

databases. Grey literature documents were provided by the Global Alliance for Improved Nutrition (GAIN) and retrieved from non-indexed sources such as the websites of non-governmental organizations (NGOs) and fortified food manufacturers. Outcomes included both quantitative (effectiveness) and qualitative (analysis of programs/barriers/lessons) measures. As such, our search was not restricted by study design. Inclusion criteria captured studies that evaluate large scale, typically country-wide, fortification efforts in LMICs. Full text retrieval, data abstraction, and quality assessment were completed in duplicate for all studies that passed the screening process. Analysis Statistical analyses were performed using Review Manager Software version 5.3. Meta-analyses were conducted where possible.

Findings: A total of 140 quantitative studies were identified as 'included', of which 25 pertained to mass fortification with folic acid. Of these 25 studies, 14 reported a perinatal/neonatal outcome. In all cases, this referred to one or more type of NTD (spina bifida, anencephaly, or cephalocele). A meta-analysis for each outcome was conducted in order to determine to risk ratio (RR) of NTDs after folic acid fortification. When looking at total NTD rates, the combined RR was 0.65 [95% confidence intervals (CI) 0.53-0.79], demonstrating a positive association between fortification with folic acid and reduction in NTD prevalence. When examining NTD by type, this reduction in prevalence was also present. The overall RR was 0.53 [95% CI 0.42-0.66] for anencephaly, 0.67 [95% CI 0.48-0.92] for spina bifida, and 0.68 [95% CI 0.48-0.97] for cephalocele.

Interpretation: While there were some country-specific variations, the overall impact of mass food fortification led to a significant reduction in risk of NTDs when comparing pre- and post-fortification periods.

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Abstract #: 02ITIS005

Quality-driven programming in global surgery: A 30-year institutional experience delivering safe, timely and effective surgical care

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Program/Project Purpose: Basic surgical services are unavailable to the world's bottom billion, but still billions more lack access to surgical care of an adequate level of quality. Following the World Health Organization's definition of quality in service delivery, high-quality surgical services are those which are safe, timely and effective. The global community has made laudable steps towards increasing access to surgery, but achieving equity in surgical care delivery requires strengthening of quality in addition to accessibility. With this goal in mind, Operation Smile has cultivated a culture of quality for over 30 years.

Structure/Method/Design: Operation Smile is an international non-governmental organization dedicated to providing care for children affected by cleft lip and/or palate (CL/P) in low- and middle-income countries. The goal of quality in care delivery has become a central tenet of the organization, three core elements of which being the Global Standards of Care, the Medical Oversight program, and engagement with the community through local partnerships. The Global Standards of Care were developed by a consensus-based approach with stakeholders from more than 50 countries. The Medical Oversight department conducts monitoring and evaluation both in terms of surgical outcomes and patient satisfaction. Finally, national foundations and regional offices work with a network of community partners to identify and enroll children affected by CL/P into well-timed care.

Outcomes & Evaluation: The Global Standards of Care serve as the cornerstone of the organization and, while these may often be

more rigorous than local guidelines, they were developed based on the concept that the highest quality of care should be available to all children born with CL/P worldwide. One key feature of these guidelines is the WHO Safe Surgery Checklist, which has been shown to reduce surgical complication rates by more than half. In regards to effectiveness, Medical Oversight team monitors program and surgical outcomes to continually ensure quality in care. Lastly, engagement with community partners has greatly expanded the organization's ability to reach individuals with CL/P in a timely manner, limiting the negative sequelae, stigma and elevated mortality risk associated with CL/P.

Going Forward: These initiatives illustrate ways in which quality has been incorporated within Operation Smile's institutional structure, however, more opportunities exist to further integrate quality improvement and delivery science methods into global surgery programmatic models, both through augmentation of existing initiatives and novel innovations. The goal of essential surgery must go beyond survival, ensuring that the procedure is both safe and delivered in a way that maximizes patient benefit. This requires surgical interventions be safe, well-timed and effective. Broader international support and action are necessary to promote equitable access to high-quality surgical care as an integral part of the human right to health.

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Abstract #: 02ITIS006

A review of follow up of cervical cancer screening results in a primary health program in Cape Town, South Africa

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Program/Project Purpose: Cervical cancer is the second most common cancer among South African women, with one in 41 women developing the disease in her lifetime. South African National Cervical Cancer Screening Guidelines recommend results be returned in person within eight weeks for both abnormal and normal results. Despite these recommendations, barriers related to poor access, organization, education and availability in resource limited settings often disrupt the delivery of results and subsequent follow up and critical cancer prevention. The objective of this study was to determine if the primary health clinics in our study population attained the recommended test result deliver and follow-up rates.

Structure/Method/Design: A retrospective log and chart review of Papanicolaou (Pap) smear results and follow up was performed in six primary healthcare clinics in one sub-district in Cape Town, South Africa. We collected data on 616 women who underwent Pap smear evaluation from January to March 2014. We collected data on the proportion of women who received their Pap smear results, the number of abnormal results, follow up, grade of abnormal Pap result and turn around time.

Outcomes & Evaluation: 616 women had a Pap smear during the study period. 10% (62/616) were abnormal, defined as HSIL (37% (23/62)), LSIL (52% (32/62)) or ASCUS 11% (7/62)). 38% (231/616) of all women who had a Pap smear received their results and had a follow up visit; this included 36% (197/554) of normal results and 55% (34/62) of abnormal results. More specifically, 83% (19/23) of women with HSIL received their results, 44% (14/32) with LSIL received their results, and 57% (4/7) with ASCUS received their results. The turn-around-time was evaluated in a subset of patients (n=199) who received their Pap results. In this study group, the average turn-around was 52.4 days post intervention.

