

PACKAGES OF CARE: A Pragmatic Approach to Exploring an Enhanced Role for the Global Fund in Maternal, Newborn and Child Health (MNCH)

INTRODUCTION

Reducing the global burden of preventable maternal, neonatal and child deaths has emerged as a major focus for the global health community.¹ Accelerating progress towards MDGs 4 and 5 has been placed firmly on the political agenda through the G8's Muskoka Initiative on MNCH and the launch of the UN's Global Strategy for Women's and Children's Health.² An unresolved question in current discussions is how to best channel global resources for MNCH in the most rapid, effective and equitable manner in order to maximize impact on maternal and child health.

One option under discussion is an expanded role for the Global Fund to Fight AIDS, Tuberculosis and Malaria (GF) in financing MNCH, building on its existing investments in maternal and child health linked to HIV, TB and malaria. The GF's Policy and Strategy Committee discussed options for "enhancing GF support to MNCH" at its October 2010 meeting, and the GF Board will devote time to this issue at its upcoming meeting in December 2010. No consensus has yet emerged around different options on the table. Supporters of an expanded mandate argue that "the obvious step to scale up support for MDGs 4 and 5 is to explicitly expand the Global Fund's financing mandate."³ Critics are concerned that an expanded mandate would be risky for the GF, because it would detract attention and resources from the original under-funded mandate.⁴

Slowly, however, the debate is moving away from treating MNCH as a monolithic concept to a more differentiated discussion of *which components* of the MNCH agenda offer the greatest "fit" with the GF financing approach and the greatest health impact at limited costs. Our aim in this working paper is to support this trend by deconstructing the concept of MNCH and exploring which specific intervention areas within MNCH the GF might be well placed to support.

Recent strategic approaches to achieving MDGs 4 and 5 converge around delivering "packages of care," with each package containing a set of essential, integrated and mutually reinforcing interventions along the MNCH continuum. Our paper builds on this approach, breaking down MNCH into five discrete packages of care (listed in Box 1). This allows us to systematically ask:

- (a) Which packages (and which interventions within each package) offer the best fit with the GF?**
- (b) What is the relationship between the cost of scaling up each package and the impact in terms of reducing mortality?**

MATERNAL, NEWBORN AND CHILD HEALTH PACKAGES

1. Reproductive health (RH)
2. Antenatal care (ANC)
3. Childbirth care
4. Postnatal care (PNC) of the mother and newborn
5. Care during infancy and childhood

Box 1: Five packages of care for MNCH

Our analysis of fit suggests significant synergies between existing GF financing and a subset of three out of the five MNCH packages (reproductive health [RH], antenatal care [ANC] and child health). The GF is already financing many interventions in these three packages. It would be relatively straightforward for the Fund to build upon these existing investments, financing additional interventions to arrive at three full packages of care. Funding these packages is likely to also lead to improved HIV, TB and malaria outcomes.

Our analysis shows that it would be more difficult for the GF to *fully* support the two remaining packages (childbirth and postnatal care [PNC]) unless it builds the institutional capacity to do so and unless there was massive new, reliable, sustained financing. However, given the large proportion of maternal and neonatal deaths that occur around the time of birth, the GF could leverage its existing strengths to deliver selected high impact interventions from these two packages *without* the need for massive scale-up of facilities and human resources.

Based on our analysis, we conclude by laying out four different options for consideration:

- **Option 1:** Expand the GF's mandate to support a subset of three "synergistic packages" (RH, ANC and child health)
- **Option 2:** Expand the GF's mandate to support the three synergistic packages plus drugs/commodities and selected high impact interventions in the remaining two packages (childbirth and PNC)
- **Option 3:** Enhance the GF's contribution to MNCH within its *existing* mandate and conduct further due diligence on options for an expanded role, with a decision in 2011

- **Option 4:** Narrowly stick to the original GF mandate, and do not include any additional MNCH investments.

Our intention is not to argue one way or another as to whether the GF *should* play an expanded role in financing MNCH. We simply suggest that the debate about such a role could be made more strategic by basing it on a systematic assessment of fit, cost and impact. A first attempt at such an assessment is provided in this paper.

PACKAGES OF CARE IN MATERNAL, NEWBORN AND CHILD HEALTH

The individual interventions proven to reduce maternal, neonatal and child mortality are well described. For example, over 190 evidence-based interventions were identified in the four *Lancet* series on maternal,⁵ neonatal⁶ and child⁷ survival and sexual and reproductive health (SRH).⁸ However, a core principle of programs for improving MNCH—and one that is endorsed by the Partnership for Maternal, Newborn, and Child Health (PMNCH)⁹—is that these interventions should be combined and delivered as integrated “packages.” The MNCH community has rallied around the goal of scaling up these packages and inter-linking them across the so-called “continuum of care,” i.e., across time (adolescence, pregnancy, childbirth, the postnatal period and childhood) and settings (e.g., home, clinics, hospitals).¹⁰

