

System (OHASIS) to gauge the intensity of GHEs through budget allocations. OHASIS engagements are tested against controls and variables from open-sourced databases to determine the effectiveness of GHEs on U.S. Partner Nations (PNs). The analysis is conducted in STATA and consists of two-staged least squares regression models controlling for selection effects. Regression models are computed for health (e.g., infant mortality, tuberculosis disability adjusted life-years [TB DALYs], maternal mortality) and policy (e.g., ideal point differences, fragility index) measures of effectiveness (MOEs).

**Outcomes & Evaluation:** The results indicate that OHASIS-funded health engagements have a statistically significant relationship with the selected health and policy MOEs. A 1% increase in OHASIS GHE funding is associated with a 0.6%, 0.3%, and 0.2% decrease in PNs' infant mortality, maternal mortality, and TB DALYs, respectively. Likewise, the results indicate that a 1% increase in OHASIS health funding results in a 0.005 unit decrease in PNs' disagreement with U.S. policy preferences and a 0.05 unit decrease in PNs' fragility index.

**Going Forward:** Overall, DoD GHEs have a strong statistical impact on policy MOEs, with an even greater impact on health MOEs. The findings indicate positive national-level policy effects, thereby encouraging further research on GHE's impact at the local level. Researche

**Funding:** The MODEL study is funded by the Office of the Assistant Secretary of Defense for Health Affairs.

**Abstract #:** 01GMHE005

### Lives saved accountability scorecard

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**Background:** With an eye toward encouraging further progress on reducing child mortality, the Office of the United Nations Secretary-General Special Envoy for Financing the Health Millennium Development Goals (MDGs) sought to construct a "lives saved" accountability scorecard. Such a scorecard would relate health expenditure for child health and the number of child lives saved. With this scorecard, partner organizations could gain information about how to optimize impact from their investments in child mortality reduction. While there is consensus around the need for this scorecard, it remains a complex measurement task.

**Methods:** Given the time lags in the measurement of child mortality in developing countries, we focus on estimates that can provide direction in the near future. To best influence advocacy and decision making, we look at the marginal cost per child life saved. We base our estimates off two principles: first, the reporting of disbursements and the estimation of lives at the country level provides the most intuitive and pragmatic numbers to aide decision making; second, within a country, every dollar contributes equally to years of life saved. With these principles as a foundation, we estimate the time series of government expenditure and development assistance on child health by country and by year. We use these estimates to calculate cumulative change in expenditure over two MDG time periods. Next we estimate child deaths both with and without controls for changes in GDP, maternal education, and HIV. We also look at the cumulative change in child deaths over the two time intervals. Finally, we look at the ratio of change in expenditure to change in child deaths, and from this we make an approximation of the marginal cost of saving an extra child life.

**Findings:** We have undertaken empirical analysis to assess the likely marginal cost per year of life saved at the regional level over two

MDG time periods: 2000-2006 and 2006-2011. We selected two separate time periods because higher expenditure and faster rates of child mortality occurred in the second half of the decade. Our preliminary analysis shows a marginal cost per child life saved of \$65,497 in all developing countries, with strong regional variation.

**Interpretation:** While the relationship between expenditure and health is vastly more complex than can be adequately conveyed through a scorecard, the simplicity of this metric and our approach is beneficial. We have created a common accountability mechanism that is easy to communicate and conceptualize for those facing resource allocation decisions. Our results provide a preliminary analysis which can serve as a framework for discussion and policy intervention among donors and governments.

**Funding:** Supported by the Institute for Health Metrics and Evaluation's funding from the Bill and Melinda Gates Foundation.

**Abstract #:** 01GMHE006

### Ethical approval process considerations for research in resource limited settings globally

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**Program/Project Purpose:** In the context of global health, human subjects research in low- and middle-income countries (LMICs) has significantly increased over the past few decades among academic institutions based in higher income countries. While research holds tremendous potential to alleviate the burden of disease, conducting research in vulnerable participants must be carefully considered. Investigators from higher income countries are mandated to undergo review and approval by an Institutional Review Board (IRB) prior to initiating research, receiving federal funds or obtaining scientific journal acceptance. This regulation is often non-existent or partially enforced in many LMICs. **Structure/Method/Design:** Resources from the World Health Organization and Council of International Organizations of Medical Sciences provide guidelines for ethics but leave regulations to each autonomous nation, many without the resources to establish a formal system. There is high variability regarding ethical reviews between countries, which leaves room for interpretation and can lead to negative consequences. We describe a process while seeking approval in an international setting from our experience through an epidemiologic-genetic, case-control study in Democratic Republic of Congo (DRC), Honduras, Mexico, Morocco, Philippines and Vietnam. Various potential stakeholders of the ethical process are explored through five levels: (1) national, (2) institutional, (3) regional, (4) local and (5) individual.

**Outcomes & Evaluation:** A layout was constructed to facilitate identifying stakeholders in the broad and specific community in which research was being conducted: 1. National considerations: National laws on clinical trials, genetics, biotechnology, etc. Banned or highly regulated research procedures Import/export of research data or specimens Formal application or procedures for foreign investigators 2. Institutional considerations: Requirements at home institution IRB filing and approvals Enlisting in-country co-investigators University or hospital ethics committees 3. Regional considerations: Ministries of Health Provincial or regional government Differing regional regulations Additional health structures 4. Local