

obstetric care: the lives of women requiring emergency obstetric care who access tertiary-level hospitals in major cities will probably be saved, not so the lives of those with limited access to these institutions due to geographic, economic, or cultural barriers.

### Portable ultrasonography enhances diagnostic capability in the Peruvian Andes

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**Background:** A Promise to Peru, Inc. coordinates an annual medical mission to the Sacred Valley region of Peru, providing medical and ophthalmological care, as well as cataract surgery. Diagnoses during the general medical clinic have been limited due to lack of radiological and laboratory access. There has been an increase in the use of portable ultrasound in underdeveloped settings for reliable imaging. In 2013, for the first time two portable ultrasound units were brought to improve diagnostic capabilities. The aim of this study was to elucidate the diagnostic impact of portable ultrasonography in a rural clinic setting.

**Structure/Method/Design:** We reviewed patient charts from 2012 and compared diagnoses to those of patients in 2013, when ultrasonography was employed. Portable ultrasound was utilized in patients with abdominal complaints at the physician's discretion. Those patients with diagnoses of gallstones, gallbladder polyps, and cholecystitis were grouped into a category of gallbladder disease. Patients under 18 were excluded.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** In 2012 and 2013, respectively, 277 and 209 charts were collected and reviewed with 107 (38.6%) and 66 (31.5%) patients presenting with abdominal complaints. Both groups had similar average age (42 vs. 45 years) and gender (70% female) distribution. 36 patients were examined with portable ultrasound in 2013. The diagnosis of gallbladder disease increased from 2% to 12% ( $P < 0.01$ ); unknown diagnoses decreased from 28% to 12% ( $P = 0.02$ ). Patients who underwent ultrasonography had a high prevalence (25%) of hepatic steatosis. Nonspecific diagnoses such as gastritis were reduced from 48 (45%) in 2012 to 25 (38%) in 2013, but this finding was not significant.

**Summary/Conclusion:** Use of portable ultrasonography increased the diagnostic power of our medical mission. Ultrasonography allowed for a significant increase in the accurate diagnosis of gallbladder disease and hepatic steatosis. The improved overall diagnostic rate will enable future missions to better direct treatment and local referral, improving the long-term impact of our mission.

### The capacity building of the Peoples Institution to close the sustainability gap in the child survival project in Bangladesh

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**Background:** World Renew implemented a child survival project (CSP) in the resource-poor district of Netrokona, Bangladesh with high maternal/child mortality, inadequate health facilities/services with low accessibility, and substantial geographical and cultural barriers to health. The goal was to develop sustainable, effective

community ownership and governance of local health through establishment of a delivery platform for essential interventions to meet the coverage and equity needs of this hard-to-reach population of 20,000 people.

**Structure/Method/Design:** Community-based capacity building grounded on appreciative inquiry principles were used to establish and strengthen civil society organizations (CSOs) called People's Institutions: 1) To have the central role in selecting and providing supportive supervision to a corps of community health volunteers that provided health promotion and counseling to pregnant women in multiple settings. 2) To advocate with government and health facility personnel for policy change and health service improvements. 3) To self-measure and track progress in achieving sustainability using Child Survival Sustainability Assessment (CSSA) indicators plotted on a "Road to Capacity" chart.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Significant improvements occurred in health outcomes that reached/surpassed national averages: Delivery by skilled birth attendants increased from 21% to 95% (DHS 29%); the proportion of mothers receiving four prenatal visits increased from 6% to 86% (DHS 21%) and two-doses of TT increased from 62% to 98% (DHS 90%); and mothers' knowledge of pregnancy danger signs rose from 31% to 100% (DHS 50%). Infant and young child feeding practices improved from 14% to 80% (DHS 81%) and complete immunization rates from 32% to 96% (DHS 82%). The CSSA-based sustainability indicators tracked by PIs showed marked improvement: health outcome increased 45%, health services 79%, community capacity 54%, enabling environment 85%, organizational capacity 78%, and organizational viability 60%.

**Summary/Conclusion:** The success of our community-based CSO capacity building using appreciative inquiry demonstrates that community members have the capability to develop the capacity to identify, prioritize, and solve their own health delivery problems. The developed capacity contributes to enhanced performance of the CSO and improved health outcomes that are expected to be sustained over time.

### Economic benefits of implemented water interventions in the developing world: A qualitative study in Kitui, Kenya

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**Background:** Sub-Saharan Africa is a developing world subject to the residual effects of chronic poverty. Poverty contributes to adverse health effects; crowded households; lack of resources and finances for water, food, school fees, clothing, permanent housing structures or other necessities. One priority public health intervention addresses the basic need of providing access to water. Communities with nearby access to safe drinking water alleviates adverse health effects, but may have additional outcomes. Current research is limited on the economic advantages from implemented water interventions.

**Structure/Method/Design:** A qualitative phenomenological approach used 55 semi-structured interviews to understand economic experiences among primary water gatherers and their families after implemented water interventions in a community. This study took place throughout the historically semi-arid eastern region in Kitui, Kenya, where community members have been beneficiaries of various water interventions.