There are at least three reasons why implementing packages is seen as superior to implementing individual interventions in reaching MDGs 4 and 5:

Efficiency and cost-effectiveness: From an operational viewpoint, it is easier and more efficient to scale up “bundles” of linked interventions than to scale up individual interventions one by one. The rationale is that when such packages are provided “through various service delivery modes tailored to suit existing health systems,” the impact is to increase cost-effectiveness and maximize the use of human resources.¹¹

Overcoming fragmentation of service delivery: The “packages of care” approach is one way to overcome the fragmentation that can occur in MNCH service delivery, such as between cross-cutting programs (e.g., nutrition) and those targeting single diseases (e.g., HIV, malaria). Investing in packages helps to overcome the artificial divide between vertical and horizontal approaches because such packages focus on both disease-specific interventions and strengthening of health systems.

Flexibility and adaptation to local circumstances: MNCH packages are not “one size fits all,” but are flexible in terms of which interventions are included. Given that different countries show different patterns of disease epidemiology and health behaviors, MNCH packages can be adapted to local contexts, needs and demands. And additional interventions can be introduced over time to an existing package in a phased manner, e.g., the initial package might contain only basic, highly cost-effective interventions and then more complex, costly interventions are added later.

One of the Background Papers of the Global Strategy lays out different MNCH packages across the continuum of care.¹² These are similar to the packages laid out in an influential proposal published in *The Lancet*.¹⁰ Both proposals include the five packages shown in Box 1.

ASSESSMENT OF PACKAGES: FIT WITH CURRENT GF FINANCING, COST AND IMPACT

The GF estimates that 44–54% of its investments benefits women and children.¹³ If the GF were to expand its role in MNCH financing, one pragmatic approach would be for the Fund to build on its existing investments to finance a subset of packages of care. To do so, it would need to provide additional funding for those interventions within a package that are not yet being financed either by the GF or by other major multilateral financiers (Annex I). The advantage of such an approach is that it would provide an integrated set of interventions at the package level—even if the GF does not have the bandwidth to fund the entire universe of all MNCH services.

In our analysis below, we examine each of the five packages to assess its fit with the current GF financing model. In addition to the fundamental requirement of consistency with the GF’s core principles, we used the following criteria to assess fit:

- **Synergies with the GF’s existing mandate:** Do key interventions in the package have the potential to improve outcomes related to fighting HIV/AIDS, TB and malaria through positive spillover effects?
- **Ease of scale-up to full packages:** Does the GF already have strong “delivery platforms” for, or “entry points” into, a specific package, such that “adding on” a limited number of *additional* interventions would enable the financing of an *integrated* package?
- **Ability to leverage the GF’s strengths and capacity:** Does the package leverage the GF’s comparative strengths, such as procurement and delivery of drugs and commodities?¹⁴ Or does the package require new capacities and structures that the GF currently does not have? How easy would it be to integrate these new capacities/structures into the current financing model?

In developing potential options for the GF to expand its engagement in MNCH, we also examine the cost-impact relationship of each package. Comparing the relative cost of providing each package with evidence on its impact on maternal, neonatal or child mortality is not an easy endeavor: cost estimates at the package level are still very scarce, as is the evidence on the relative impact of entire packages (rather than single interventions). We relied on three data sources for our cost and impact estimates: (i) an analysis by Darmstadt and colleagues;¹⁵ (ii) the Global Strategy;⁹ and (iii) the Bellagio Child Survival Study Group.¹⁶ Comparing these three costing/impact exercises comes with the caveat that they differ in terms of the number of targeted countries and coverage levels.¹⁷

a) Packages offering a strong fit with existing GF support

Reproductive health (RH) package: By leveraging strong synergies with and existing entry points into the RH package, the GF could achieve substantial health outcomes at a cost that would be moderate to high compared with the cost of other packages.

Synergies and ease of scale up: Strengthening the GF's current investments in SRH could have significant positive spillover effects on the GF's HIV/AIDS programs. Providing contraception to HIV-infected women who wish to avoid or delay pregnancy is an "important and underused" PMTCT strategy.¹⁸ Family planning also includes the promotion of condom use, another strategy to prevent HIV-transmission. Some GF-supported countries have thus started to integrate family planning services into their HIV/AIDS grants (e.g., Rwanda, India).

The GF has a range of existing entry points into RH that it could leverage to fund a nearly complete RH package.¹⁹ In doing so, the GF could build on its ongoing SRH programs as well as on its existing family planning efforts.

Leveraging GF strengths and capacities: Improving access to contraceptives relies on the availability of pharmaceuticals and equipment (e.g., oral and injectable contraceptives) and the strengthening of drug supply and health information systems within countries. These are both areas in which the GF has extensive experience. In addition, the GF is *already* financing a health workforce, both in the community and in facilities, to provide PMTCT, condoms and the prevention, diagnosis and treatment of sexually transmitted infections (STIs) and opportunistic infections. It would be straightforward to train (and expand) this health workforce to also prescribe contraceptives and to deliver folic acid to women of reproductive age. Behavior change and counseling programs to avoid HIV transmission could be expanded to include both broader family planning and counseling of women on RH and birth preparedness. Minimal changes would be needed to existing GF structures—getting to a fully funded package would mostly require expanding and adding on to existing GF-financed services and commodities.