Going Forward: While the turn-around-time was within the national guidelines for cervical cancer screening, our results demonstrate a significant number of patients do not complete these important preventative interventions. As cervical cancer screening and prevention i

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Abstract #: 02ITIS007

Enhancing global health through the compilation of a glossary of medical terminology in a local Ghanaian language (Twi)

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Program/Project Purpose: The need for confidentiality is vital to developing trust as part of the doctor-patient relationship. This is not always possible where interpreters are used to translate for clinicians/patients due to language barrier. Bridging this barrier without the use of interpreters will ensure effective communication and quality care. Twi is the commonest of the local languages in Ghana but not all nationals speak it. However, in the setting of this study Twi is used widely as a means of communication. The number of non-Twi speaking Ghanaian medical students, and foreign students from the West African sub-region studying medicine at KNUST, as well as international students on short term visits continues to increase. Increasing numbers of international clinical research collaborators also visit Ghanaian medical schools and teaching hospitals for varying periods of time. The purpose of this project was to assist non-speakers of Twi to communicate with patients without always requiring an interpreter.

Structure/Method/Design: This is a pilot study. Face to face Interviews, led by a professor of Twi (EAF) were conducted with 24 purposively sampled doctors and nurses at the Komfo Anokye Teaching Hospital, Kumasi, Ghana over a 2-month period in 2014. The interviewees worked in the major Medical disciplines of Internal Medicine, Surgery, Paediatrics, Obstetrics/Gynaecology, and Dentistry. Common words or phrases used by patients in the consulting room were identified and compiled into a draft document. This was then independently reviewed by a Twi language expert. It was subjected to further review by a second set of physicians who are native Twi speakers and also fluent in English.

Outcomes & Evaluation: A glossary of medical terms in both Twi and English has been compiled. Sections include words, phrases, and body parts. Common expressions have also been captured. Words and phrases have been further grouped based on the specialty where they are most often used. This booklet will assist Ghanaian clinicians and students who do not speak the Twi language communicate better with patients. It will also help bridge the language barrier for foreign students, clinicians, and research collaborators. It will further facilitate international collaboration in health research, and thus global health. Evaluation will be conducted after 12 months to determine the usefulness of the glossary, and the need for a similar exercise to be carried out for other local Ghanaian languages.

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Abstract #: 02ITIS008

Global health delivery science: Applying the care delivery value framework to a community based HIV/AIDS initiative in Togo, West Africa

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Program/Project Purpose: The global health delivery gap refers to an inability to provide existing medical discoveries to the individuals who need them. Resolving such inequity may represent medicine's most important duty. The new field of "global health delivery science" aims to address such gaps. An approach in this new field utilizes the care delivery value chain (CDVC) framework to assess patient care activities. CDVC analysis facilitates identification of inefficiencies and gaps in provision of care across a continuum. There is limited published data describing the application of the CDVC framework to programs aimed at resource poor or pediatric populations.

Structure/Method/Design: Objectives 1) Construct CDVC assessment for HIV/AIDS services available in Kara, Togo 2) Initiate quality improvement plan based on findings of CDVC assessment In collaboration with local staff, the author conducted a CDVC assessment at a community-based clinic serving 1,700 individuals living with HIV/AIDS, including 154 children. In preparation for field discussions, the author prepared CDVC templates and training materials to present to clinic staff. Over the course of three weeks, multiple semi-structured interviews were conducted with 11 local staff members to gather detailed information about existing HIV/AIDS services, including pediatric care. The researcher compiled the results of these interviews into a draft CDVC framework and quality improvement (QI) plan. The QI plan was launched and progress was tracked over six months.

Outcomes & Evaluation: A CDVC framework for HIV/AIDS services in the Kara region was drafted and reviewed by key staff members. The CDVC framework identified activities currently available for discrete stages within a cycle of care including: Prevention & Screening, Diagnosing & Staging, Pre-antiretroviral & Psychosocial Management, Antiretroviral Initiation, Continuous Disease Management, Management of Complications. Within these care continuum areas, twenty eight specific gaps in service delivery were identified, including three distinct pediatric issues, and were integrated into a strategic QI plan. Within three months seven identified gaps were resolved, and six months into the initiative 25 out of 28 delivery gaps were being addressed. Significant gaps in transitions between care stages were elucidated including gaps in pediatric care delivery, areas that would likely not have been identified through traditional assessment methods. Multiple areas of overlapping services by external providers highlighted inefficiencies in the overall delivery system and can inform future programmatic decisions.

Going Forward: The CDVC framework was an invaluable tool for examining both existing care and gaps in delivery over the full cycle of HIV/AIDS care, especially for vulnerable populations. The application of CDVC assessment to guide quality improvement initiatives afford

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Improving access to life-saving medicines through mobile community health supply chain management

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Program/Project Purpose: CommTrack is an open source tool for organizations in low-resource settings to better manage goods and materials - from community health workers providing iron supplements for pregnant mothers, to distributing ready-to-use-therapeutic-foods, or ensuring health clinics have adequate supplies of essential medicines such as ARVs. These scenarios, each very different from one another, all require knowledge about "How much do I order? When should I expect a shipment and how to ration until it arrives? Why are my losses so high?" Designed in close collaboration with partners including John