# Supporting implementation research partnerships for health systems strengthening: one foundation's approach in sub-Saharan Africa

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Overburdened by poor health, sub-Saharan Africa accounts for more than 50% of the world's under-five mortality but has just 15% of the world's under-five population. Similarly, approximately 920 women per 100 000 die from pregnancy-related causes each year in sub-Saharan Africa. In developed countries, the figure is just eight[1]. Most other health indicators tell a similar story. The region's health systems, which have been weakened by decades of under-investment, are struggling to deliver simple interventions such as insecticide-treated bed nets, rehydration therapy to treat diarrhoea and de-worming medications. It has been estimated that "full access to and utilization of proven, effective interventions would avert two thirds of child deaths and three quarters of maternal deaths"[2]. But this is unlikely to occur unless the severe shortages in health workers, the inadequate health infrastructure and inefficient procurement delivery, and information systems in sub-Saharan Africa are addressed.

## Shifting the focus back to primary health care and systems improvements

Much of the unprecedented investment in global health occurring in the last two decades has been directed towards single-disease or intervention programmes, which are sometimes referred to as vertical programmes. Investments in these vertical programmes have resulted in significant progress, but they also have negative effects in severely resource-constrained areas because they compete with each other for scarce health workers and other limited resources[3]. Achieving the health-related Millennium Development Goals (MDGs) by 2015 will require a renewed focus on strengthening health systems so that they can provide integrated primary health care thereby reducing maternal and child mortality[4]. A particularly notable effort in this regard has been the International Health Partnership Plus, which consists of nine international organizations and ten donors who came together in 2007 to focus on health outcomes related to the health MDGs[5]. Some of these funders are redirecting a portion of their resources to help bolster the capacity of regional health systems[6].

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## The implementation knowledge gap

Whether the focus is on care for individual diseases or the provision of integrated primary health care, the gap between existing therapies and prevention of human diseases and the translation of that knowledge into measurable improvements in population health in low-resource regions is often daunting. Strong evidence about what works most effectively in different settings where there are multiple disease burdens and limited resources is often lacking[7]. Moreover, even if there is evidence about effectiveness on a small scale, large-scale delivery can present additional challenges[8]. As noted in a recent commentary in *Science*, there is a critical need to support implementation science which "creates generalizable knowledge than can be applied across settings and contexts to answer central questions"[9]. Filling the knowledge implementation gap requires a strong foundation of metrics and evaluation[10]. It also will require interdisciplinary teams that include experts in health services delivery, economics and management sciences, among other areas. Unfortunately, when compared to the infusion of funds for health services, little has been invested in health systems research[11].

As demonstrated by the Mexican health insurance reform known as Segura Popular, which rigorously documented systems changes that increased uptake of existing health services by the previously uninsured, high quality measurements of a health system's performance not only

enable local policy-makers to make informed decisions, but it can empower them to overcome political obstacles[12]. While similar large-scale projects aimed at improving health systems in measureable ways have yet to be conducted in sub-Saharan Africa, smaller projects in the region have reported significant health outcomes attributable to systems improvements. For example, the Community Health and Family Planning Project in Ghana found that posting nurses who worked with volunteer community health workers to rural communities reduced child mortality by half in three years[13]. Similarly, various health systems strengthening efforts between 2000 and 2004 were associated with a 24% decrease in under-five child mortality in Tanzania[14]. In order to both maximize the current investments in global health and to encourage additional investments, more attention needs to be paid to filling the knowledge implementation gap so that policy-makers have the tools available to make evidence-based decisions.

## DDCF's initiative: population health implementation and training partnerships

With these needs in mind and after consultations with many experts[15], DDCF has committed up to US$ 100 million to help catalyze a shift from a focus on single-disease programmes to an emphasis on strengthening health systems to effectively deliver integrated primary health care to underserved populations in sub-Saharan Africa. Announced in September 2007, the initiative is part of DDCF's commitment to support clinical research that advances the translation of biomedical discoveries into improved human health. The initiative aims to (1) provide integrated primary health care and achieve significant, measurable health improvements in up to six communities/districts in sub-Saharan Africa; (2) strengthen health systems in the selected communities/districts so local and national governments can sustain these improvements beyond the grant period; and (3) increase the knowledge available for evidence-based health systems planning by supporting implementation research.

The initiative will centre on funding a small portfolio of large-scale projects referred to as Population Health and Implementation Training (PHIT) Partnerships for five to seven years. Each PHIT partnership is expected to provide integrated health services delivery to a population of at least 250 000 and to link these activities to rigorous implementation research. Implementation research is defined broadly to include all aspects of monitoring and evaluation as well as operations research that enhances the knowledge base about the efficient delivery of health care to resource-constrained populations. PHIT partnerships are not expected to create stand alone health service delivery projects. Rather, whenever possible, they are expected to build upon already funded programmes, coordinate with national health plans and strengthen existing databases and processes. PHIT partnerships are also expected to harmonize with and link to other programmes using common indicators and measurement tools, as well as to build local capacity to carry out rigorous implementation research. Meeting these expectations is likely to require that PHIT partnership teams employ a variety of innovative approaches.

