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Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): We initially identified 33 EV indictors grouped in six categories: 1) geographic setting (eight, e.g., urban vs. rural); 2) study population (seven, e.g., gender); 3) implementation characteristics (six, e.g., adherence efforts); 4) institutional and legal context (three e.g., stigma); 5) ability to scale with quality (two e.g., implementation scale); and 6) HTC-specific indicator (seven, e.g., service delivery mode). After the first round of expert elicitation, we added one indicator and dropped one. Four (12%) indicators were excluded due to lack of variability (>90% studies reported the same characteristics) and four (12%) due to excessive (>70%) missing data, cumulatively comprising 27% of total weights. Seventeen of 25 (68%) remaining indicators comprised the top 80% of the total renormalized weights. The bottom five least weighted indicators were: 1) WHO region 0.4 %; 2) WHO subregion 0.8%; 3) country 0.8%; 4) national per capita government health spending 1.5%; and 5) country-level income 1.7%, and the top most weighted indicators: 1) target age group 6.4%; 2) service delivery mode 5.7%; 3) type of post-test counseling 5.5%; 4) stigma for intervention 5.5%; and 5) HIV epidemic type 5.4%.

Summary/Conclusion: More attention should be given to EV for translation of evidence to real-world global health practice. Our study proposes a target-specific definition for EV: The likelihood that intervention effects observed in a set of studies will be replicated if implemented in a different target setting. Intervetion-specific indicators should be carefully explored for other EV tools. Validation of our tool is underway.

### Developing a new medical school at a new university in Kazakhstan

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Background: Nazarbayev University (NU) was dedicated in June 2010 by Kazakhstan President Nursultan Nazarbayev, with the mission of making the republic's 15-year-old capital, Astana, Eurasia's leading research and educational center. Each NU academic unit is paired with an international partner; instruction is in English. The University of Pittsburgh School of Medicine (UPSOM) was selected as NU's partner to develop the NU School of Medicine (NUSOM) based on a U.S. model. Combined with the six hospitals of National Medical Holding (NMH), also part of NU, and NU's Center for Life Sciences, NU plans to create Kazakhstan's first integrated academic health system.

Structure/Method/Design: Under an initial 6-month contract, UPSOM developed an implementation roadmap for NUSOM's 2015 opening and preliminarily assessed NMH hospitals' readiness to become clinical teaching sites. Under a second 1-year contract, NU and UPSOM are assessing existing NU faculty, facilities, and other resources and capabilities; developing a detailed NUSOM curriculum plan; identifying and training core faculty; and collaborating in the design of the NUSOM building.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): To date, the partners have developed and applied an evaluation rubric to select NUSOM core faculty; created a comprehensive framework to assess the readiness of clinical sites and their physicians to participate in U.S.-style medical education; and hired a NUSOM dean, who began in November 2013. The partners have also determined NUSOM's preliminary curriculum plan, interviewed 20 potential faculty candidates (most current NU and

NMH employees), and identified those with the knowledge and skills to teach some component of the NUSOM curriculum, with support and training from an UPSOM mentor. Other faculty are being recruited through an international search process.

Summary/Conclusion: Kazakhstan is committed at the very highest levels (the president himself) to NUSOM's success and is willing to provide the resources to assure it. Kazakhstan is politically and economically stable and has very high literacy rates. However, the republic lags comparable countries in health care quality and rates poorly in assessments of transparency and corruption. Moreover, the timeline for opening NUSOM is extremely aggressive; and a limited number of Kazakh physicians speak English, making it challenging to find clinical teaching faculty. Kazakh administrative procedures are extensive and cumbersome.

The partners are confronting these challenges by identifying and addressing them systematically in a transparent, step-wise fashion, even at the level of Kazakh law when necessary. In doing so, a major outcome has been the cohesion of the core team at both institutions into a unified body but with the NU members clearly taking "ownership" of the process, with the UPSOM partners acting in a supportive and advisory capacity.

# A child survival toolkit for donors—Bringing best practice evidence to philanthropic donors in global child health

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Background: Current resources devoted to global health are far below what is needed to reach global targets. Individual donors have the potential to play a critical role. About three quarters of the approximately \$300 billion given to U.S. nonprofit organizations in 2012 came from individual donors. Despite their financial influence, individual donors often lack access to information on the evidence-based models and organizational approaches that produce the most positive outcomes.

The Center for High Impact Philanthropy's Child Health Donor Toolkit showcases community-based initiatives that have demonstrated to be high-impact methods for improving the health of children.

Structure/Method/Design: With a diverse group of partners, the Center for High Impact Philanthropy launched a child survival tool kit designed to disseminate actionable guidance about best practices, evidence-based models, and other resources for individual donors and their advisors. In developing the guidance, we synthesized existing knowledge from rigorous research, informed opinion, and field experience and translated it into a form accessible and actionable for lay individual donors and their advisors.

The child survival tool-kit focuses on three strategies for high-impact philanthropy: treating and preventing now, building long-term systems and policy change, and innovations in technology and health delivery. Using a series of in-depth case studies, the initiative helps inform donor decision-making with best available information. Each case in the series includes an analysis of the situation, evidence-based models, strategic opportunities for donors, and action steps.

