

identified in laboratory conditions. This spectral “fingerprint” is then replicated in field-tests of suspected pharmaceuticals.

**Findings:** The Baseline Spectral Absorbance Profile (B-SAP) procedure guides the user through sample preparation and testing that allocates the sample to one of five categories: 1) Expected compound is present at labeled concentration, no obvious impurities 2) Expected compound is present at labeled concentration, evidence of impurities 3) Expected compound is present at non-labeled concentration, no obvious signs of impurities 4) Expected compound is present at non-labeled concentration, evidence of impurities 5) Expected compound cannot be detected. For proof of concept, investigators used 2% Lidocaine HCL as representative of a compound critical for treatment at the frontiers of global health (ubiquitously available and critical for pain management). The B-SAP was developed and tested against six samples of random substances with similar visual characteristics developed by a third party. Four additional sample were included: two of 2% lidocaine HCL, and two of Lidocaine at random concentrations. Testing results correctly allocated each sample to the correct category.

**Interpretation:** Future research will develop testing procedure and B-SAPs for compounds critical for treatment of WHO defined seven neglected tropical diseases. Current research is also developing a low-cost, portable UV-Vis spectrophotometer to enable maximum field implementation of the B-SAP testing procedure.

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### The social side of health information: a new age of communication strategy

B. Seymour<sup>1</sup>, R. Getman<sup>2</sup>, J. Wihbey<sup>3</sup>, D. Weinberger<sup>4</sup>; <sup>1</sup>Harvard School of Dental Medicine, Boston, MA/US, <sup>2</sup>Harvard Global Health Institute, Cambridge, MA/US, <sup>3</sup>Harvard Kennedy School, Cambridge, MA/US, <sup>4</sup>Berkman Center for Internet and Society Harvard Law School, Cambridge, MA/US

**Program/Project Purpose:** a. Context/Rationale A disconnect often exists between scientific consensus, health behaviors, and policies. The enduring anti-vaccine movement is one example. We postulate that new and emerging media modalities, including social media, are propagating and amplifying communication challenges, and opportunities. b. Project Period In October 2013, we applied for and received a President’s Innovation Fund for International Experiences to explore the use of social media for health in Rwanda, South Africa, Uganda, and the United States. While researching and implementing the program, the Harvard Global Health and Social Media Collaborative formed and is ongoing. c. Aim/Goals/Desired outcomes/ The goal of the Collaborative is to examine the interplay between research dissemination, mass media, and social media by exploring how health information accuracy morphs as it flows between and among various social networks on-line, and how this networked messaging affects health behaviors and outcomes. Our goal is to utilize the expertise and shared interests across a diverse population of scholars and experts to explore and refine agendas for large-scale research, intervention, and education for social health communication strategies.

**Structure/Method/Design:** a. Participants/Stakeholders The Collaborative includes scholars from the Nieman Foundation for

Journalism at Harvard, the Berkman Center for Internet and Society at Harvard Law School, the Shorenstein Center on Media, Politics and Public Policy at Harvard Kennedy School, Harvard School of Dental Medicine, the Harvard Global Health Institute, writers from the Global Health Delivery Project, Boston Children’s Hospital, The Boston Globe, The New York Times, the Edmund J. Safra Center for Ethics at Harvard Law School, as well as faculty from the fields of medicine, public health, business, and education.

**Outcomes & Evaluation:** a. Successful outcomes We developed an innovative guiding framework for rethinking the optimal use of social media for empirical health information communication. Key theories and principles were created and are guiding pioneering strategies for research, education, and intervention. A successful pilot study was completed.

**Going Forward:** a Ongoing challenges The group’s diversity, while essential, requires development of a common global health language and a mutual understanding of one another’s roles, responsibilities, and desired outcomes for all sectors. Precise planning and coordinati

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### Surgical apgar score and safe Surgery checklist use in Kenya: Preliminary results of over 3,000 cases at a single tertiary care center

B. Sileshi<sup>1</sup>, M.D. McEvoy<sup>1</sup>, J.P. Wanderer<sup>1</sup>, A. Njunge<sup>2</sup>, J. Kiptanui<sup>3</sup>, J. Scherdin<sup>1</sup>, W.S. Sandberg<sup>1</sup>, M.W. Newton<sup>4</sup>; <sup>1</sup>Vanderbilt University, Nashville, TN/US, <sup>2</sup>AIC Kijabe Hospital, Kijabe, KE, <sup>3</sup>AIC Kijabe Hospital, Kijabe, KE, <sup>4</sup>Vanderbilt University, Kijabe, KE

**Background:** Perioperative Mortality Rate (POMR), defined as all-cause mortality in the first 24 hours after surgery, prior to discharge, or within 30 days after surgery, is a potential indicator of the availability of safe surgery and anesthesia care. Safe Surgery Checklist (SSC) usage has been reported to reduce perioperative death in numerous settings, including low and middle income countries (LMIC). Finally, the Surgical Apgar Score (SAS) predicts postoperative mortality across many surgical subspecialties. However, the SAS has not been validated in LMICs due to a lack of robust perioperative data collection. Moreover, the actual implementation of the SSC in LMICs is unknown.

**Methods:** To address these knowledge gaps, after IRB approval, we deployed a tool in Kenya that collects case-specific perioperative data with asynchronous automatic transmission to central servers. Data fields include provider training level, patient demographics, surgery and anesthetic details, SSC use, SAS, and POMR. After receiving training on data collection, 30 Kenyan non-physician anesthesia care providers were provided laptops for data collection, which began on June 15, 2014. To analyze SAS, SSC use, and mortality, logistic regression models were created on which 7-day mortality was regressed on SAS.

**Findings:** Data from a tertiary Kenyan referral hospital is presented, with 3,140 cases reported from June to October 2014. Almost all patients (96.2%) were ASA 1 or 2, 49.5% female, and 7.4% trauma. The SSC was used in a pre-anesthesia timeout in 99.2% of cases. Thirty-five percent of cases were performed under spinal anesthesia. There were two intraoperative deaths; cumulative in-hospital mortality at 24hrs, 48hrs, and 7 days were 42 (1.46%), 47(1.64%), and 54 (1.88%) patients, respectively. Seven-day mortality data was available for 59.7% of patients, with the rest having been discharged home A logistic regression model with SAS alone and with trauma did not show a statistically significant correlation with mortality (AUC 0.603, R2=0.02, P=0.15). Estimated blood loss was significantly correlated (P=0.0005) with in-hospital mortality.