development meetings were held with university faculty, UMB, and CCCRN. The training capacity of facility and faculty were developed based on a needs assessment. UNN faculty and UMB/CCCRN faculty taught the course jointly. Evaluation methods including pre/post tests, OSCEs, evaluation forms, and logbooks were jointly developed. Course alumni were followed up at 6 and 18 months using online surveys and telephone interviews to assess how useful the course was to them at their current workplaces.

**Outcome and Evaluation:** The first course was piloted in 2013 with 30 postgraduate doctors and MPH students. The mean OSCE score was 51% and the mean post-test score was 75% with an improvement of 22% from the pre-test; a follow-up exam six months later showed a mean score of 74%. In regression analysis, pretest score was strongly associated with post-test score (0.56, \( p < 0.001 \)), and moderately associated with OSCE (0.28, \( p = 0.04 \)). Online surveys revealed trainees continued to use knowledge and skills gained from the course. The course was highly rated on immediate and follow up evaluations.

**Going Forward:** Practicum-based curricula offer a practical way to teach evidence-based medicine with long-lasting retention of skills and knowledge. Further efforts and funding needed to sustain and improve this innovative approach to strengthening HIV pre-service medical education.

**Funding:** PEPFAR.

**Abstract #:** 2.039_HRW

**Increasing HCT uptake among pregnant women in Nigeria; Evaluating the TBA and PHC Integration (TAPI) Model intervention in Ebonyi State, Nigeria**

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**Program Purpose:** Effective prevention of mother to child transmission of HIV (PMTCT) efforts can drastically reduce paediatric HIV infection. Early identification of HIV-infected pregnant women through HIV counselling and testing (HCT) remain the most critical step. In Nigeria, only 3 million of the estimated 9.2 million pregnant women annually are reported to have received a HIV test. An estimated 65% of deliveries occur in non-formal healthcare setting by traditional birth attendants (TBA). Engaging these TBA is critical to achieving the 90-90-90 global vision for HIV prevention.

**Method:** Forty primary health centers (PHC) were prospectively randomized 1:1 to intervention group (IG) or control group (CG). Data on HCT among pregant women was collected from the PHC over a six months period. Following HCT training, TBAs surrounding PHC randomized to IG initiated HCT for their patients whereas HCT training was not provided to TBAs surrounding PHC in CG. The primary outcomes measure was the proportion of pregnant women who received HCT in the two groups over a six months period using antenatal clinic registries.

**Outcome and Evaluation:** HCT increased among pregnant women in PHCs randomized to IG from 2501 to 5346 (53% increase) versus 1770 to 1892 (6.4% increase) in CG (\( P < 0.01 \)). In the IG, TBAs accounted for 53% of the HIV testing (3216/5346).**

**Going Forward:** Significant increases in HCT can be achieved by engaging and training TBA especially in communities where a majority of prenatal care and deliveries occur outside of the formal healthcare facilities.

**Funding:** PEPFAR.

**Abstract #:** 2.040_HRW

**Patent medicine vendors in Nigeria: Viable agents in bridging the health care workforce divide**

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**Program/Project Purpose:** Access to health facilities in Nigeria is limited with a health workforce ratio of 1:9:1000. An estimated 60% of Nigerians seek care with Patent Medicine Vendors (PMVs) as first point of call. PMVs are readily available in many communities and provide affordable services and as such are highly patronized. This is critical in areas with low penetration of health facilities and/or with large migrant population. We evaluated the impact of using PMVs to increase case detection, treatment and support in a large community with an estimated population of 1,668,972 that includes transient nomadic Fulani, homeless/wandering children, prisoners and PLHIV.

**Structure/Method:** We identified 82 PMVs (2 each) from 41 communities in North-central Nigeria. These PMVs were trained on the identification and assessment of individuals with suspected TB using the modified Community TB Care module. A TB referral and assessment protocol was developed with the community and implemented from July 2014 through August 2015. Over the study period, a purposeful target was set to screen 5.7% of the target population (94,792).

**Outcome & Evaluation:** During the 12 months study period, 81,016 (85% of target) PMV patrons were screened for TB and 10,041 individuals with suspected TB were identified. A total of 9,099 AFB smear microscopy was completed, 71 sputum positive cases were identified and 68 commenced on treatment.

**Going Forward:** PMVs can be trained and used as part of the healthcare infrastructure to provide community based interventions such as TB screening and referral especially in resource-limited countries like Nigeria with a dearth of trained health care provider.

**Funding:** WHO STOP TB Partnership.

**Abstract #:** 2.041_HRW

**A qualitative approach to understanding the impact of misuse and misdiagnosis: Monitoring use of the non-pneumatic antishock garment in Tanzania**

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Background: The NASG has proven to be an effective urban intervention against postpartum hemorrhage; however, there is a lack of evidence supporting its effectiveness in rural areas. In order to understand barriers of effective NASG use, we interviewed health workers from 16 facilities with varying catchment levels within two Tanzanian districts, each from opposing regions.

