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Program/Project Purpose: Mobile health (mHealth), the delivery of healthcare via mobile communication devices, has been shown to improve HIV treatment adherence in East Africa. Despite the growth of mHealth and the gender gap in mobile phone ownership and use in Africa, few studies have examined gender as it relates to mHealth. In this study, we will examine data from an ongoing trial of a text-messaging intervention to improve retention in early HIV care. Our objectives are to determine whether gender disparities in mobile phone access affect the ability to participate in an mHealth trial, and whether gender influences responses to and perceptions of the intervention.

Structure/Method/Design: Between April 2013 and October 2014, participants were recruited from two comprehensive care clinics in Nairobi, Kenya. Patients were eligible to participate if they were over 18 years old, HIV-positive, had mobile phone access, and could text-message or have somebody text-message on their behalf. Upon enrolment, participants were randomized in a 1:1 ratio to an intervention or control arm. Intervention arm participants received the weekly WelTel text-message 'check-in' to which they were instructed to respond within 48 hours. A clinician followed-up participants who identified a problem. In this observational study, only intervention arm participants were followed up, with one follow-up study visit coinciding with the participant's 6-month clinical visit. Patients provided written informed consent to participate, and the University of British Columbia and Amref Ethics and Scientific Review Committee approved the trial protocol.

Outcomes & Evaluation: As of October 2014, 648 patients have been screened for trial participation and 422 have been recruited. A chi-squared test will be used to determine whether the proportion of males and females excluded from trial on the basis of phone-related criteria differs. Participation in the mHealth intervention will be evaluated using the following outcomes: the proportion of okay ("Sawa."), problem ("Shida."), or non-responses to the weekly outgoing text messages. A negative binomial regression model will be built to analyze response rates by gender. Participant perceptions will include the greatest perceived barriers to and benefits of the intervention, disaggregated by gender.

Going Forward: With a sample size of 648, the study has 87.58% power to detect a significant difference between males and females excluded from the trial due to not meeting phone-related criteria. Once a sufficient number of participants have reached 6-month follow-up.

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Abstract #: 01CD018

Monitoring the HIV treatment and services cascade in Asia and the Pacific: A metric framework analysis

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Background: 'Getting to Zero', UNAIDS 2011-2015 strategy establishes an ambitious goal in the HIV pandemic response. With sustained incidence and often increasing HIV prevalence among key populations (sex workers, men who have sex with

men and people who inject drugs [PWID]), examination of the HIV treatment cascade from diagnosis of infection to achievement of reduction in viral load demands comprehensive data collection, analysis and presentation through application of a public health approach. The aim of this study was to employ a public health metrics framework to examine gaps in data and treatment coverage among people living with HIV (PLHIV) in the western pacific region.

Methods: We employed a conceptual metrics framework as per the World Health Organization (WHO) guideline released in 2014 with 21 indicators measuring parameters from HIV treatment, TB/HIV co-infection, PMTCT (Prevention from mother-to-child-transmission) services, and HIV among key populations (KP). We then constructed a database outlining relevant indicators from 2009-2013 among eight countries in the region (Cambodia, China, Lao PDR, Malaysia, Mongolia, Papua New Guinea, Philippines and VietNam). Consequently, we extracted relevant cross-sectional and aggregate national level data from key reports, publications and unpublished sources, and through consultation with WHO country offices, and mapped against the indicators. The results were cross-validated for accuracy by two reviewers, time-trend cascade graphs were constructed by categories and key findings were interpreted.

Findings: The results across eight countries over five years suggest that indicators measuring enrolment in care and achievement of suppressed viral load (< 1000 copies/mL) are under reported in the region. Furthermore, while Philippines and Mongolia showed the greatest increase in the number of PLHIV, others showed plateauing or reduction in incidence. PMTCT services across the region showed poor data quality and treatment coverage with Philippines performing the poorest with 4% of HIV diagnosed pregnant women receiving ARV in 2013. Results of TB/HIV co-infection services were generally well documented with Cambodia showing the greatest and VietNam showing the poorest retention of TB/HIV patients along the continuum of care. Finally, study of KP suggested that PWID were the least studied group with testing rates as low as 6% in the Philippines in 2013.

Interpretation: While metrics framework and construction of cascade graphs can be a significant tool in providing a visual snapshot of HIV epidemic on a large scale, it provides limited scope for asking comprehensive questions and distinguishing differences between cross-sectional vs. cohort data; both factors can impact the interpretation of data. Despite these shortcomings, this approach is a valuable tool with results suggesting a strong need for complete data collection, increased emphasis on linking HIV positive pregnant women with care and active intervention to increase testing rates among PWID in the region.