Costs and impact: The Global Strategy estimates that scaling up a full RH package in the 49 lowest-income countries at 95% coverage would cost an additional \$1 billion per year.²⁰ However, the Global Strategy excludes the costs of salaries and in-service training (they are included in a broader HSS category; see endnote 17). We estimate that these costs could amount to an additional \$0.2–0.4 billion per year, leading to total annual costs of \$1.2–1.4 billion.²¹ The absolute costs are high compared to most other packages. However, the Global Strategy indicates that scaling up coverage of this package to 95% in 49 countries would be associated with major reductions in mortality, averting up to 32% of maternal deaths, and 10% of newborn, infant and child deaths.⁹

Antenatal care (ANC) package: Scaling up to finance the full ANC package would be a "low-hanging fruit" for the GF, given that the package could be built upon existing HIV, TB and malaria services. The costs and health impact of such scale-up would be low to moderate.

Synergies and ease of scale up: Strengthening the GF's existing investments in ANC is likely to have positive spillover effects. The ANC package includes a broad range of interventions related to HIV and malaria (malaria prevention/treatment; PMTCT; nutritional support to HIV-infected women; syphilis testing). Financing an expanded ANC workforce is likely to increase the coverage of these interventions. And training ANC workers to deliver additional interventions (e.g., diagnosis and treatment of anemia, counseling on nutrition) is likely to improve health outcomes in pregnant HIV-infected women.

It would also be relatively easy for the GF to finance a full ANC package. Several ANC services related to malaria and HIV are already being financed by the GF (e.g., IPTp, PMTCT, STI diagnosis/treatment). These existing entry points could be leveraged to expand financing to the currently unfunded ANC services (see Annex I).

Leveraging GF strengths and capacities: It would be highly efficient to train health workers already financed by the GF to also deliver other essential components of the ANC package, such as screening for and treating disorders (e.g., anemia, diabetes, high blood pressure) and counseling (e.g., about nutrition, hygiene and the care of babies).¹⁰ Upgrading the skills of existing health workers also builds on the GF's focus on short-term, in-service training—rather than on developing entire new cadres of skilled health workers.²² And adding on these elements to arrive at a full ANC package could easily be facilitated within the GF's existing structures and principles, including performance-based funding.

Costs and impact: The annual additional cost to scale up a full ANC package to 90% coverage in 60 countries is estimated at \$0.23–0.45 billion, making ANC the lowest cost package.¹⁵ Up to 5–10% of newborn deaths in these 60 countries could be averted by using these funds to increase coverage levels to 90%;¹⁵ the impact of the complete package on maternal deaths is unclear from the literature, but is likely to be low.²³

Care during infancy and childhood package: Financing additional interventions required to arrive at a full child health package would constitute a strong fit with GF investments and could lead to a high impact on child mortality at moderate cost.

Synergies and ease of scale up: Selected interventions in the childhood package could help to improve the outcomes of GF-supported malaria programs. For example, there is growing concern about the presumptive use of artemisinin-based combination therapies (ACTs) for childhood fever, given that many

fevers are due to pneumonia rather than malaria.²⁴ GF support for diagnosis and antibiotic treatment of pneumonia would therefore have a positive spillover effect by helping to preserve the use of ACTs for malaria.

There are many strong entry points that the GF could leverage to ensure scale up to a full childhood package. The GF finances the prevention, diagnosis and treatment of TB, malaria and HIV, as well as nutritional and psychosocial support for AIDS orphans and vulnerable children and infant feeding support for HIV positive women. If antibiotics for pneumonia, and oral rehydration therapy (ORT) and zinc for diarrhea, were to be added to its current investments, the GF would be helping to support a basic integrated child health package (with vaccination and micronutrients largely covered by GAVI and UNICEF).

Leveraging GF strengths and capacities: Delivering a child health package requires effective procurement and supply systems, and this is a GF strength. The GF has already established procurement and supply systems for a range of childhood interventions (e.g., ACTs, antiretrovirals), which could be built on to supply additional drugs. The health workforce currently supported by the GF in the diagnosis and treatment of childhood malaria, TB and HIV could be trained to also deliver IMCI (Integrated Management of Childhood Illness) and could be expanded where required. Upgrading health workers' skills to take on IMCI requires an 11-day training course.²⁵ Randomized trials have reported positive outcomes for community case management of pneumonia and diarrhea.²⁶

Adding on these interventions to arrive at a full child care package could be achieved without significant changes to the GF's existing structures. Existing Country Coordinating Mechanisms (CCMs) should be able to oversee IMCI programs and it should be relatively easy to augment Technical Review Panel (TRP) expertise in child health. Performance indicators would be very similar to those used for malaria and should therefore be easy to integrate into existing M&E systems.

