Matter?

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#### Abstract

Access to support from social networks is key to achieving wellbeing in later life. However, the prevalent social and economic challenges have impacted the availability and ability of the social networks, especially family to provide support. This study investigates the influence of family and household structures on unmet need for support in Activities of Daily Living (ADL) among older adults in Southwestern Nigeria. The study utilized primary data collected from 827 older adults aged 65+ selected in Oyo State, Nigeria using multi-stage sampling design. Associations were examined using binary logistic regression at multivariable analysis. From the results, a larger proportion (35%) of the older adults reported unmet needs for support in Instrumental ADL

compared to Basic ADL (20%) with no significant gender variations. The unadjusted odds ratio of the regression result indicated that lower odds of unmet need was associated with having 5 or more household size (OR=0.65, p<0.05, 95% C.I.=0.44-0.97) and living with immediate family (OR=0.64, p<0.05, 95% C.I.=0.46-0.90), while higher odds was associated with having children with high socioeconomic status (OR=1.47, p<0.05, 95% C.I.=1.00-2.16). The study suggests the need for intervention towards improving the living arrangements of older adults, and providing enabling environment for families to support the elderly.

**Paper14: The microeconomic impact of out-of-pocket medical expenditure on the households of cardiovascular disease patients in general and specialized heart hospitals in Ibadan, Nigeria**

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### Abstract

Cardiovascular diseases (CVDs) present a huge threat to population health and impose severe economic burden on households. This study estimated the incidence and intensity of catastrophic health expenditures (CHE), poverty headcount due to out-of-pocket (OOP) medical spending and the associated factors among the households of a cohort of CVDs patients who accessed healthcare services in public and specialized heart hospitals in Ibadan, Nigeria. This study adopts a descriptive cross-sectional study design. A standardized data collection questionnaire developed by the Initiative for Cardiovascular Health Research in Developing Countries was adapted to electronically collect data from all the 744 CVDs patients who accessed healthcare services in public and specialized heart hospitals in Ibadan between 4<sup>th</sup> November 2019 to the 31<sup>st</sup> January 2020. A sensitivity analysis, using rank-dependent thresholds of CHE which ranged from 5%-40%

of household total expenditures was carried out. The international poverty line of \$1.90/day recommended by the World Bank was utilized to ascertain poverty headcounts pre-and post OOP payments for healthcare services. Unadjusted and adjusted logistic regression models were used to assess the factors associated with CHE and poverty. Catastrophic OOP payment ranged between 3.9%-54.6% and catastrophic overshoot ranged from 1.8% to 12.6%. Health expenditures doubled poverty headcount, from 8.13% to 16.4%. Having tertiary education (AOR: 0.49, CI: 0.26-0.93,  $p = 0.03$ ) and household size (AOR: 0.40, CI: 0.24-0.67,  $p = 0.001$ ) were significantly associated with CHE. Being female (AOR: 0.41, CI: 0.18-0.92,  $p = 0.03$ ), household economic status (AOR: 0.003, CI: 0.0003-0.25,  $p = <0.001$ ) and having 3-4 household members (AOR: 0.30, CI: 0.15-0.61,  $p = 0.001$ ) were significantly associated with household poverty status post payment for medical services. OOP medical spending due to CVDs imposed enormous strain on household resources and increased the poverty rates among households. Policies that supports universal health coverage are highly recommended.

## **Paper15: Rehabilitation of individuals with Schizophrenia in Nigeria; The present and Future focus**

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## Abstract

**Introduction and Justification:** Schizophrenia, the most chronic and stigmatized form of mental illness, can be described as a brain disorder that affects an individual's cognition. Individuals with schizophrenia exhibit socially unacceptable symptoms that affect their psychosocial lives. They suffer from reduced productivity due to the debilitating effect of the illness, and the negative symptoms impede their employability; such symptoms and effects aggravate the stigma around mental illness. However, when rehabilitation is successfully achieved, so is productivity, and this decreases the associated stigma.

**Objectives, methods and analysis:** Thus, this study describes the rehabilitation experiences and productivity of individuals with schizophrenia in South-West Nigeria. A descriptive qualitative approach with semi-structured interviews was used to gather information from mental health service users. The data from the interviews were independently analyzed by two researchers through a content analysis approach using NVIVO version 11. The researchers compared the results of the analysis and reached an agreement on the conclusion.

