

discussion guides that encompass topics centered on healthy eating, exercise, stress reduction, and chronic disease.

Participants are encouraged to share their experiences on the week's topic, offer advice to one another, and set goals which are specific, realistic, and attainable during the span of a week. Medical students facilitate the group, which is further sustained through partnership with a Community Health Worker associated with CommunityHealth.

**Outcome and Evaluation:** An IRB approved survey study is underway to determine if attending Grupo de Bienestar para Mujeres increases participants' confidence and motivation for health behavior change. Initial results suggest an increase in confidence associated with goal attainment and number of participant identified sources of motivation.

**Going Forward:** Ongoing challenges include expanding recruitment and sustaining long-term participant involvement. Unmet goals include using objective measures to evaluate 1) growth in participant knowledge, 2) improvements in individual and community health, and 3) the effects of group support on goal attainment. Future program activities will be directed at using feedback to improve the Grupo de Bienestar para Mujeres and also to offer this model to similar community based organizations.

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**Abstract #:** 1.034\_MDG

### **A retrospective chart review of treatment initiation and outcomes following antiretroviral therapy (ART) delivery at the Komfo Anokye Teaching Hospital (KATH) HIV clinic in Kumasi, Ghana**

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**Background:** There is no doubt that global access to anti-retroviral medications has certainly helped to curb the HIV/AIDS epidemic, but what is still open to interpretation is how successful we are at the individual level in resource limited settings.

**Methods:** We reviewed the charts of patients who enrolled in care at the Komfo Anokye Teaching Hospital (KATH) HIV clinic in Kumasi, Ghana in 2004. We collected information on demographics, clinical statuses at presentation, and treatment histories over a 10 year period. We calculated descriptive statistics including means, standard deviations, and percentages to describe various characteristics and treatment outcomes (gaps in care, regimen changes, loss to follow up) of this cohort.

**Findings:** Of a reported 1200+ people enrolled in 2004, we reviewed charts for 474 (~40%). The average age was 39 years (range 15-90). 435/448 (97%) had disclosed their statuses at the time of enrollment. 201/439 (46%) were married and 100/439 (23%) were widowed. Clinically, 54/459 (12%) were co-infected with tuberculosis, and 256/439 (58%) met WHO stage 3 or 4 criteria at enrollment. The mean CD4 count at presentation to the clinic was 206 cells/uL (range 1-1278). 450/469 (96%) started ARTs during the study period with

a mean time from diagnosis to initiation of ART being 8 months (range 1-98). 144/458 (31%) were discovered to have had no regimen changes during this period, 99/458 (22%) had one change, 88/458 (19%) had two changes, and 127/458 (28%) had three or more changes. Reasons for the initial switch included treatment failure (26%), drug stockouts (14%), and drug toxicity (48%). Additionally, 204/457 (45%) had at least one gap in care (range 7-70 months) and 74/467 (16%) were lost to follow up.

**Interpretation:** Over this 10 year period following the introduction of ARTs, there was a high percentage of patients experiencing regimen changes, gaps in care, and loss to follow up. This highlights the fact that simply providing ARTs is not enough to curb the HIV/AIDS epidemic in resource limited settings.

**Funding:** The Warren Alpert Medical School Summer Assistantship Grant (\$3500).

**Abstract #:** 1.035\_MDG

### **Delivering early essential newborn care training in Rural Mongolia: an on-the-ground perspective**

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**Background:** The under-five mortality rate in Mongolia has fallen 74% over the past 20 years, yet the fall in neonatal mortality rate has lagged behind. Moreover, the country has seen a disparity in the reduction in neonatal deaths across socioeconomic lines. The WHO, UNICEF, UNFPA and the Mongolian Ministry of Health together have developed the Early Essential Newborn Care (EENC) program to train local physicians on neonatal resuscitation and routine newborn care. This program was implemented in 2014 with a goal of reducing the country's neonatal mortality rate by half by 2020. Objectives include sharing the perspective of two Mongolian physicians on the front lines of this nation-wide program and taking an in-depth look at the barriers in improving newborn mortality in Bayan-Ölgii, an area with one of the highest neonatal mortality rates in the country.

**Methods:** This is a qualitative investigation by two physicians from the US who served as independent observers to a three-day EENC training program in Bayan-Ölgii. A neonatologist and an obstetrician who led the program were interviewed. Pre and post-test data was collected from 12 participants using a standardized set of 12 questions including questions about routine newborn care and neonatal asphyxia.