Costs and impact: The cost-impact relationship of adding on the interventions discussed above, to arrive at a full child health package, also appears to be favorable. The Bellagio Child Survival Study Group examined the impact of scaling up 23 preventive and therapeutic child health interventions to 99% coverage in 42 countries.¹⁶ The group found that such scale-up could avert 63% of deaths of children under five years. However, some of these interventions fall outside the child care package, i.e., they are targeted at neonates. The authors estimate that the specific neonatal interventions are responsible for 18% out of the 63% figure. This suggests that the infant/child interventions alone could avert 45% of child deaths in these 42 countries.²⁷ The additional cost of providing infant and child health commodities and services would be moderate compared to other packages. The annual cost to scale up the management of childhood illnesses to 95% coverage in 49 countries is estimated at \$0.54 billion.⁹ Estimated additional

costs related to the training and salaries of health workers would range between \$0.21–0.38 billion, leading to total additional costs of \$0.75–0.92 billion per year.

b) Packages offering a weaker fit with existing GF support

Childbirth care package: Providing the full childbirth package (with all of its associated benefits) does not appear to be an easy fit with the GF's business model in the short term and would be very costly to finance. However, selected interventions within the package would lend themselves well to GF financing.

Synergies and ease of scale up: Supporting a full package of care during childbirth would have some spillover effects for HIV, malaria or TB programs, but these would mostly be limited to the expansion of childbirth-related PMTCT services. Entry points for the GF into the childbirth care package are also weaker than into the three packages discussed above. Other than the "labor and delivery" component of PMTCT, the GF has made no significant investments in childbirth care to date. The GF does, however, finance essential drugs and commodities, and such financing would represent one potential entry point into the childbirth care package (as discussed below).

Leveraging GF strengths and capacities: The full childbirth package includes not only routine support during childbirth but also the ability to identify complications early and to provide emergency obstetric services when life-threatening complications occur. Financing this entire suite of services would not play to the GF's existing comparative advantages. Substantially scaling up facility-based obstetric care—and emergency obstetric services in particular—would require significant investments to: (a) expand the skilled health workforce, and (b) create and maintain the required infrastructure (e.g., construction of health facilities, functional referral systems).²⁸ Large-scale workforce expansion and infrastructure investments have not been at the core of GF financing to date, and existing evidence suggests that taking on this substantial new area of financing would not readily play to the GF's strengths.¹⁴ At a minimum, significantly scaling up investments for these areas would require building technical expertise, processes and other organizational capacity within the Secretariat, the TRP and the CCMs to: (a) judge proposals related to the childbirth package, and (b) monitor and evaluate the performance of funded proposals.

Costs and impact: The additional costs required to finance a full childbirth care package are also the highest of the five packages. The service delivery costs alone to scale up the childbirth package to 90% coverage in 60 countries are estimated at \$1.66–3.25 billion per year, a figure that does not include the significant costs for expanding infrastructure and pre-service training of health workers.¹⁵

At the same time, however, the childbirth care package has the highest potential impact of any of the packages. This high impact is explained by the high burden of deaths in the intra-partum period, the high efficacy of the interventions, and

the current low coverage of childbirth care. Up to 19–34% of neonatal deaths could be averted by scaling up the childbirth package to 90% coverage in 60 countries.¹⁵ The impact of the full package on maternal deaths is unclear, but the individual interventions within the package are known to have high efficacy in reducing maternal mortality.²⁹ There is therefore a high demand from developing countries themselves for the GF to play a stronger role in financing this package, despite an overall lower level of fit with the GF model.

Short of funding the entire package, there is thus a strong argument to examine the areas within the childbirth package where the GF could play a stronger role. Indeed, the GF could leverage its comparative strengths to strategically address a subset of “missed opportunities.”³⁰ An important opportunity would be the provision of key commodities and equipment³¹ in *existing* facilities; many of these facilities are already supported by the GF. Another opportunity would be the in-service training of existing midwives in “life saving skills” (a two-week curriculum), and potentially the training of community health workers. There is emerging evidence (which needs to be confirmed in large randomized trials) that some high impact interventions (e.g., active management of the third stage of labor, or misoprostol for postpartum hemorrhage) can be delivered by community health workers.³²

Focusing on a subset of missed opportunities within the childbirth package could thus be a pragmatic way forward (see Option 2 below) that could have a significant health impact. For example, administration of antenatal steroids for women in preterm labor alone has the potential to prevent up to 13% of all neonatal deaths.³³ Costing this type of support is complex. For the 49 lowest-income countries, WHO estimates that the annual costs for drugs and commodities associated with all of maternal health (antenatal, childbirth and postnatal care) are \$340 million (this cost estimate assumes scale-up of maternal health interventions to 95% coverage; it does not include costs of delivering the drugs/commodities).³⁴

Postnatal care (PNC) of the mother and newborn package:

As with the childbirth package, it would be difficult for the GF to fund a full PNC package in the short term. However, there is a high level of fit between the GF’s business model and family- and community-based PNC services. Scaling up the community-based PNC services from the package could achieve a high impact at comparatively low cost.