**Findings and conclusion:** The mental health service users in this study who offered their services to the institutions were able to make informed decisions and showed better performance with their chosen occupation than those who depended on their family or health professionals for the choice of rehabilitation service or vocational career. Therefore, it can be concluded that the rehabilitation of individuals with schizophrenia, though a good effort, can be improved upon through active involvement of service users in their rehabilitation decision-making process. This, rehabilitation service, is hoped to further empower the service users and give them a voice in the face of quieting stigma.

**Key words:** mental health service users, productivity, rehabilitation, schizophrenia

**Paper16: Double burden of malnutrition among school-aged children and adolescents: evidence from a community-based cross-sectional survey in two Nigerian States**

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### Abstract

Double burden of malnutrition (DBM) is the co-existence of overweight/obesity and undernutrition. Rising prevalence rates of childhood overweight/obesity in Nigeria have been reported, whilst undernutrition continues to be prevalent. This study aimed to estimate the prevalence and distribution of underweight, stunting, thinness, overweight/obesity, and DBM among school-aged children and adolescents in two Nigerian States.

This was a community-based cross-sectional study carried out in Osun and Gombe States. A total of 1,200 children aged 6 – 19 years were recruited using multi-stage sampling technique. Weight, height and data on demographic, socio-economic, household/family characteristics of the children were collected using structured interviewer administered questionnaires. Nutritional status was calculated using the WHO 2007 reference values using BMI-for-age (thinness, overweight/obesity), height-for-age (stunting) and weight-for-age (underweight). DBM was described at the population and individual levels.

The mean age of the respondents was  $11.6 \pm 3.8$  years. The overall prevalence rate of stunting was 34.9%, underweight was 13.5%, thinness was 10.3% and overweight/obese was 11.4% and 4.0% had individual level DBM, which typifies the DBM at individual and population levels. These rates differed significantly across demographic, socio-economic and household/family characteristics ( $p < 0.05$ ). Gombe State, which is in the Northern part of Nigeria, had significantly higher burden of stunted, underweight and thin children than Osun State, while Osun State, in the Southern part of Nigeria, had a significantly higher burden of overweight/obesity.

The study found evidence of DBM both at population and individual levels. The overall prevalence rates of stunting, underweight, thinness and overweight/obesity in this study were high, and they differed significantly across the demographic, socio-economic and household/family characteristics. There is the need for government and all other stakeholders to design nutritional educational programmes that will target both under- and over-nutrition among older children in the different contexts.

**Paper17: Understanding and experiences of patient centered care in Southern Malawi: Exploring its extent and drivers in diabetes mellitus management**

Martha Kabudula Makwero

**Abstract**

**Background:** Patients' perception of PCC is associated with better experiences of care and better patient reported outcomes. Even though the significance of PCC in chronic disease management such as diabetes Mellitus is recognised, its appraisal has not been well documented in LMIC. Thus, describing its levels and associations will serve as advocacy for its implementation and support.

**Aim:** To assess the level of PCC and its association with self-efficacy, patient adherence to management plans in patients with Diabetes.

**Setting:** This study was conducted in four public diabetes mellitus (DM) clinics in southern region of Malawi,

**Methods:** This was a cross sectional study quantitative study among patients with DM. We used STATA for analysis. We used descriptive statistics to describe PCC levels and logistic regression to ascertain its associated factors.

**Results:** The core functional elements in PCC were:- i) conducive interactional ambience, ii) acknowledgement of patient as an active partner and, iii) timeliness of care. Overall perception of satisfactory PCC among patients was low among patients with DM. Patients with significant DM complications reported to have experienced low levels of PCC (p value less than 0.05). Even though PCC was not significantly associated with DM self- efficacy and glycaemic control, there was positive association with adherence, particularly, acknowledgement of patient as an active partner in care.

**Conclusion:** Fostering patient participation in care has potential to improve DM care in Malawi. Providers need a culture change to support patients' participation through transformation of providers' medical education.

**Paper18: Predicting breast cancer molecular subtypes using clinical and histopathology findings**

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**Abstract**

**Background:** Breast cancer constitutes a major public health problem worldwide. It remains a major scientific, clinical and societal challenge generally in Africa and particularly in Rwanda.