Methods: Nested within the larger Empower II project, we reviewed all recorded cases of postpartum hemorrhage in two Tanzanian districts from November 20, 2014 to July 31, 2015 for signs of misdiagnosis, misuse, or nonuse of the NASG. This secondary data analysis utilized data from approximately 160 hemorrhage cases collected by the Ifakara Health Institute. The data was collected via mobile telephones and was stored in an online database for monitoring. During routine NASG supervision at the indicated facilities, we interviewed at least one available worker about their experience with NASG use and referral methods. Our interview questions focused on past experiences with the NASG, ease of use, reasons for misuse or non-use, NASG training, and NASG accessibility. Both written and verbal consent were obtained from participants, and in-country IRB approval was secured. Our primary outcome was the direct identification of barriers to effective NASG use in rural clinic settings.

Findings: We visited a total of 16 facilities within the Geita and Us haute districts and interviewed 19 participants. Participant interviews revealed dissatisfaction with the length of the NASG training, as well as an expressed desire for longer and more frequent training sessions. Workers at facilities with smaller catchment areas expressed a desire to have more frequent trainings at district hospitals, and expressed problems with NASG accessibility due to sub-optimal transportation methods. On-site cascade trainings also proved to be insufficient.

Interpretation: Clinicians in rural settings support NASG use; however, training programs should be expanded for regular usage to become more widespread. Transportation logistics must also be addressed to maintain accessibility in rural areas. Though language barriers were a potential study limitation, the use of translators allowed us to collect direct quotes to accurately capture the experiences of each participant.

Funding: UCSF RAPtr grant.

Abstract #: 2.043_HRW

“CHN on the Go”, a motivational support tool for frontline health workers in Ghana

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Program/Project Purpose: mHealth has become a major innovation for improving health care delivery, maternal, newborn and child Health (MNCH) and bridging the urban-rural gap in Ghana. While the use of mobile technology in rural areas has become a major innovation to improving health care delivery, little research has been done on the feasibility of utilizing mobile phones for improving frontline health workers performance to provide better MNCH care for rural women.

Structure/Method/Design: Concern Worldwide’s Innovations for MNCH initiated the Care Community Hub (CCH) project in Ghana to improve motivation among Community Health Nurses (CHNs) through a mobile technology application (app). Human-Centered design techniques were applied to better understand CHNs and to uncover innovative solutions designed for them. This process built the confidence of the CHNs/CHOs and motivated them to contribute more in shaping and building the application, solely owned by them.

Outcome & Evaluation: The six module “CHN on the Go” app was developed in partnership with Ghana Health Service (GHS) and Grameen Foundation as a means of reducing CHNs sense of professional isolation and improving CHN motivation. CCH is currently reaching over 300 CHNs and their supervisors in five districts with mobile phones fully loaded with the application to support their work. To date, GHS has adopted the e-learning platform and is planning to roll out a comprehensive training for CHNs on MNCH nationally. The districts plan to integrate the supervisory dashboard developed as a supportive monitoring tool reducing transportation challenges with limited resources. An M&E framework has been developed to manage the process of assessing and reporting program implementation towards achieving project outputs and outcomes.

Going Forward: CCH has the potential to radically improve MNCH outcomes as the app can be deployed to other cadres of health workers, including midwives and CHWs, across the country. Also, with mobile network coverage continually expanding and costs for airtime and mobile devices steadily decreasing, phones and tablets are playing an increasingly significant role as a health system support tool particularly from frontline health workers.

Abstract #: 2.044_HRW

A universal core curriculum for global health: report on content, teaching, and assessment recommendations from the Bellagio Global Health Education Initiative

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Program/Project Purpose: Global health (GH) education remains limited by lack of integration into core medical curricula, uncertainty regarding methods of teaching and assessment, lack of guidance for students seeking expertise in GH, and bias favoring students and institutions from high-income countries. In June 2015, a diverse group representing high-, middle-, and low-income countries met to address these issues.

Structure/Method/Design: Nineteen individuals from 16 institutions and 10 countries, including clinical faculty, educators, administrators, and trainees with experience in GH education, participated in the four-day conference. The three foci of the meeting were the generation of core and specialist themes for GH education, teaching methods to implement these themes, and methodology for assessment. Topics were explored through presentations and discussions that used the nominal group technique. Participants voted on the group’s final recommendations.

Outcome & Evaluation: The meeting established the Bellagio GH Education Initiative. Specific emphasis was placed on the distinction between home and away sites as distinct locations for