

lacked infrastructure and experience in caring for patients with tracheostomies.

**Interpretation:** These examples underscore the need to plan mission trips carefully to ensure that local physicians and nurses can care for potential complications that arise or persist after the surgical teams depart.

**Funding:** None.

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### A novel trauma first responder course in Potosí, Bolivia: initial results

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**Background:** An estimated 5.8 million deaths annually are attributed to traumatic injuries worldwide, with low- and middle-income countries, such as Bolivia, disproportionately shouldering over 90% of the burden. Basic pre-hospital care can increase survival and decrease morbidity, yet Bolivia lacks a standardized, effective emergency response system, or accessible trauma first responder training. This study sought to implement and assess a trauma first responder course (TFRC) at multiple sites within Bolivia.

**Methods:** An eight-hour TFRC, previously validated in La Paz, Bolivia, was offered at ten medical and fire centers in seven towns and cities within the Potosí region of Bolivia. The course was advertised to adults in the area, with registered participants paying a nominal fee to cover administrative costs. Led by a group of trained American students, the course incorporated both didactic and practical components, making use of commonly available local supplies for treatment. Participants completed a baseline survey, pre- and post-tests on important trauma and injury management concepts, and a course evaluation. The main outcome of interest was participant test performance. Data were assessed via the one-sample chi-squared test and the signed rank test for categorical and continuous variables, respectively.

**Findings:** A total of 315 participants completed all evaluations for analysis. The median participant age was 32 years old (IQR 27-38). There was a high representation of medical professionals (83.1%), followed by police (4.8%), firefighters (2.8%), and other professionals (9.3%) ( $p < 0.0001$ ). Participants were more likely to be female (56.4% vs. 43.6%,  $p=0.03$ ), with a higher proportion of participants taking courses in rural areas (81.9% vs. 18.1%,  $p < 0.0001$ ). Overall median test scores increased significantly after course completion across the cohort (40% vs. 80%,  $p < 0.0001$ ).

**Interpretation:** Study strengths include prior validation of the course, robust local interest and participation, and both objective and subjective course evaluation data. Limitations include the generalizability of the results to the Bolivian population given the high proportion of medical personnel enrolled. However, it is important for healthcare providers to first accept and incorporate the emergency response protocols, with subsequent effective concept dissemination and adoption by laypeople. Additionally, there may have been a selection bias due to convenience sampling. Despite these limitations,

this study demonstrates a significant increase in important injury management knowledge after completion of the trauma first responder course. This provides strong evidentiary support of the importance to further develop, standardize, and propagate this course to other regions within Bolivia, with possible extension to other low- and middle-income countries.

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### Participation of Harvard Medical School and Brigham and Women's Hospital to a major academic global health initiative: Benefits to faculty, trainees, and institutions

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**Program/Project Purpose:** The Human Resources for Health - Rwanda (HRH) Program was launched in August 2012 to expand the number, diversity, and competencies of the Rwanda health workforce. The HRH program includes faculty from 23 U.S. academic institutions, including Harvard Medical School (HMS) and Brigham and Women's Hospital (BWH), and builds on a longstanding partnership between the Boston-based nonprofit Partners in Health (PIH) and the Rwandan Ministry of Health. This study focuses on the contributions of Harvard-affiliated institutions and faculty deployed to Rwanda in 2012 and 2013 through the HRH program to determine the institutional benefits of participation in this initiative.

**Structure/Method/Design:** We developed an evaluation framework with inputs (governance, operations, faculty and trainees, infrastructure, equipment, and funding), activities (research, training, and health service delivery), and outputs (capacity building, partnerships, and knowledge generation/innovation). Data for these indicators was collected through a systematic review of internal HMS and BWH reports, and by interviewing 20 Harvard-affiliated faculty deployed to Rwanda.

**Outcomes & Evaluation:** Governance: A novel Memorandum of Understanding (MOU) was created collectively by the Rwanda Ministry of Health (MOH), HMS, and BWH to respond to the needs of Rwanda while remaining consistent with each co-signatory's institutional mandate. This MOU serves as a useful template for coordinating future government partnerships across multiple Harvard-affiliated institutions. Operations: Drawing from PIH's experience deploying Harvard-affiliated faculty to Rwanda, HMS and BWH have been able to harmonize processes within their own institutional structures for faculty recruitment, licensing, malpractice coverage, orientation, and ongoing mentoring and supervision. Faculty: In 2012 and 2013 respectively, 9.3 and 15.5 full-time equivalents from Harvard were deployed in anesthesia, dentistry, global health, medicine, obstetrics-gynecology, pathology, pediatrics, psychiatry, radiology, and surgery. The work pursued by these faculty in Rwanda has led to oral presentation at conferences, publications, grants, awards, and professional growth. Trainees: Between 2012 and 2013, at least 20 trainees from Harvard-affiliated institutions have been engaged in activities related to the HRH Program. Additionally, at least 15 faculty