**Objectives:** The purpose of this study was to determine clinico-histopathological predictors of breast cancer molecular subtypes in women with breast cancer in Rwanda.

**Methods:** This was a prospective prediction modelling study including patients with histological confirmation of breast cancer. A pre-established questionnaire was administered for socio-demographic, clinical and histopathological characteristics. Histopathology and immunohistochemistry (IHC) was performed using standard paraffin technique. Breast cancers were classified into luminal A, luminal B, HER2-type, basal-like (triple negative) and unclassified

molecular subtypes. Using R statistical software, a regression model for multinomial responses was developed. Parameters for the model were estimated using maximum likelihood approach. The Likelihood ratio (LR) was calculated using Anova. Two tail z-test was used to test for statistical significance and the large p-value indicated no sufficient evidence to indicate that the class of explanatory variable is important given that the other variables are in the model.

**Results:** 340 participants were recruited into the study. The median age was 49 years (Range 18-89 years). The majority of cases presented advanced stages of the disease (51.2% in stage III and IV) and had invasive ductal carcinoma (98.2%). Subtypes of poor prognosis (HER2 enriched 14.7%, triple negative 12.9%, unclassified 32.9%) represented 60.6%. Postmenopausal breast cancer ( $p=0.0142$ ), and no history of infertility ( $p=0.018$ ) have been retained as Luminal A subtype predictors with model accuracy of 0.65. Predictive model for Luminal B retained age ( $p=0.003$ ), postmenopausal cancer ( $p=0.005$ ), absence of axillary lymph nodes ( $p= 0.008$ ) and poorly differentiated tumor ( $p=0.012$ ) with a predictive accuracy of 0.86. For HER2-Enriched subtype, age ( $p=0.045$ ), BMI( $p=0.005$ ), rapid progression ( $p=0.032$ ), T2 tumor size ( $p<0.001$ ), T3 tumor size ( $p=0.008$ ), histology types other than invasive ductal carcinoma ( $p=0.049$ ) have been retained in the final fitting model with a predictive accuracy of 0.70. For triple negative tumors, age ( $p=0.005$ ), painless mass( $p=0.030$ ), no family history of breast cancer ( $p=0.046$ ), nodal involvement ( $p=0.008$ ), Nottingham grade 3 ( $p<0.001$ ) have been retained in the final model with 0.71 as prediction accuracy.

**Conclusion:** Breast cancer exhibits different predictors according to molecular subtypes. Although clinical and histopathological characteristics may be helpful in the prediction of breast cancer molecular classification, the accuracy may be weak, except for Luminal B molecular subtypes prediction. To help better understand clinical implications, a clinico-pathological score should be developed. This can serve as a relatively inexpensive and straightforward alternative in resource-limited settings where immunohistochemistry is not readily available.

**Key words:** Predictive model, molecular subtypes, Breast cancer

**Paper19: Utilization of Ecological Sanitation Technology and Associated Factors in Burera district, Rwanda**

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## Abstract

Ecological sanitation (Ecosan) technology continues to be challenged by diverse factors including exposure to human excreta among users. Such technology has been implemented to increase sanitation coverage as well as to safer excreta reuse in the rural areas of Rwanda. However, little is known about the utilization of such Ecological sanitation technology, which continues to challenge a predictable sanitation coverage in the area. This study aims to assess the utilization of Ecological sanitation technology and associated factors among household' users in Burera district, Rwanda. We conducted a survey of 374 households followed by 20 key interviews with a local leader and sanitation actors in Burera District, Rwanda.

We found that 39.4 % of households are better utilizers. A strong association of education level (OR 2.68, 95% CI 1.05–6.8), household economic category (OR 3.30, 95% CI 2.07–5.5), concrete slabs (OR 56.25, 95% CI 13.31–237.67), maintenance issues (OR 2.01, 95% CI 0.92–4.42), clearing practices (OR 1.36, 95% CI 1.08–1.71) with the utilization of Ecosan technology. In addition, safe use of Ecosan products on the farm and crop yield are key drivers of proper utilization of Ecosan technology. However, high installation cost, slab design, and poor clearing are associated with poor utilization of Ecosan technology. The study indicates that there is a need to scale up the Ecosan technology in the community of Burera district to optimize the proper use of Ecosan products. The better utilization of Ecosan technology will evolve the implementation

strategies such as community education, the supply of Ecosan concrete slabs in the community, and deduction of the installation cost of Ecosan technology. This will boost sanitation coverage and increase crop production in Burera district by taking into account the community health as well as agricultural practices.

