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PREventing Maternal And Neonatal Deaths in Rural Northern Ghana (PREMAND): Using Social Autopsy and GIS to Understand Neonatal Deaths and Near-Misses

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Background: Every year nearly 3 million babies die within 1 month of birth. While the clinical causes of such deaths are well known, few understand the complex social and cultural antecedents that increase the likelihood of deaths from largely preventable causes. In addition, little is known about the geographic variability of these factors — preventing interventions from addressing the local context and thus being maximally effective.

Methods: This study prospectively identifies all neonatal deaths and "near misses" — or those babies who suffer a life-threatening complication but survive — in four districts across northern Ghana. Deaths are identified through community volunteers, field workers, and health care providers. Near-misses are identified by local health care providers relying upon WHO clinical criteria. The project aims to: 1) use Social Autopsy methodology to determine the social and cultural factors associated with deaths, 2) conduct sociocultural audits to determine factors associated with near-misses, 3) use geographic mapping technology to visualize the spatial relationships between social and cultural factors and mortality and near-misses to inform local programming.

Findings: In the first 12 months of an 18-month data collection window, 189 neonatal deaths and 66 neonatal near-misses were identified. More than two-thirds of all deaths (68.7%) occurred among families living greater than 5km from a hospital or health center, compared to less than half of near-misses (48.9%). At the same time, families who experienced a neonatal death were less likely to have the mother of the baby involved in health-care decision making than families who experienced a near-miss. Less than 15% of families who experienced a neonatal death said that the mother had the strongest voice in deciding when and where to take the baby for care, compared to 34% of families who experienced a near-miss.

Interpretation: While distance to facility is one potential determinant of whether newborns survive a life-threatening complication in rural northern Ghana, other social and cultural factors — such as maternal health-care decision-making autonomy — also play an important role. Further analysis is required to determine the relative impact of geography, clinical diagnoses, and social and cultural factors in determining neonatal outcomes in resource-poor locations.

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Abstract #: *2.007_WOM*

Improving Breastfeeding Practices at the Community Level: Result from Sinazongwe District, Zambia

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Background: Breastfeeding has been accepted as one of the most important intervention to enhance growth and development of a child. It satisfies an infant's nutritional and emotional needs better than any other methods of infant feeding. In order to achieve maximum benefit of breastfeeding for both mother and infant, there is a need for proper attachment and positioning. The purpose of this project was to teach mothers proper attachment and position during breastfeeding.

Methods: The Sinazongwe district hospital and the Sinazongwe Area Development Project of World Vision joined the rest of world from August 1st to August 7th to celebrate the 2016 world breastfeeding day on the theme "raising awareness of the links between breastfeeding and the Sustainable Development Goals". Forty-eight breastfeeding mothers were recruited during the week from Sinazongwe district hospital postnatal clinic to undergo a day's workshop on the important of breastfeeding, attachment and position during breastfeeding.

Findings: Three mothers were randomly selected to demonstrate how they usually breastfeed their infants. After each mother's demonstration, other mothers were asked to mention what went right or wrong. None of the three mothers was able to demonstrate infant breastfeeding with appropriate positioning and attachment. In addition, majority of the women could not identify what went wrong while the other three mothers demonstrated the breastfeeding. Workshop facilitators including nurses and midwives educated the mothers on proper breastfeeding position and attachment. The mothers were also taught proper hygiene technics such as hand washing before and after breastfeeding and oral hygiene for infants. Other topics including benefits of breastfeeding to the mother, infants, community and the nation were also covered.

Interpretation: Proper positioning and attachment during breastfeeding make the difference between a happy, comfortable and successful feed and one that is painful for mothers and frustrating for the baby. Given that none of the three mothers could not demonstrate proper positioning and attachment during the demonstration, a need exists to develop breastfeeding education program and also use culturally appropriate methods to disseminate this program among postpartum women in the Sinagongwe district.

