### Nexus between global and local health

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**Program/Project Purpose:** Economic globalization has brought about a ‘globalization’ of health and diseases and the boundaries between health and disease are rapidly shrinking. Thus, health advocates need to broaden their health and research models to include community and cross cultural variables. The US is an established leader in the field of evidence based testing for intervention efficacy as well as implementing various health interventions in underserved and minority US communities. Currently, evidence based research and interventions are a key issue in global health. US based health research and interventions can contribute greatly to establishing norms for evidence-based practices globally. In addition, increasingly, the benefits of a community-based approach in increasing awareness have become apparent and interventions across the US are using this approach to increase preventing health behaviors while empowering underserved communities. However, many times, such interventions are tested in randomized trials, become evidence-based, and then fail to reach further use in the broader communities. Project HEAL (Health through Early Awareness and Learning) is an implementation trial that aims to compare two strategies of implementing evidence-based cancer communication interventions in African American faith-based organizations.

**Structure/Method/Design:** HEAL uses a community-engaged process of transforming three evidence-based cancer communication interventions into a coherent, branded strategy for training community health advisors with two delivery mechanisms. Peer community health advisors receive training through either a traditional classroom approach (with high technical assistance/support) or a web-based training portal (with low technical assistance/support).

**Outcomes & Evaluation:** Though the pilot phase showed feasibility, it resulted in modifications to data collection protocols and team and community member roles and expectations. Project HEAL offers a promising strategy to implement evidence-based interventions in community settings through the use of technology, and there may wider implications for chronic disease prevention and control.

**Going Forward:** In more recent years, the global dialogue around policies for health has placed much importance on the need for cross cultural understanding and translational research to reduce the burden of chronic and acute diseases worldwide. The exchange program, such as Project HEAL, based on research findings, sharing lessons learned and making sure that local programs and Global Health approach issues jointly and find out ideas/research to enhance their outcomes. Also, developing forums and institutional support services of research finding and implementation could be another approach which is seldom happening.

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Abstract #1: 01ETC039
Evidence-based scale-up of mSakhi community health worker mHealth system in Uttar Pradesh, India

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Background: India’s accredited social health activists (ASHAs) receive 33 days of classroom training on maternal, newborn, and child health (MNCH) and have access to paper-based job aids. However, many ASHAS’ knowledge, counseling skills, and ability to diagnose sick newborns are inadequate, and use of job aids for counseling and newborn danger sign assessment is ineffective. In one study, ASHAs misclassified 7 out of 8 infants as normal although investigators detected signs requiring home-based care. The Uttar Pradesh (UP) government expressed interest in using mHealth technology to improve ASHA performance. In 2012–2013, the IntraHealth International-led Manthan project assessed the feasibility and effectiveness of mSakhi, an mHealth application, to improve ASHAS’ capacity in counseling, assessment, and identification of care or referral needs.

Methods: The Manthan project conducted two studies evaluating mSakhi functionalities. IntraHealth’s institutional research review committee reviewed protocols and determined that the research adhered to human subjects protection requirements. The first study (Bahraich District) tested mSakhi feasibility and effectiveness as a self-learning and counseling tool with 86 ASHAs (46 experimental, 40 comparison). The second study (Jhansi District) evaluated mSakhi effectiveness for postnatal newborn care assessment and referral with 57 ASHAs (29 experimental, 28 comparison). ASHAs in experimental arms used mobile phones preinstalled with mSakhi and received usage training; comparison ASHAs received training on paper-based tools. All ASHAs received routine monitoring and feedback. At baseline/endline, the studies assessed MNCH knowledge and observed counseling and assessment skills. Differences-in-differences were tested for significance using Z-scores.

Findings: ASHAs were more likely to use mSakhi (55%) than flipbooks (22%) during home visits. Knowledge of key MNCH topics improved significantly (p < 0.001) among ASHAs using mSakhi, who also demonstrated greater recall of at least six critical newborn conditions warranting referral. Counseling quality, measured as completeness of messages delivered (i.e., message given AND told about message importance AND tool used for reinforcement/illustration), improved significantly in the mSakhi group. ASHAs using mSakhi showed significantly better newborn assessment skills (weighing*, measuring temperature*, identifying breastfeeding difficulties***, examining pustules**, examining pus in umbilicus*) (*p < 0.05, **p < 0.01, ***p < 0.001), and identified 10% of births as needing referral (versus 2.4% in the comparison arm).

Interpretation: The results indicate that the mSakhi mHealth application is more user-friendly and effective than paper-based job aids for ASHA activities including self-learning, counseling, assessment, and diagnosis. The design of the two studies did not permit measurement of community-level effects, but the findings make a case for implementing and evaluating mSakhi at scale. Given the evidence of mSakhi effectiveness in improving ASHA performance, the UP government is scaling up mSakhi in five of 75 districts (12,000 ASHAs) to inform statewide scale-up.

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Outcomes of the NIH Fogarty International Clinical Research Program: Early Alumni Publications

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Program/Project Purpose: In order to train global health researchers, between 2004 and 2012, the NIH Fogarty International Clinical Research Scholars and Fellows (FICRS-F) Program offered one-year mentored clinical research training experiences in low- and middle-income countries (LMICs) for competitively selected doctoral Scholars (n=413) and postdoctoral Fellows (n=105) in health-related professions from the US (n=256) and LMICs (n=280). Some trainees (n=18) were supported as both Scholars and Fellows (thus, total n=536).

Structure/Method/Design: We evaluated publications data from Fogarty International Center’s CareerTrac database (a minimum estimate of the true number), entered through 15 October 2013 from alumni self-reports and CVs, and Internet and PubMed searches. We used linear regression to explore factors associated with numbers of publications.

Outcomes & Evaluation: Trainee research topics were 68% in infectious (47% HIV/AIDS), 18% in non-communicable, and 15% in infection-related non-communicable diseases ("combined"). Non-communicable and combined disease topics increased from 17% in 2004-2007 to 40% in 2008-2011. At least 10% of projects focused on each of these: basic science, health behavior, health care systems, pulmonary diseases, parasitology, sexually transmitted infections, tuberculosis, maternal and/or child health, and cancer. Of 1617 papers in PubMed, FICRS-F alumni were first author of 501 (31%).