Synergies and ease of scale up: Expanded support for PNC would offer several spillover effects, including expanded PMTCT services, an opportunity to deliver ITNs to women and neonates, and counseling on nutrition for HIV-positive mothers. But scaling up funding to support the full package of PNC services would not be straightforward, given that current GF investments in PNC are limited to only PMTCT and nutritional

support. As with emergency obstetric care, scaling up facility-based emergency PNC services for the mother and newborn would require the type of health workforce and infrastructure investments that have not traditionally been central to the GF model. Thus it would be difficult for the GF to support a full PNC package in the short term.

Leveraging GF strengths and capacities: However, the GF could leverage its experience in financing community-based interventions to finance a “suite” of family- and community-based postnatal interventions (e.g., the promotion of thermal care, clean cord care and exclusive breastfeeding; community-based treatment for neonatal pneumonia; the detection and management/referral of post-partum complications in the mother). Given the GF’s longstanding experience in financing community-based services, changes to the GF model or structures would not be required.

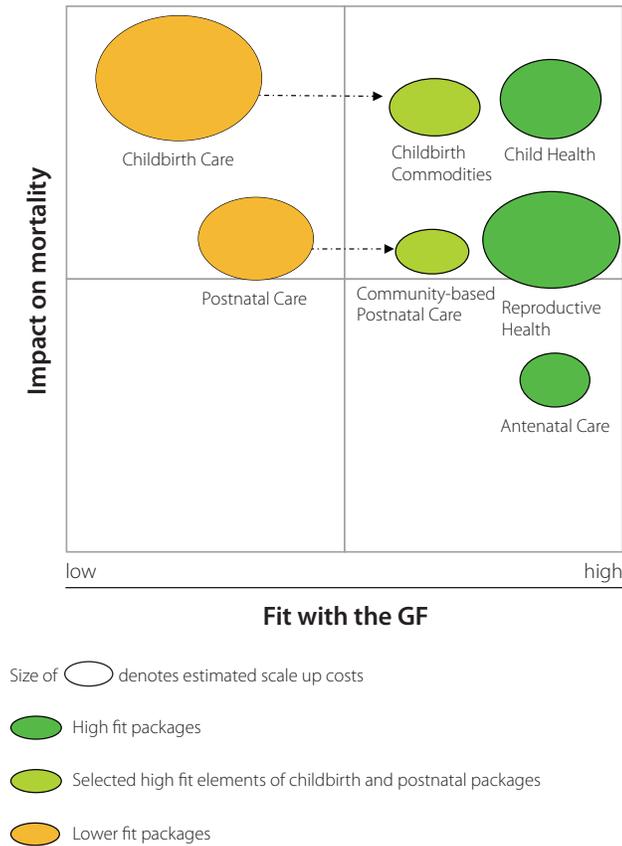
Costs and impact: Scaling up these family and community-based PNC interventions could avert a substantial proportion of neonatal deaths at moderate cost. With an additional \$0.38–0.75 billion per year, up to 10–27% of neonatal deaths could be averted in 60 countries (assuming 90% coverage levels). Adding emergency neonatal care to arrive at a full package of care would significantly increase the total annual cost to \$0.67–1.31 billion; this full package could avert up to 17–39% of neonatal deaths.¹⁵ The cost and impact of adding postnatal emergency care for the mother is unclear from the literature.

OPTIONS IN CONSIDERING AN EXPANDED ROLE FOR THE GF

We have argued that, in considering *whether or not* to take on an expanded role, the GF Board has a menu of strategic choices that fall between “all-or-nothing.” We have further argued that one helpful way of exploring these choices is the integrated “packages of care” approach, which moves beyond support for isolated interventions. Deconstructing MNCH into packages of care allows a differentiated assessment of which *specific* MNCH packages (and their constituent interventions) show the strongest fit with the GF model. It also allows a preliminary discussion of the costs required to fund a full package versus the expected impact of reaching such a package. Figure 1 (on the following page) gives a summary of our analysis of the five packages.

Based on our analysis, we now lay out four options for the GF Board’s consideration. The first two would require a decision to expand the GF’s mandate. The third option focuses on a very small set of “add-ons” to improve outcomes within the GF’s existing mandate and otherwise requests more due diligence prior to a final decision. A final option, of course, would be for the GF to narrowly stick to its original mandate (i.e., it would not finance any additional MNCH investments).