PHIT partnership grants will be awarded through a multi-stage competitive peer-reviewed process, which will result in a maximum of six successful teams each receiving support ranging from US$ 8 million to US$ 15 million for a period of five to seven years. Figure 1 outlines the three-stage selection process that began with a solicitation for letters of interest from potential partnership teams working in one of nine sub-Saharan African countries[16]. Applicants were requested to identify health systems bottlenecks, weaknesses and funding gaps that limit the provision of large-scale primary health care in a specific region and work with African institutions, regional governments and other sectors to develop a health service delivery plan that builds on existing health programmes and coordinates with national health plans.

A total of 137 letters of interest were received with multiple teams applying from all of the nine targeted countries. The initiative's Advisory Council and other experts recommended that 29 teams be invited to submit proposals to receive six-month planning grants. The 29 PHIT planning grant applications proposed many different approaches to address health systems bottlenecks and deficiencies including workforce task shifting, building on school-based programmes, developing youth-centred training projects, and creating quality assurance teams. Criteria for awarding planning grants included: (1) the local experience and quality of the team; (2) the potential for impact in the region; (3) the implementation research plan; and (4) alignment with local and national health plans. It is expected that at least nine teams will receive six-month grants in early autumn 2008 to support their efforts in developing comprehensive milestone-driven five- to seven-year work plans. It is anticipated that the last stage of the selection process will be completed in June 2009 when the comprehensive work plans developed during the planning phase are reviewed, and up to six teams selected to receive PHIT partnership awards.

The Institute of Health Metrics and Evaluation has created a PHIT Partnership Implementation Research Framework[17] to define the terminology used by applicants, review study design issues, and provide a list of the health systems indicators commonly used in implementation research on

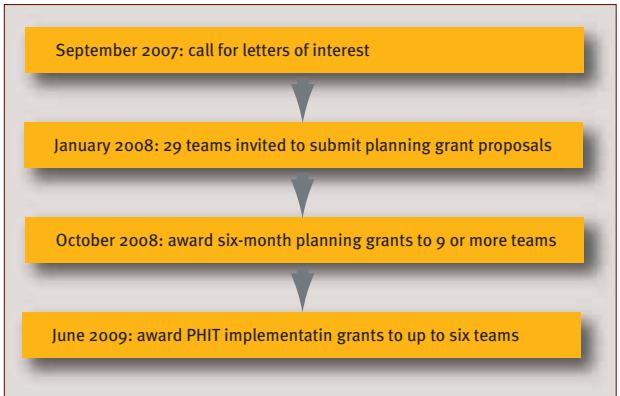


Figure 1: PHIT partnership selection process

health service delivery. While it is anticipated that the partnerships will employ different approaches in designing their research, it is expected that there will be a set of core data collected by all partnerships. PHIT partnership teams will also participate in a grantee network, contribute a shared database, and attend annual meetings.

In conclusion, implementation research is needed to increase the knowledge base on how to strengthen health systems and efficiently provide integrated primary health care in severely resource constrained regions of sub-Saharan Africa. While there are no easy or quick solutions, the Doris Duke Charitable Foundation's African Health Initiative provides one approach to addressing this issue. By funding a few large-scale projects that build on existing programmes in specific regions, rigorously monitor and test different approaches, and share data, it is hoped that health will be improved, health systems will be strengthened and new knowledge will be gained. ❑

***Elaine K Gallin*** *is Program Director for Medical Research at the Doris Duke Charitable Foundation (DDCF) and helped design and manage a grant portfolio which aims to support and strengthen clinical research. While the focus of those programmes had been in the United States, they have also included operations research in Africa, as well as the new African Health Initiative described in this paper. Before joining DDCF, Dr Gallin spent 20 years working for the US government as a researcher, congressional science fellow and lastly as Deputy Director of the Office of International Health Programs in the US Department of Energy.*

**Key messages**

- Strengthening health systems to efficiently provide integrated primary health services in sub-Saharan Africa requires not only more resources but implementation research to determine what works and how to efficiently and rapidly scale up those interventions that do work.
- The Doris Duke Charitable Foundation (DDCF) has launched a new initiative, described here, to increase the knowledge available for evidence-based health systems planning and stimulate innovations in scaling-up health services delivery.
- The initiative will support a portfolio of large-scale health service delivery projects – referred to as Population Health Implementation and Training Partnerships – that provide integrated primary health care linked to rigorous implementation research.

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15. The DDCF African Health Initiative Advisory Council includes the following members: Marian Jacobs, Roger Glass, Demisse Habte, Barry Bloom, Francis Omaswa, Adetokunbo Lucas and Miriam Were. However many other experts have reviewed proposals and contributed to this initiative. More information on the initiative can be found at ddcf.org/mrp-ahi.
16. The nine focus countries are: Ghana, Lesotho, Kenya, Madagascar, Malawi, Mozambique, Rwanda, Tanzania and Zambia.
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