## Sub-theme4: Research on Health systems

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### Paper20: Patient Safety Culture in a Southwest Nigerian Tertiary Hospital: Are there differences across the clinical team

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#### Abstract

Safe treatment is a core ideal of clinical practice however safety failures occur commonly during care. The patient safety culture (PSC) of a medical institution is a clearly defined construct which has been suggested to track and improve safety practices. However, there are few studies that compare this construct across the health team. This study was therefore conducted to assess and compare PSC across health workers in a large south west Nigerian teaching hospital. This study utilised a cross sectional design. Using a stratified random sampling approach, 766 respondents being 30% of nurses, doctors, pharmacists, laboratory scientists and physiotherapists in the hospital were sampled. PSC was assessed using the Hospital Survey of Patient Safety (HSPSC) Culture questionnaire responses are summarised as percentages. A patient safety culture outcome variable was derived and categorised as positive or negative. Differences in proportions was assessed using the chi square test at  $\alpha$  0.05. A total of 639 sampled individuals responded giving a response rate of 83%. There were more females (67%) and 60% of the respondents were less than or 40 years of age. Teamwork (77%) and reporting of patient safety events (44%) had the best and worst ratings. Nurses and laboratory scientists showed statistically significant higher ratings on

manager support for patient safety. Nurses also assessed quality of handovers significantly higher than others. Nurses and laboratory scientists' assessment of patient safety was better than other groups, only 26% of physiotherapists had the positive perception of PSC. Patient safety perception is better among nurses and lab workers than other clinical staff. PSC research to identify reasons for these differences is required.

**Paper21: Examining the incidence of catastrophic health expenditures and its determinants using multilevel logistic regression in Malawi**

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**Abstract****Background**

Despite a free access to public health services policy in most sub-Saharan African countries, households still contribute to total health expenditures through out-of-pocket expenditures. This reliance on out-of-pocket expenditures places households at a risk of catastrophic health expenditures and economic impoverishment. This study examined the incidence of catastrophic health expenditures, impoverishing effects of out-of-pocket expenditures on households and factors associated with catastrophic expenditures in Malawi.

**Methods**

We conducted a secondary analysis of the most recent nationally representative integrated household survey conducted by the National Statistical Office between April 2016 to April 2017 in Malawi with a sample size of 12447 households. Catastrophic health expenditures were estimated based on household annual nonfood expenditures and total household annual expenditures. We estimated incidence of catastrophic health expenditures as the proportion of

households whose out-of-pocket expenditures exceed 10% of total annual expenditures and 40% threshold level of non-food expenditures. Impoverishing effect of out-of-pocket health expenditures on households was estimated as the difference between poverty head count before and after accounting for household health payments. We used a multilevel binary logistic regression model to assess factors associated with catastrophic health expenditures.

### **Results**

A total of 167 households (1.37%) incurred catastrophic health expenditures. These households on average spend over 52% of household nonfood expenditures on health care. 1.6% of Malawians fell into poverty due to out-of-pocket health expenditures. Visiting a religious health facility (AOR=2.27, 95% CI:1.24-4.15), hospitalization (AOR=6.03, 95% CI:4.08-8.90), larger household size (AOR=1.20, 95% CI:1.24-1.34), higher socioeconomic status (AOR=2.94, 95% CI:1.39-6.19), living in central region (AOR=3.54, 95% CI:1.79-6.97) and rural areas (AOR=5.13, 95% CI:2.14-12.29) increased the odds of incurring catastrophic expenditures.

### **Conclusion**

Households face the risk of catastrophic health expenditures and impoverishment due to out-of-pocket expenditures in Malawi. This calls for government to improve the challenges faced by the free public health services and design better prepayment mechanisms to protect more vulnerable groups of the population from the burden of out-of-pocket payments.