Figure 1. Summary assessment of MNCH packages



Within this option, the GF would *build onto* its existing investments in RH, ANC and child health to offer financing for full packages of care in these areas. This would be more viable from a resource perspective than financing the entire MNCH portfolio, and it would be more desirable from a public health standpoint than just funding single interventions.

We do not expect that the GF would finance the *total* additional costs required for scaling up these three “synergistic” packages. If the GF were to finance 40% of the total annual costs for family planning, ANC and IMCI, we estimate that the additional costs for providing all three “synergistic” packages would fall somewhere between \$0.9–\$1.1 billion (\$92–180 million to increase ANC coverage to 90% in 60 countries; \$480–560 million and \$305–370 million, respectively, to scale up the RH and child health packages to 95% coverage in 49 countries).

The impact of scaling up these three packages would be substantial. Scaling up the RH package in 49 countries at 95% coverage could avert up to 32% of maternal deaths and 10% of newborn, infant and child deaths; scaling up the ANC package to 90% coverage in 60 countries could avert 5–10% of neonatal deaths (the impact on maternal deaths is unclear); and scaling up the full child health package in 42 countries at 99% coverage could avert up to 45% of child deaths.

While Option 1 would thus maximize synergies with the GF model at limited cost and with significant impact, it would leave the intra- and post-partum periods unaddressed (these are the periods during which most maternal and neonatal deaths occur).

Option 1: Support a subset of three “synergistic packages”

If the GF Board decided to support an expanded role for the GF in MNCH, one option would be to focus on those MNCH packages which show the strongest fit with the GF: RH, ANC and child health. There are several reasons to initially focus on these three packages:

- The “add-on” MNCH interventions leverage *existing* entry points and are operationally straightforward to phase in; they can, to some extent, be delivered by existing health workers who are already being supported by the GF
- The three synergistic packages provide several positive spillover effects, i.e., they could help to improve outcomes related to fighting HIV/AIDS, TB and malaria
- Major changes to the GF model or structures would not be needed, allowing for rapid scale-up if funding were made available
- Concentrating on the “add-ons” within the suggested packages would also mean that the GF, in conjunction with other funders (e.g., GAVI, UNICEF), could support fully integrated, synergistic packages of care; within these packages countries would be able to request the locally required “add on” components, thus retaining the GF’s demand-driven principle.

Option 2: Support the three synergistic packages plus drugs/commodities and selected high impact interventions in the remaining two packages

Advocates for Option 2 would argue that the GF should be more ambitious and should also take on a role in financing the childbirth and PNC packages, despite (a) the lower level of fit between a number of critical elements of the associated packages and the GF model, and (b) the significantly greater investments needed to finance the childbirth package in particular. They rightly argue that substantially reducing maternal and newborn deaths requires a focus on the intra- and post-partum periods, during which a high percentage of deaths occurs. And they also point to the significant demand expressed by countries themselves for the GF to support increased investment in the associated packages.

A second option would thus be to complement the GF’s financing for the three high fit, easy to implement packages described in Option 1 with strategic support for selected elements of the childbirth and PNC packages. In Option 2, the GF would concentrate on financing those interventions which represent “missed opportunities” and for which it has a comparative advantage. These would include the purchase and delivery

of unfunded commodities and related in-service training in the childbirth package and a “suite” of family- and community-based PNC interventions (e.g., the promotion of thermal care, clean cord care, and exclusive breastfeeding; community-based treatment for neonatal pneumonia; detection and management/referral of post-partum complications in the mother).

The total costs for funding Option 2 would range between \$1.2–1.5 billion per year. In addition to the costs of funding the Option 1 high fit packages, Option 2 costs would include an additional \$136 million for commodities and equipment (not including the costs to deliver these)³⁴ and an additional \$152–300 million to scale up community-based PNC coverage to 90% in 60 countries. As above, these calculations assume that the GF would fund 40% of total costs.

The impact could be substantial: up to 10–27% of neonatal deaths could be averted by scaling up community-based PNC to the above coverage levels (the impact on maternal deaths is unclear, but it is likely to also be substantial). While more work is needed to estimate the health impact of a dedicated funding stream for drugs and equipment related to childbirth and the postnatal period, several interventions (e.g., antenatal steroids, misoprostol) are expected to have a high impact on maternal and newborn mortality.

While focusing on these selected “low-hanging-fruit” interventions related to childbirth and PNC can be attractive, it carries the risk of running against the basic idea of delivering *integrated packages* of care (rather than vertical inputs). The GF could initially address this risk by only supporting applications from countries that can show that they already have in place, or can quickly establish, the infrastructure and personnel to make use of commodities financed by the GF. A longer term strategy would be to link GF financing for MNCH commodities with financing of national health strategies through the Health Systems Funding Platform. The latter strategy could offer an opportunity to eventually facilitate the systems and capacity building required to deliver full packages of childbirth and postnatal care. However, such capacity building would require significant additional resources to be channeled through the Platform.

