Harnessing the role of community volunteers for maternal and newborn health in a context of workforce shortage: findings from a baseline assessment in Rural Sierra Leone

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Background: Low utilization of prescribed maternal, newborn and child health (MNCH) services result from supply- and demand-side barriers, which are not mutually exclusive in their cause or effect. Health workforce capacity is one common predictor of the availability and utilization of quality MNCH services. With a Skilled-Birth-Attendance coverage of 42% and one midwife per 1000 population, Sierra Leone qualifies for World Health Organization (WHO)'s definition of "critical shortage", yet new policies exclude Traditional birth attendance (TBAs) from the health system. This paper discusses the potential of harnessing the strategic position of TBAs to address barriers to health services utilization.

Methods: We used findings from a baseline assessment that was conducted to guide our intervention design. The intervention, Essential Newborn Care Corps (ENCC), trained and rebranded TBAs as maternal and newborn health promoters (MNHPs) who provide health promotion services and referrals. A survey was conducted among 795 pregnant women and women with live births in the preceding 12 months with questionnaire exploring interactions of women, during their pregnancy; delivery and post-natal periods, with both formal and informal aspects of the health system.

Findings: Nearly half of women interviewed saw TBAs during pregnancy. During these encounters, they were advised on birth preparedness, especially regarding financial plans (89%) and transportation (15%). The TBAs also assessed women for headaches (64%), swelling of feet and limbs (64%), and bleeding (60%), and referred women with danger signs to a health facility. About half of women with live births were visited by TBAs after delivery. Out of these, 10% and 87% were referred to a health facility for newborn danger signs and for PNC, respectively. More than 80% of those referred sought skilled care at a facility.

Interpretation: TBAs are trusted community members who continue to influence the decisions, behaviors and health of pregnant women and new mothers by engaging in activities such as home visits, assessment of maternal and neonatal well-being, detection of danger signs, provision of guidance on birth planning, and referrals for care by professional personnel. Thus, their integration into health workforce strategies can be galvanized, particularly in rural, hard-to-reach areas.

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Abstract #: *1.034_HRW*

Designing and implementing an in-situ emergency obstetric and neonatal care (EmONC) simulation and team-training curriculum for midwife mentors to drive quality improvement in Bihar, India

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Background: It is estimated that the maternal mortality ratio (MMR) in Bihar, India is 208 per 100,000 live births. To address this high rate, PRONTO International and UCSF have partnered with CARE India to integrate simulation and team training into a mobile nurse-midwifery mentoring program. The intervention is being implemented in 320 primary health clinics and 56 district hospitals in Bihar between 2015 and 2017. The simulation-based curriculum was designed for nurse midwife mentors to promote quality improvement in dealing with maternal and neonatal emergencies.

Methods: To provide midwife mentors with training activities at each facility, PRONTO International and UCSF developed a comprehensive modular curriculum package.

Findings: The new mentoring curriculum is comprised of 31 EmONC simulation scenario guides, 17+ lesson plans, and 15 teamwork activities tailored to the Bihar context. Midwife mentors can select components of the curriculum package over nine-weeks of training at each facility, tailoring activities to local specific needs. The midwife mentor led curriculum emphasizes highly-realistic simulation using the PartoPants™ birth simulator, facilitated video-guided debriefing and team training exercises. Mentor training included sessions in adult-learning theory, simulation facilitation with in-situ simulation and video-guided debriefing, and facilitating teamwork activities. To date, 115 mentors have been trained. All daily mentoring activities are tracked information is provided on frequency and duration (time spent in minutes) on each curriculum component.

Interpretation: Comprehensive EmONC mentoring simulation and team-training curricula can be adapted and used in limited-resource settings. The challenges of developing curriculum relevant and impactful in this specific cultural and environmental context will be discussed. Successes and challenges in mentors' usage of the curriculum will also be addressed.

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Abstract #: *1.035_HRW*

Improving quality of obstetric and neonatal care through midwife mentoring and simulation training in Bihar, India: mentor knowledge assessments

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Background: An estimated 300,000 maternal deaths and 2.9 million neonatal deaths occur worldwide each year. PRONTO International developed and implemented an emergency obstetric

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and neonatal care (EmONC) simulation-based mentoring curriculum to improve the quality of care in low-resource settings. In conjunction with an initiative led by CARE India, these curricula are being implemented in 320 primary health clinics (PHCs) and 56 district hospitals (DHs) in Bihar, India between 2015 and 2017.