### **Paper22: Accessibility analysis of childbirth service centres using geospatial and statistical techniques in rural Magadi, Kenya**

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### **Abstract**

Accessibility to healthcare services is a basic need for individuals regardless of geographic, demographic and socio-economic status. In rural African neighborhoods, health facilities (HF) are often located further away from community settings leading to challenges in accessing their services. The study sought to evaluate the spatial association between HF and households (HH) in relation to access to childbirth services (CBS). The improved access and utilization of CBS increases the proportion of births attended by skilled health personnel hence reducing childbirth related complications in line with SDG 3.2. Using a case of Magadi ward, multi-stage cluster and systematic random sampling were adopted to obtain the 246 women participants. Road network analysis, adjusted and unadjusted ratios were used to model women's accessibility to HF. The findings revealed that there are only 18 HFs in Magadi out of which 12 were reported to offer CBS. Of this, only one facility is categorized as level 4. Poor road connectivity of unclassified murram roads dominates the area. More so, 38.2 % of women delivered in HF while 61.8% delivered at home. The relationship between distances to HF and access to CBS indicated that women residing near the primary facility were significantly more likely to deliver in the HF than women who resided farther for both adjusted and unadjusted ratios. On the other hand, the nearer they were to the primary facility the less likely to combine antenatal and postnatal care than those who resided far for both adjusted and unadjusted ratios. To conclude, the area has few HFs offering CBS, poor road connectivity and distance was a determinant to accessing child delivery services in primary HF. The results imply that improving the use of CBS call for, among other things, expansion of existing HFs offering CBS and enhancing the road connectivity.

**Keywords:** *Childbirth; Accessibility; Distance*

**Paper23: Assessing the expectations and reality of integrating rehabilitation services in Primary Healthcare (PHC) in South Africa**

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## Abstract

The provision of rehabilitation services to the broader population at PHC level can result in greater life expectancy, well-being and productivity for at-risk populations. However, despite rehabilitation services currently provided at the primary platform, health service planning and provision at operational level have overlooked rehabilitation as a component of PHC in South Africa. There is therefore inadequate clarity in the implementation of existing policies on integrated rehabilitation services. This is concerning because without a clear understanding of the current structure and delivery of rehabilitation services, strategies to strengthen rehabilitation services at the primary healthcare level cannot be developed. This study aims to assess the extent of integration of rehabilitation services based on the expectations of rehabilitation service providers versus their reality at Primary Healthcare level. This study was conducted in the Johannesburg Metropolitan District of Gauteng, South Africa. In-depth interviews were conducted with twelve rehabilitation service providers, consisting of management and rehabilitation professionals (occupational therapists, audiologists, physiotherapists as well as speech therapists) currently working at PHC facilities in the district. Their expectations as well as their experience (reality) of integration in the delivery of rehabilitation services was assessed. There was a difference in the rehabilitation professionals' outlook towards their expectations and their reality. A less positive view was expressed when describing the current state of affairs (reality) versus their expectations of integration, which depicted what their ideal or vision of an integrated services to be. While horizontal, vertical, professional and organizational integration were described, rehabilitation service providers describe their expectations of integration more positively as compared to the realities they face in their daily work at Primary Healthcare level. In order to strengthen rehabilitation services in PHC, where expectations and reality align, integration of rehabilitation services needs to be addressed along the dimensions of horizontal, vertical, professional and organizational integration.

**Paper24: Strategic Leader Attributes for Clinical Leaders in a Healthcare System:  
Perspectives of Healthcare Providers in an HIV Facility in Eldoret, Kenya**

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Healthcare institutions strive for better healthcare systems with clinical leaders to provide excellent patient care. Studies have discussed the attributes of healthcare leaders at the top of the organization, however, there is insufficient literature on what strategic leader attributes should clinical leaders have to perform clinical functions at the point of care in an HIV facility. This study explored healthcare providers' perceptions regarding the strategic leader attributes for clinical leaders in an HIV facility in Eldoret, Kenya. An exploratory study of n=22 in-depth interviews was conducted between September 2019 to May 2020 with healthcare providers including clinical officers, nurses, social workers, counselors, retention officers, and, pharmacists working in the AMPATH-MTRH HIV clinic who were purposively sampled. The interviews were audio-recorded, transcribed, and coded for themes and sub-themes, and data analysis was done using a thematic analytical method. Healthcare providers defined the healthcare system as structures and integrated elements that facilitate patient care. Within the healthcare system, clinical leaders provide direction and guidance to the staff and patients regarding patient care, provide enabling environment for patients and providers to interact, coordinating, and managing daily activities in