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Abstract #: 01CD019

Elements of a dirty face as individual risk factors for trachoma, from a cluster-randomized trial in Niger

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Background: Trachoma is the leading infectious cause of blindness worldwide and a neglected tropical disease caused by the bacteria *Chlamydia trachomatis*. Facial cleanliness has been shown to be associated with lower prevalence of trachoma, but it is not clear whether having a clean face is protective against trachoma or just an indicator of the absence of disease. Additionally, previous studies indicate that there is a weak correlation between a clinical trachoma

designation and a positive Amplicor PCR test. This study aims to look at elements of a dirty face as individual risk factors for both clinical trachoma and ocular chlamydial infection.

Methods: As part of The Partnership for the Rapid Elimination of Trachoma, we designed a cluster-randomized control trial aimed at optimizing treatment frequency for existing trachoma programs. 48 randomly selected communities in Niger were entered into a 2x2 factorial design, and four villages were also followed longitudinally such that every child aged 0 to 9 was PCR-tested for ocular chlamydial infection. A baseline pretreatment census was performed by masked study personnel to identify the prevalence of ocular discharge, nasal discharge, and the presence of flies on the face. No adjustments were made for missing individuals from the census and all analyses were performed at the individual level on an intention-to-treat basis. Oral consent was obtained from the village leaders, and written consent was obtained from study participants or participants' guardians. Linear regression clustered at the household level was used to study univariate and multivariate associations.

Findings: 24,536 individuals were surveyed from 6,235 households amongst 48 villages. Ocular discharge (3.34, 95% CI 2.74 to 4.06, $p < 0.001$), nasal discharge (2.23, 1.80 to 2.76, $p < 0.001$), and flies on the face (2.13, 1.70 to 2.66, $p < 0.001$) were all shown to be independent risk factors for a clinical diagnosis of active trachoma (TF or TI, according to the WHO grading system) in the multivariate analysis. 555 children from four villages were also followed longitudinally and processed by Amplicor PCR test. Ocular discharge (9.11, 3.93-21.1, $p < 0.001$) and flies on the face (2.48, 1.14-5.34, $p = 0.02$) were shown to be independent risk factors for ocular chlamydial infection.

Interpretation: Ocular discharge, nasal discharge, and flies on the face are significant risk factors for a clinical diagnosis of trachoma (TF or TI). Additionally, the presence of ocular discharge and flies on the face are significant risk factors for chlamydial infection. These results indicate that ocular discharge and facial flies increase the risk of contracting trachoma, although this relationship may be circular.

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Abstract #: 01CD020

Spotlight on lymphatic filariasis and trachoma in Zimbabwe: Assessing baseline data for control program development

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Background: Neglected tropical diseases (NTDs) including Lymphatic filariasis (LF) and trachoma affect nearly 500 million people living in sub-Saharan Africa and cause devastating morbidities. However, in Zimbabwe, current data regarding potential endemicity and communities' knowledge, attitudes, and practices (KAP) about these diseases are scarce. This research is to determine baseline KAP about LF and trachoma to guide control program development in Zimbabwe.

Methods: The study is a cross-sectional KAP assessment of randomly selected households within two highly suspected endemic districts of Kariba and Hurungwe in Zimbabwe. The study population comprised of residents aged 14 years of age or older living in 14 selected administration areas within Kariba and 15 in Hurungwe. A sample size of 435 households was selected based on each district's total population and number of enumeration areas as determined by the 2002 Zimbabwean population census. Participants were asked questions to ascertain their knowledge regarding causes and symptoms of LF and trachoma and to provide local terminology for these infections. Attitudes towards mass drug administration (MDA) for treatment and practices of sanitation were also elucidated through the survey. The study was approved by the Medical Research Council of Zimbabwe (MRCZ study number MRCZ/A/1649), and written informed consent was obtained from all participants.

Findings: Six hundred and fifty (650) participants aged ≥ 14 years responded to the KAP questionnaire. Six-hundred and twenty-one (95.5%) of the respondents could not identify specific signs of LF, and 99.5% did not know the cause of the disease. After symptoms of LF were explained in local language, 288 (42.2%) could provide vernacular terms for 'hydrocele.' Two-hundred and eighty-seven (44.2%) agreed or strongly agreed that LF is a problem in their community and 592 (91.1%) would willing to participate in MDA to control LF. Regarding trachoma, 13.4% of 650 respondents indicated that they had heard of trachoma. Twenty-seven percent (27.1%) of respondents further reported that they knew of someone in the community suffering from blindness and 13.2% stated that they or a family member was suffering from blindness. Six-hundred and four (93.0%) reported that they would participate in MDA to control for trachoma.

Interpretation: These data show there is still limited understanding of LF and trachoma in Zimbabwe. However, the availability of vernacular terms for the diseases' symptoms suggests the presence of LF and trachoma in these areas. Mapping efforts along with health education can build community awareness and encourage participation in the control and elimination of these two NTDs.

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