Piloting Options 1 and 2: If the GF Board were to agree that Options 1 or 2 would be worth pursuing, a potential next step could be to test these options in a pilot in 5–10 countries with relatively high maternal, neonatal and child mortality. These countries should already be receiving GF financing for HIV-, malaria- or TB-related components of the targeted packages. Pilot countries would be invited to request “add-on” MNCH interventions to arrive at a full care package.

Although a detailed discussion of the design of this pilot is beyond the scope of this brief, it will clearly be important to choose a design that is rigorous enough to draw firm conclusions.³⁵ In designing the pilot it should be clear that its purpose was a true test of concept rather than a phasing in of a global roll out. To this end, the pilot should include a rigorous monitoring and evaluation framework up front to assess outcomes and impact. Pilots should also be accompanied by operational research to assess challenges and bottlenecks and explore potential solutions for overcoming them.

The costs for a potential pilot would need to be borne separately by supportive donors as part of their financing commitments to MNCH and clearly ring-fenced from GF funding for the other diseases. Cost estimates for the pilot would depend on the specific pilot countries chosen and on further costing work on the exact add-on interventions included in the package.

Option 3: Enhance the GF’s contribution to MNCH within its existing mandate and conduct further due diligence on options for an expanded role, with a decision in 2011

A more conservative approach would be to focus on further enhancing the GF’s support to MNCH within its *existing* mandate in the short term. Rather than taking on financing of any full packages for now, the GF would simply add the few specific MNCH interventions (the “lowest hanging fruit”) that have the potential to significantly improve the outcomes of existing GF programs in HIV/AIDS, TB and malaria. An example of such an intervention is the provision of antibiotics to treat pneumonia in order to reduce the overuse of ACTs. Another example is family planning and contraception, which can contribute to PMTCT.¹⁸ Indeed, the GF has already started funding reproductive health interventions in a number of countries (e.g., India, Rwanda).³⁶

In addition, the GF would conduct further due diligence on the potential options for an expanded role in MNCH, with a view to taking a decision at the first Board meeting in 2011. A more detailed analysis of the costs and impact of each package, for example using the Lives Saved Tool (LiST), could be conducted in a 3–4 month timeframe.³⁷ Such analysis could be integrated into the GF strategy process planned for the next months.

Option 4: Narrowly stick to the original GF mandate, and do not include any additional MNCH investments

A final option would obviously be for the GF Board to decide not to expand its financing portfolio at all, based on a concern that the risks of expansion outweigh the benefits. Instead, the GF would remain narrowly focused on its core mandate to fight HIV/AIDS, TB and malaria.

Annex 1: Interventions funded by the GF/other financiers and unfunded interventions in the five MNCH packages

MNCH packages	Financed by GF or other multilateral financiers	Under-funded interventions offering strong synergies with existing GF investments	Under-funded interventions offering limited synergies with existing GF investments
Reproductive health package	<ul style="list-style-type: none"> • Prevention and treatment of sexually transmitted infections (STIs) and HIV • Sexual health promotion: behavior change counseling (BCC); information, education and communication (IEC) programs relating to HIV prevention • Family planning (related to HIV/AIDS³⁷) • Adult male circumcision • Preventing gender-based violence • Post-exposure HIV prophylaxis, including for victims of sexual violence 	<ul style="list-style-type: none"> • Counseling and provision of full range of family planning methods • Folic acid to women of reproductive age 	
Antenatal care package	<ul style="list-style-type: none"> • Malaria prevention and treatment for pregnant women (ITNs, IPTp, IRS) • Prevention of mother-to-child transmission of HIV (PMTCT) • Nutritional support to HIV-positive pregnant women • Maternal and neonatal tetanus (financed by the MNT Elimination Initiative) 	<ul style="list-style-type: none"> • Four antenatal visits to screen for and treat disorders, and counseling 	
Childbirth care package	<ul style="list-style-type: none"> • PMTCT 	<ul style="list-style-type: none"> • Funding commodities and equipment (selected commodities, e.g., oxytocin and misoprostol, could potentially be delivered by community health workers) 	<ul style="list-style-type: none"> • Skilled care at birth • Resuscitation • Emergency obstetric care and immediate emergency neonatal care
Postnatal care of the mother and newborn package	<ul style="list-style-type: none"> • PMTCT including appropriate feeding 	<ul style="list-style-type: none"> • Counseling on self care at home and recognition of danger signs • Promotion of thermal care, clean cord care and exclusive breastfeeding • Extra care/visits for small or preterm babies (e.g., kangaroo mother care, breastfeeding support) • Healthy home behaviors • Community-based treatment for neonatal pneumonia 	<ul style="list-style-type: none"> • Emergency care to treat severe complications in the mother (e.g., anemia, infection, bleeding) • Emergency care of the neonate in health facilities • Facility-based case management of neonatal illness
Care during infancy and childbirth package	<ul style="list-style-type: none"> • Malaria prevention, diagnosis, and treatment (including ACTs) • Diagnosis and treatment of HIV and TB in infants and children (including antiretroviral therapy; prophylaxis and treatment for opportunistic infections [OIs]) • Nutritional and feeding support for HIV positive women and children • Micronutrients, including Vitamin A (financed by UNICEF) • Vaccination (financed by GAVI) 	<ul style="list-style-type: none"> • Integrated Management of Childhood Illnesses (e.g., antibiotics for pneumonia) • Exclusive breastfeeding 	

AUTHORS

This working paper was written by Christina Schrade, Gavin Yamey and Marco Schäferhoff.