The series has covered approaches central to infant and child health: home-based newborn care, nutrition focused mothers' groups (care groups), childhood vaccination, addressing the burden of malaria, and community-based health and development programs. Within each of these case studies, donors will find evidence-based models and interventions informed by local input and involving local actors. Each study further illustrates how the featured organizations effectively delivered their proven solutions and provides estimated impacts and costs. Finally, the toolkit provides decision-making tools and frameworks for how to think about and expand on these philanthropic models with action steps.

### Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): As above

Summary/Conclusion: For donors who care about maximizing the social impact of their gifts, the child survival toolkit fills a critical information gap providing evidence-informed analyses and actionable decision-making tools. The tool kit has been shared with the Center's primary audience—individual donors and their advisors—as well as the larger philanthropic community through online publications, blogs, social media outlets, and reports.

#### Bridging the accountability divide: Male circumcision planning in Rwanda as a case study in how to merge divergent operational planning approaches in global health

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Background: When voluntary medical male circumcision (MC) was confirmed as an effective tool for HIV prevention in sub-Saharan Africa in 2007, many public health policymakers and practitioners were eager to implement the intervention. How to roll out the tool as part of comprehensive strategy, however, was less clear. At the time, very little was known about the capacity of health systems to scale delivery of the new intervention. Today, nearly all countries prioritized for the intervention are far behind their targets. To contribute to the discourse on why this is, we develop a historical analysis of medical MC planning in sub-Saharan Africa using our own experience of this process in Rwanda.

Structure/Method/Design: We compare our previously unpublished feasibility analysis from 2008 with international research published in 2009, which suggested how Rwanda could reduce HIV incidence through a rapid MC intervention, and Rwanda's eventual 2010 official operational plan.

We trace how, in the face of uncertainty, operational plans avoided discussing the details of feasibility and focused instead on defining optimal circumcision capacity needed to achieve country-level target reductions in HIV incidence. We show a distinct gap between the targets set in the official operational plan and what we determined was feasible in 2008. With actual data from the ground finally available, we show our old feasibility models more closely approximate circumcision delivery rates to date.

## Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): Not applicable

Summary/Conclusion: Our applied research demonstrates how feasibility and optimization modeling approaches can produce very different policy recommendations, an issue of relevance when seemingly apolitical empirical tools form the foundations of political maneuvering for a particular global health intervention, such as male circumcision. Using the language of quantitative models, we show how rigid models, specifically in a low-capacity, high-uncertainty setting, can create unrealistic mandates and leave implementers to balance between obvious international enthusiasm and derivative ramifications for resource mobilization while still juggling feasibility.

With an eye toward the future of long-term policy planning, we conclude that discussing feasibility ahead of policy setting necessarily incorporates local perspectives and should help to create better, country-specific, operational plans and ultimately improved conversations around accountability in global health.

### Do no harm: The know-do gap and quality of care for childhood diarrhea and pneumonia in Bihar, India

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Background: The provision of high-quality health care relies not only on providers' knowledge, but also on the translation of that knowledge into action. A mismatch between these domains is known as the know-do gap. We present new evidence on the capacity of rural health care providers in India to properly identify and treat childhood diarrhea and pneumonia, two leading causes of disability and mortality among children worldwide.

Structure/Method/Design: We administered vignettes for child-hood diarrhea and pneumonia to 340 providers in rural Bihar and unannounced standardized patients (SP) presented the same cases. We calculated the know-do gap by comparing the fraction of providers who asked key diagnostic questions on each method. We used multivariable regression analyses to examine the relation between providers' characteristics and percentage of diagnostic questions asked, as well as likelihood of prescription of potentially harmful treatments.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): Providers, on average, asked 2.9 diagnostic questions and suggested 0.3 examinations on diarrhea vignettes (1.4 and 0.8, respectively, for pneumonia). Only 3.5% offered the correct ORS treatment for diarrhea, while 20.9% prescribed potentially harmful drugs without ORS. With SPs, 0% offered the correct treatment for diarrhea and 13% for pneumonia. We find a large know-do gap for diarrhea with providers asking diagnostic questions far more frequently on vignettes than with SPs, but not for pneumonia. While only 20.9% prescribed treatments that were potentially harmful on diarrhea vignettes, 71.9% offered such drugs to SPs (P < 0.001). Although medical qualifications were associated with fewer diagnostic questions for pneumonia, odds of unqualified providers prescribing potentially harmful treatments for diarrhea were 5.1 times that of qualified (95% CI, 1.24-21.13) and 2.4 times for pneumonia(95% CI, 0.98-5.82). Higher knowledge scores were associated with better performance for diarrhea, but not for pneumonia.

**Summary/Conclusion:** Our findings highlight the urgent need for policies to regulate and incentivize providers to correctly diagnose and manage the two leading causes of childhood mortality.

# Current issues in global health evaluation: The role of academia in addressing methodological challenges

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