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Abstract #: *2.008_WOM*

A Comparative Study of Sickle Cell Disease Related Maternal Mortality at Korle-Bu Teaching Hospital, Accra, Ghana

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Background: Sickle cell disease (SCD) is one of the most common inherited genetic diseases, affecting an estimated 30 million individuals worldwide. The greatest burden of SCD falls on Sub-Saharan Africa, where over 200,000 babies are born with the disease annually. Due to advances and improvements in medical care, survival of children with SCD has greatly increased, resulting in a significant

proportion of patients surviving into childbearing age. However, SCD in pregnancy is associated with increased adverse maternal and fetal outcomes. It is a high-risk condition associated with higher rates of adverse maternal and fetal complications in addition to SCD-specific complications. Studies in developed countries such as the US have not shown SCD to be associated with increased risk of maternal death. In low and middle-income countries, however, there is a 22-fold risk of death among pregnant women with SCD compared to those without SCD, with a maternal death rate between 7-12%. At Korle-Bu Teaching Hospital (KBTH) in Accra, Ghana, 11,000-12,000 deliveries are performed per year, and 2% of these women are affected by SCD. In spite of the relatively small numbers of annual deliveries by women with SCD, they contribute a disproportionate burden of maternal mortality. In 2014, maternal death from SCD contributed to 14% of all maternal mortality and ranked as the third leading cause of death.

It is unclear whether the immediate cause of death in pregnant women with SCD significantly differs from those without SCD. Knowledge of the immediate causes of death and the factors related to death will provide useful information for the development of interventions to reduce the excess maternal death in women with SCD.

Methods: In this retrospective descriptive study, we compared maternal mortality in pregnant women with SCD to those without SCD. Hospital charts and autopsy reports of 18 SCD-related maternal deaths were reviewed and compared with those of 55 women without SCD. Detailed chart review was performed for all 73 patients. Demographic data, obstetric history, admission treatment, intrapartum complications, delivery outcome and clinical and post-mortem causes of death were extracted, and simple descriptive analysis was performed to compare the causes of death between the two groups.

Findings: n/a.

Interpretation: n/a.

Source of Funding: None.

Abstract #: *2.009_WOM*

Partner Notification and Treatment for Sexually Transmitted Infections among Pregnant Women in Gaborone, Botswana

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Background: *Chlamydia trachomatis (CT), Neisseria gonorrhoeae(NG),* and *Trichomonas vaginalis (TV)* are sexually transmitted infections (STIs) associated with adverse birth outcomes. Untreated partners contribute to high rates of STI re-infection, thus partner notification and treatment remain important components of STI care and control.

Methods: A prospective cohort study was conducted among 300 pregnant women presenting to the antenatal clinic at Princess Marina Hospital in Gaborone, Botswana and enrolled in an STI screening study. Following informed consent, and sample collection for CT/NG/TV testing, participants were asked if they were willing to disclose their STI result to their partner(s) and willing to deliver medications to their partner(s). Those who tested positive were asked at a follow-up appointment if they notified their partners.

Findings: Among the 300 participants, 294 (98%) said they would be willing to tell their partner(s) about their test results if they test positive, and 284 (95%) said they would be willing to give their partner(s) medication if the option was available. Of those who tested positive and returned for a test of cure, 27 of 32 (84%) reported that they told their partner about the results, and 19 of 32 (59%) reported that their partner received treatment. A Fisher's exact test comparing those who told their partners about their test results and those who reported their partner received treatment showed that the difference was statistically significant ($p = 0.019$).

Interpretation: Almost all pregnant women reported willingness to tell their partner their test results and give their partner medications. At test of cure, most women reported informing their partner, although actual treatment receipt was lower. Our findings suggest that pregnant women are willing to utilize partner based partner notification, but actual partner treatment might be lower than intended.

Source of Funding: UCLA Center for World Health DGSOM Short Term Training Program.

Abstract #: *2.010_WOM*

Gender Differences in Households' Resource Alllocation and Decision to Seek Healthcare in South-Eastern Nigeria: Results from a Mixed Methods Study

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Background: In many low and middle income countries (LMICs), economic costs of seeking healthcare is still the predominant barrier to healthcare utilisation. This barrier is exacerbated when gender dynamics are considered with the most vulnerable being females within these poor household. Studies have found existing gaps in literature regarding women's autonomy and health care utilization. This include gaps in the areas of healthcare that have been measured, the influence of sex roles and social support, and the use of qualitative studies to provide context and nuance. Gender constructs and norms are still prevalent in many LMICs and restrict women and girls' ability to exercise agency in contributing to household decision-making and access to healthcare.

Methods: To examine the gender differences in household custody of financial resources, decision-making, and type of healthcare utilised, I used a mixed method approach of cross-sectional household surveys and focus-group discussions (FGDs). A total of 411 households were interviewed (111 in urban and 300 in rural communities). I conducted six single-sex FGDs in 3 communities (1 urban, 2 rural) among a sub-sample of participants in the household survey. For the quantitative data, I preformed univariate, bivariate, and logistic regression analyses with a 95% confidence interval. For the