**Findings:** Pre and post-test results (N=12) were 51.2% and 88.6% respectively. Strengths of the program include: (1) use of multiple modalities including didactic sessions and simulations, (2) inclusion of various stakeholders including hospital administrators (3) EENC use of the scale-up strategy, training physicians who subsequently train healthcare providers in lower level facilities. Challenges include: (1) frequency of EENC training programs are dependent on the involvement of the local provincial department of health, (2) poor geographical accessibility of the program, (3) limitations in personnel allocation within the hospital during the program.

**Interpretation:** The EENC course provided a structured training program in rural Mongolia, which in this setting may prove an effective method of teaching neonatal care and resuscitation to both medical and non-medical personnel. The effectiveness of the training program must be assessed continuously on a larger scale.

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### Impact of President's Malaria Initiative on all-cause child mortality from 1996 to 2014: a difference-in-differences analysis

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**Background:** Since its launch in 2005, the U.S. President's Malaria Initiative (PMI) expanded by 2012 to an annual budget of over \$600 million in 19 sub-Saharan countries. PMI has financed the provision of evidence-based malaria interventions, including insecticide treated nets (ITNs), indoor residual spraying (IRS), and artemisinin-based combination therapies (ACTs), with the goal of reducing malaria-related mortality. Despite considerable investment, no studies have evaluated population-level impacts of PMI on use of malaria prevention technologies and child mortality.

**Methods:** We used individual-level data from 99 Demographic and Health Surveys conducted in 36 countries in sub-Saharan Africa between 1996 and 2014 to assess the likelihood of mortality before 5 years of age. We conducted a separate analysis using annual country-level data on use of ITNs, IRS and ACTs between 2000–2014 from the Malaria Atlas Project. A difference-in-differences (DD) methodology was used to compare trends in PMI recipient vs. non-recipient countries and determine the impact of PMI. Models were adjusted for whether countries received support from the President's Emergency Plan for AIDS Relief (PEPFAR) and included country and year fixed effects. Standard errors were clustered at the country-level.

**Findings:** Our sample consisted of 7,945,703 person-year observations for children aged  $\leq 5$  years and 688 country-year observations of population's coverage of ITNs, IRS and ACTs. DD results showed that PMI led to a significantly lower risk of mortality among children aged  $\leq 5$  years (odds ratio, OR, 0.83, 95%CI 0.73–0.93). This result persisted in models that controlled for PEPFAR (OR 0.82, CI 0.73–0.92). Lastly, we found that populations in PMI-recipient countries had 10 percentage points higher coverage of ITNs ( $P < 0.01$ ) and 6 percentage points more child fever cases treated with ACTs ( $P < 0.001$ ) than populations in non-recipient countries.

**Interpretation:** PMI led to a large reduction in all-cause child mortality in analyses that compared trends in recipient and non-recipient countries. This impact may have been due to increased

use of malaria prevention strategies implemented with PMI support and was robust to controlling for PEPFAR. Our results should be interpreted with caution, as we did not fully account for all aid in the region; future research should address this limitation.

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**Abstract #:** 1.037\_MDG

### Social capital and networks and retention to HIV care among people living with HIV/AIDS (PLWH) in Tanzania

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**Background:** Mobile technology has become a promising communication and educational platform for both health care providers and patients. Mobile phone messages have been used to provide reminders to patients about medication adherence and medical appointments. While retention to care is a significant predictor for HIV health outcomes, this study aims to understand HIV patients' social capital and networks and retention to care in relation to their use of mobile text messages (SMS).

**Methods:** A cross-sectional research study conducted among 163 HIV patients attending five outpatient HIV clinics in Dar es Salaam, Tanzania between August and September in 2015. Conveniently sampled study participants were mostly women (78%) and the average age was 41.9 years (range, 22–77). Trained research assistants administered questionnaires in Swahili and HIV biological markers and retention to care records were extracted from medical records.

**Results:** The study data is currently being analyzed using Stata version 12. Following research hypothesis will be presented: HIV patients with higher social capital and strong social networks 1) engage in HIV care with higher CD4 counts and lower WHO HIV/AIDS stages 2) stay in HIV care and less missed appointments. 3) have better quality of life (assessed by SF-12).

Content analysis on HIV patients use of mobile phone and text messages revealed that PLWH's closest social networks were identified as immediate family members, followed by extended friends and relatives. Approximately 20% of the participants reported no use of SMS due to 'vision problems', 'prefer calling', or 'not accustomed to SMS'. Seventy-three percent of participants sent none to 10 SMS over one week. Affordability, accessibility, and privacy are the top three stated reasons for preferring SMS.

**Implications:** SMS is an affordable and well-accepted mode of communication among this sample of Tanzanians living with HIV. SMS can be used to improve PLWH's knowledge about the management of their chronic health status, retention and engagement to care.

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