COMPETING INTERESTS

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- ¹⁶ Jones G et al. How many child deaths can we prevent this year? *Lancet* 2003;362:65–71.
- ¹⁷ For cost and impact data on the RH package, and for cost data on the child health package, we used the Global Strategy figures, which refer to the 49 lowest-income countries and coverage levels of 95% (reference 9). For impact data on the child health package, we used the Bellagio Child Survival Group’s analysis, which refers to 42 countries (those responsible for 90% of worldwide child deaths) and 99% coverage levels (reference 16). For data on the ANC, childbirth, and PNC packages, we used the Darmstadt and colleagues’ analysis (reference 15), which focuses on the 60 UNICEF priority countries and 90% intervention coverage. The cost estimates in the Global Strategy figures, and in the Darmstadt et al analysis, do not include pre-service training and large infrastructure investments. One notable difference between the Global Strategy and Darmstadt and colleagues’ analysis is that Darmstadt et al include the salaries and in-service training of health workers in their costing. In contrast, the Global Strategy included the costs for human resources (HR) in the overall health systems costs (a breakdown of health systems costs according to single MNCH packages or interventions is not available). We tried to adjust for the lack of HR costs in the Global Strategy by estimating the HR costs for those two packages where we rely on the Global Strategy’s cost estimates (i.e., the RH package and child health package).
- ¹⁸ Cates Jr, W. Contraception in an era of HIV, 2006. http://www.packard.org/assets/files/population/program%20review/pop_rev_cates.pdf
- ¹⁹ The exception is “elective abortion where legal.” We do not discuss safe abortion care for two reasons. First, while access to safe abortion has been identified as a key strategy to improve women’s health, financing safe abortion care in developing countries remains politically controversial. Second, the Global Strategy subsumes the costs for safe abortion under maternal health but does not specify how much of the overall maternal health costs are required for safe abortion services.
- ²⁰ The following interventions are included in the costing: oral contraceptives (pill), injectables, condoms, intrauterine device (IUD), implant, and sterilization (female and male).
- ²¹ UNFPA estimates the human resource costs for family planning at \$0.8 billion per year, but this figure refers to all developing countries and includes human resource costs for abortion services. See: Guttmacher Institute and UNFPA (2009): Adding It Up: The Costs and Benefits of Investing in Family Planning and Maternal and Newborn Health. <http://www.guttmacher.org/pubs/AddingItUp2009.pdf>

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- ²³ Screening for pre-eclampsia halves the risk of maternal death due to hypertensive disorders, which account for 12% of maternal deaths.
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- ²⁷ The impact estimates do not take into account synergistic effects of treatment (e.g., antibiotics for one condition can help in treating a different condition).
- ²⁸ Training skilled birth attendants would require a major, long-term investment (one year for an assistant midwife/nurse, 3 years for a professional midwife).
- ²⁹ The *Lancet* Maternal Survival Series authors (reference 5) concluded that the intra-partum period should be prioritized to bring down maternal mortality (42% of maternal deaths are related to the intra-partum period). The Global Strategy estimates that the risk of postpartum hemorrhage, which accounts for a third of maternal deaths, could be reduced by 67% through interventions included in the childbirth package (reference 9).
- ³⁰ Lawn JE et al. Reducing intrapartum-related deaths and disability: can the health system deliver? *Int J Gynaecol Obstet.* 2009 Oct;107 Suppl 1:S123–40, S140–2.
- ³¹ This includes antenatal steroids, oxytocin, misoprostol, magnesium sulphate, anti-hypertensive agents, and basic equipment.
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- ³⁶ The Global Fund to Fight AIDS, Tuberculosis and Malaria: Investments in the Health of Women and Children. Global Fund Support of Millennium Development Goals 4 and 5, March 2010, Geneva. See also reference 13.
- ³⁷ The Lives Saved Tool (LiST) is a computer-based tool that “allows users to set up and run multiple scenarios to look at the estimated impact of different intervention packages and coverage levels for their countries, states or districts” (<http://www.jhsph.edu/dept/ih/IIP/list/index.html>). For example, Ingrid Friberg and colleagues used LiST to conduct a detailed analysis of the impact of scaling up MNCH interventions in nine countries in sub-Saharan Africa: Friberg IK et al. Sub-Saharan Africa's mothers, newborns, and children: how many lives could be saved with targeted health interventions? *PLoS Med* 2010; 7(6): e1000295.