

Interpretation: We have successfully implemented a perioperative data collection tool in a LMIC to assess case-specific POMR and key perioperative data, such as SSC use and SAS. Contrary to findings in the developed world, initial results from a LMIC tertiary referral hospital show poor performance of SAS as a predictor of in-hospital mortality. A higher 7-day mortality reporting rate and the possible addition of 30-day mortality might subsequently reveal correlation between SAS and mortality, consistent with previous reports. National IRB approval for other centers is in process, and as additional data is collected from more Kenyan hospitals, we will be able to determine baseline POMR in Kenya overall and the association of SSC use and SAS in a greater variety of settings. (Funding: GE Foundation)

Funding: No funding listed.

Abstract #: 02ITIS034

Setting new standards for transparency & accountability: Using mobile technology for data collection and mapping of bed net distributions in rural DRC

C. Stafford; IMA World Health, Atlanta, GA/US

Program/Project Purpose: In DRC malaria takes close to 500 lives per day, the majority children. Long Lasting Insecticidal Nets (LLINs) can drastically reduce transmission of malaria. Through the Accès aux Soins de Santé Primaires (ASSP) Project, IMA is working with a network of over 4,000 community volunteers (RECOs) to distribute and hang up 670,000 nets in West Kasai Province. The project aims to achieve full coverage in 9 health zones to reduce transmission of malaria and save lives. IMA is using Open Data Kit (ODK) software on Android telephones to collect information on demographics and disease prevalence and capture geographic coordinates and photos of every net hung in every household. A pilot distribution was recently completed in Nyanga Health Zone, where 30,000 LLINs were hung up in over 13,000 households. The collected data was compiled into an interactive map created in Google's Fusion Tables application, which can be viewed on the IMA blog (<http://imaworldhealth.org/ima-drc-revolutionizing-bed-net-distributions-and-taking-accountability-to-another-level/>). In October another 8 health zones will be completed in West Kasai.

Structure/Method/Design: The project aims to achieve 90% coverage of LLINs in nine health zones in order to decrease the morbidity and mortality associated with malaria while also reinforcing technical and managerial skills of health zone management teams and health providers. In order to achieve this IMA works closely with the MOH, Sanru (local NGO), and RECOs. IMA trains RECOs on cell phone usage and data collection in each of the 186 health areas. RECOs survey every household in the health area to determine the number of nets needed. RECOs then hang nets for all sleeping spaces that are not covered by a good quality net and take a picture of the recipient and the nets installed. LQAS surveys are performed in all health areas immediately after distribution to ensure 90% coverage has been attained.

Outcomes & Evaluation: IMA successfully hung up, tracked and photographed distribution of over 30,000 LLINs to 13,400 households, achieving 97% coverage in Nyanga health zone. Results for the distribution of the other 8 health zones beginning in mid September will be available in early December. LQAS will be repeated once every

six months to monitor coverage. If a health area falls below 80% another hang-up will take place.

Going Forward: The condition of the roads in West Kasai is very poor, making a distribution of this scale very challenging. Training RECOs on phone usage also continues to be a challenge, as many of them have never used cell phones before. Despite these challenges the m

Funding: DFID and the Against Malaria Foundation (AMF).

Abstract #: 02ITIS035

CryoPop: Merging design with demand to build a low-cost cervical cancer prevention tool

M. Varady¹, R. Lu², N. Moller³; ¹Jhpiego, Baltimore, MA/US, ²Jhpiego, Baltimore, MD/US, ³Jhpiego, Aurora, CO/US

Program/Project Purpose: Cervical cancer is a completely preventable disease, yet it kills over 250,000 women annually. Women in low and middle income countries can be screened for precancerous lesions for less than \$0.05 per test, but access to effective cryotherapy is a major challenge. The CryoPop aims to replace traditional cryotherapy devices to increase access and reduce the cost per treatment to less than \$1. The lower upfront price of the CryoPop could enable programs and governments to scale up treatment by up to ten fold without increasing program costs.

Structure/Method/Design: Traditional cryotherapy devices create a cold tip by circulating and expanding high-pressure, gaseous CO₂. The CryoPop takes advantage of the fact that CO₂ can be used ten times more efficiently by creating dry ice which can then be used to effectively freeze the cervix. The simplicity with which the CryoPop creates and uses dry ice enables it to be low-cost, portable and durable. The project focus is to translate the proof-of-concept into a final product that appeals to users, purchasers, and device manufacturers. We will highlight two challenges that we've encountered during this process. First the applicator, a key component, had to be converted from something that could only be 3D printed into a set of tubes which could be mass manufactured while maintaining product performance. This required iteratively building and testing using a factorial approach. But the ability to mass manufacture doesn't equate to sustainability. Therefore, a related challenge has been to identify a region for market entry where demand would justify building the large quantities that enable the CryoPop to be low-cost. Identifying a target region required iteratively filtering a list of 65 countries, incorporating more detailed market research with each pass.

Outcomes & Evaluation: The applicator has been successfully redesigned such that it meets the key product requirements. Additionally, the systematic approach used for market analysis has identified two states within India that present the highest likelihood of success for launching the CryoPop. This approach could be translated for use on other projects with similar goals of replacing existing equipment that is expensive or fragile.

Going Forward: Until the CryoPop is commercially available, it remains just another compelling idea. In order to convince a device manufacturer to accept the risk that the sale of the CryoPop would entail, the evidence of market demand needs to be strengthened. Therefor

Funding: GE Foundation, NIH, NCIIA.

Abstract #: 02ITIS036