Methods: To supplement bedside clinical mentoring and provide emergency training, PRONTO International developed a comprehensive EmONC simulation-based curriculum package, tailored to the Indian context for nurse midwife mentors (NMM) to replicate in Bihar that includes simulation scenarios, simulation facilitation, and teamwork training activities. Nurse midwife mentors were trained in emergency management and in how to replicate the curriculum contents. All nurse midwife mentors participating in the training completed the pre- and post-training assessment to evaluate knowledge in management of obstetric and neonatal emergencies, teamwork and communication, and simulation facilitation skills. We measured the change in overall and topic-specific knowledge after each PRONTO training session.

Findings: PRONTO training sessions were held in January 2015 and September 2015. To date, 115 mentors have been trained and are active at all 320 primary health clinics. Overall knowledge across the two training sessions improved (26.5% and 15.8%, $p<0.001$). Scores for obstetric hemorrhage (38% and 12.2%, $p<0.001$), teamwork and communication (29.5% and 25.4%, $p<0.001$), simulation facilitation (18.3% and 11.1%, $p<0.001$), pre-eclampsia/eclampsia (31.2% and 16.5%, $p<0.001$) and neonatal resuscitation (15.4% and13.7%, $p<0.001$) improved at both sessions.

Interpretation: The results of the pre- and post-training assessments from January and September both demonstrated significant overall knowledge improvement across all modules. If data to be collected are consistent with current results, the integrated mentoring curriculum may represent a sustainable and scalable approach to improving EmONC knowledge among midwife mentors for replication in the field that could be replicated in other low-resource settings.

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Abstract #: *1.036_HRW*

A mixed-methods analysis of the health-seeking behaviors of people in rural Makwanpur, Nepal

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Background: To understand how and why people utilize their health services and to facilitate planning for health programs and systems, it is useful to examine health-seeking behaviors (HSB). Nepal, with its dearth of health providers and funding provides an interesting setting in which to examine HSBs. More, little formal research has been done there on this topic.

The aim of this research was to describe the HSBs of people in rural Makwanpur, Nepal, and to analyse the various factors that may explain peoples' healthcare choices.

Methods: This study involved a mixed-methods design consisting of two phases. Quantitative data was collected using a cross-sectional survey carried out in 2,334 households across 10 villages in Makwanpur district between March 2011 and January 2012. Households were selected using a two-stage random sampling method, and an informed consent procedure was followed. The survey asked about care-seeking in response to an acute episode of illness. Qualitative data was then collected using semi-structured interviews in 90 purposively selected households across 3 villages.

Regression analyses were performed on the quantitative data, and those analyses were then used to construct themes for the coding of the qualitative data.

Findings: Of the 2,334 households surveyed, half had an episode of illness in the month prior. Of those, the majority chose to seek care outside the home; 22% used traditional healers, 37% used allopathic providers and 12% opted for pharmacies as a first option. Sixteen percent did nothing, sighting geography, finances, and workload as reasons. Adjusted regression models indicate illness severity and illness type as the most important factors in dictating household choices regarding government provider usage. Qualitative results revealed the importance of health facility quality in determining decision-making.

Interpretation: Data shows households often use government providers in parallel with traditional healers. More, use of traditional providers does not appear to delay necessary care-seeking. While illness and household factors are important in dictating provider choice, the qualitative results revealed that in order to change care-seeking behaviors and increase care utilisation, the focus should be on improving government health service delivery and decreasing rampant provider absenteeism.

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Retaining nurses at rural stes through distance learning, the University of Nairobi experience

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Background: A highly skilled health work force is critical for improved HIV care and health outcomes. In Kenya, nurses form the backbone of health service and there is constant need to provide continuous training to them. However, such training usually takes them out of their working stations. University of Nairobi (UoN) in partnership with African Medical Research Foundation (AMREF) and Nursing Council of Kenya (NCK) embarked on a program for upgrading diploma nurses by offering a Bachelor of Nursing (BSN) degree using a blended distance learning approach. We describe the process of developing and implementing this course.

Methods: The UoN, AMREF and NCK developed a curriculum for a 2.5-years blended e-learning which includes a two week face to face course each trimester. Course development involved: (1) establishing learning needs and determination of course objectives (2) designing of module/assignment instructions (3) development