

implementation research at the community health systems level. Future research should aim to build more complete understanding of community responsiveness and sustainability within the local context. Gaps in common language, implementation and delivery research, and funding are ongoing challenges in low-resource LMICs. Global health actors must disseminate lessons learned by relevant efforts and address these gaps to develop a framework to strengthen community-responsive PHC.

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Improving newborn care quality with a training and QI intervention in a rural hospital in Gujarat, India

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Background: 7.6 million children under the age of 5 die each year in the first month of life, many of them in health facilities or shortly after discharge. Adverse outcomes can be averted if newborns are carefully monitored and treated, especially with regards to birth asphyxia, infections, and low birth weight (LBW). The objective of this study is to determine the health provider compliance with 10 evidence based newborn care quality measures following a training and quality improvement (QI) intervention in a rural hospital in Gujarat, India.

Methods: This study took place at Mota Fofalia Pediatric Center in Gujarat India. All hospital staff (10 nurses, 5 doctors, 19 ward boys and ancillary staff) completed training in immediate newborn care and pediatric care designed to meet WHO performance standards using the Helping Babies Breathe (HBB) and the Essential Newborn Care (ENC) training curricula. Training interventions were supported by a concurrent QI intervention introducing a standard checklist for the delivery room and standard admission order sets to the newborn ward. Medical students observed care given to a convenience sample of newborn infants from delivery or hospital admission until discharge at 4 distinct time intervals between February 2014 and August 2015. We report compliance with ten previously validated quality measures for care of newborns in resource poor settings at pre-intervention baseline (Feb 2014) and over three observational periods following staff training and QI interventions.

Findings: A total of 601 care encounters in 251 newborns and 115 deliveries were recorded. Pre-intervention compliance with evidence based care was 0% across all but one measure. Following training and QI interventions, provider performance gradually improved and was sustained with regards to immediate newborn care (Measure 1-4) and routine newborn care (Measures 5-7) but only modestly improved with regards to LBW care (Measures 8-10). See Figure 1 for compliance details.

Interpretation: A combined training and QI intervention produced improvement for multiple newborn quality measures. There is need for further interventions especially with regards to LBW care.

Funding: None.

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Ethical obligations of schools and hosts during an international medical elective

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Program/Project Purpose: International Medical Electives (IMEs) are a way for medical students of the global North to experience challenges facing health care of the global South in a training environment. While valuable, these training experiences have ethical issues that need to be addressed to ensure the safety of patients, students and the culture of the hospital. By reviewing current literature, the obligations of sending schools and host institutions will be determined and assessed through a bioethical lens.

Structure/Method/Design: Through a review of current literature focusing on undergraduate medical education, I explore the obligations of the schools sending the students and the hosting institutions to the patients and students of the IME and determine if those obligations are met.

Outcome & Evaluation: There is an abundance of literature discussing ethical considerations of IMEs but less looking at the obligations of the sending schools and host institutions. Many articles mention the subject but do not delve into the details of the role of each institution as it pertains to the patients and students involved. Sending schools and host institutions have an obligation of non-maleficence towards the patients to conduct an ethical IME by mitigating the risks posed by students. There is also an obligation towards the students to maintain their safety while participating in the IME. Finally, there is an obligation of beneficence towards the patients and students in their health and training respectively. From the literature, it can be seen that obligations are not being met due to poor communication of expectations of students prior to the IME, poor preparation of the host institution and resource drain on the host institution.

Going Forward: Currently research suggests the obligations of schools and hosts are not being met. In the future, sending schools must ensure host faculty understand the abilities of the students and train them prior to starting their IME. This includes cultural competency and knowing not train outside the students' ability while participating in an IME. Finally, further considerations must be made to compensate the host institution for the training so resource drain does not occur.

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RAHI (pathfinder)—SATHI (partnership): The evolution of a student-led international initiative into a multidisciplinary collaborative program of medical research and education

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Program Purpose: In recent years there has been a tremendous surge in the number of global health programs operated by academic institutions. However, most of the existing programs in

peer-reviewed literature describe partnerships that are supported by extramural sources of funding and are primarily faculty-driven. Here, we present the gradual evolution of a student-led Indo-US initiative into a multidisciplinary program of research and education despite a lack of extramural funding.

Structure: Research and Advocacy for Health in India (RAHI: pathfinder in Hindi) and Support and Action towards Health-Equity in India (SATHI: partnership) are two inter-connected collaborative efforts between University of Massachusetts Medical School (UMMS) and Charutar Arogya Mandal (CAM), a medical college and a tertiary care center in rural western India. RAHI-SATHI program is the culmination of a series of student-led research and education initiatives that received institutional support in the form of faculty mentorship and seed funding from the UMMS office of global health. RAHI features three independent research studies addressing healthcare needs of rural Indian communities (maternal and child health, trauma, and arrhythmias) as identified by student leaders' previous work with CAM. SATHI includes bilateral exchange of students, structured mentorship, biannual seminars on research and teaching methodology, and a virtual faculty

development program. The trainees supported by SATHI contribute to ongoing RAHI research projects that shed new light on improving the welfare of the underserved communities in rural India.

Outcomes and Evaluation: The program has expanded from the incipient efforts of two students to now include more than twenty UMMS and CAM faculty members from diverse disciplines, twelve undergraduate medical students spanning four generations, and one surgical resident. RAHI-SATHI collaboration has yielded scholarly products in the form of five presentations related to research projects at scientific conferences. Four student-led manuscripts are under peer-review and five more in preparation.

Going Forward: The rise in the number of trainees with pre-existing international experience is likely to present new opportunities for an academic institution. Systematic institutional involvement can transform these initial connections to a broader program of research and education.

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