the clinic, representing staff and patients' issues to the facility management and ensuring adequate resources that support patient care. These important roles require the clinical leaders to have strategic clinical leader attributes which include team leader, clinical competence, effective communication, honesty, and integrity, being approachable, problem-solver, and being a good listener. These attributes enable clinical leaders to drive excellent patient quality. A healthcare system requires clinical leaders who have strategic leader attributes to perform clinical functions, enhance health system performance, and address complex challenges in the HIV facility. Healthcare leaders and managers should cascade strategic leadership at all levels and build staff capacity to provide excellent patient care.

## **Paper25: Context, types, and utilisation of decentralised training platforms in undergraduate medical education at four South African universities**

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## Abstract

### Background

The World Health Organization (WHO) has underscored the importance of transforming health professional education and that training institutions to meet population and health system needs. In concert with global developments, South Africa has embarked on an ambitious set of health care reforms towards universal health coverage (UHC) that necessitate the transformation of health workforce education.

### Objectives

This study explored the context, types, and utilisation of decentralised training platforms (DTPs) in undergraduate medical education at four South African universities, and the implications for universal health coverage.

### Methods

The study was conducted at the health sciences faculties of Sefako Makgatho Health Sciences University, the University of KwaZulu-Natal, Walter Sisulu University and the University of the Witwatersrand. Following informed consent, semi-structured interviews were conducted with 17 key informants who were selected purposively based on their in-depth knowledge of and current involvement in undergraduate medical education. The questions focused on the number and type of DTPs used in undergraduate medical education, benefits of DTPs, innovations or good practices, community engagement, the challenges or constraints of DTPs and institutional investment in DTPs. The interviews were analysed using thematic analysis.

### Key Results

The study found that context, notably the history and evolution of DTPs and the expressed vision and philosophy of medical education, influenced the type, characteristics, and utilisation of DTPs. All four universities reported utilisation of various DTPs in the undergraduate medical education programmes, but there were differences in the institutional arrangements on medical education, and the type and nature of investments in DTPs. The DTPs were primarily hospital-based, with

the utilisation of PHC facilities constrained by insufficient resources, and competition with clinical disciplines.

### Conclusions

DTPs are an essential component of transformative medical education, and require an explicit vision, and institutional investments in human resources, finances, and infrastructure to realise the goal of UHC.

**Key words:** decentralised training platforms, distributed medical education, health workforce, transformative medical education, South Africa

### **Paper 26: Addressing unsafe abortion among adolescents in Kenya: Views of news sources in televised abortion coverage, 2016-2019**

*Catherine Kafu, Dina Ligaga, Juddy Wachira*

### Abstract

**Objective:** Media and especially TV, presents a great avenue for mitigating the high prevalence of unsafe abortion among adolescents and the subsequent adverse effects. However, to understand media's role in the promotion or erosion of ASRHR, one needs to study how these issues are presented in the media. This study therefore sought to examine news media portrayal of addressing unsafe abortion and especially among adolescents as presented on three leading Kenyan TV outlets over a period of 4 years.

**Methods:** This qualitative study, purposively sampled 55 abortion news items from three leading Kenyan media outlets aired for the period January 2016 to December 2019. These news items were transcribed and translated (where applicable), and content analysis was used to analyze the data.

**Results:** A considerable number (60%) of news items across the three selected TV stations contained content on addressing unsafe abortion in Kenya. Analysis of these news items revealed an overarching theme, the need to create a safe and supportive environment for women faced with

unwanted pregnancies and three subthemes; 1) deal with unwanted pregnancies, 2) partnerships with key stakeholders and 3) adoption of existing sexual reproductive health and rights strategies.

**Conclusion:** News media plays a key role in focusing public attention on key public issues with findings of this study being a reflection of such issues. These findings will inform the development of effective interventions tailored towards addressing unintended pregnancies, preventing unsafe abortion and promoting adolescents' maternal health while factoring in the current legal and social-cultural contexts in Kenya.

**Keywords:** *News media, Adolescents sexual reproductive health, unsafe abortion, Kenya*