H N P D I S C U S S I O N P A P E R

GAVI, THE GLOBAL FUND AND WORLD BANK SUPPORT FOR HUMAN RESOURCES FOR HEALTH IN DEVELOPING COUNTRIES

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Health, Nutrition and Population (HNP) Discussion Paper

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GAVI, the Global Fund and the World Bank Support for Human Resources for Health in Developing Countries

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Abstract: Shortages, geographic imbalances, and poor performance of health workers pose major challenges for improving health service delivery in developing countries. In response, development agencies have increasingly recognized the need to invest in human resources for health (HRH) to assist countries in achieving their health system goals. In this paper we analyze the HRH-related activities of three multilateral agencies—the Global Alliance for Vaccines and Immunisation (GAVI); the Global Fund for AIDS, Tuberculosis, and Malaria (the Global Fund); and the World Bank. First, we reviewed the type of HRH-related activities that are eligible for financing within each agency. Second, we reviewed the HRH-related activities that each agency is actually financing. Third, we reviewed the literature to understand the impact that GAVI, the Global Fund, and the World Bank investments in HRH have had on HRH in developing countries. Our analysis found that by far the most common activity supported across all agencies is short-term, in-service training. There is relatively little investment in expanding pre-service training capacity, despite large health worker shortages in developing countries. We also found that the majority of GAVI and the Global Fund grants finance health worker remuneration, largely through supplemental allowances, with little information available on how payment rates are determined, how the potential negative consequences are mitigated, and how payments are to be sustained at the end of the grant period. Based on the analysis we argue that there is an opportunity for improved coordination between the three agencies at the country level in supporting HRH-related activities. Existing initiatives, such as the International Health Partnership and the Health Systems Funding Platform, may present viable and timely vehicles for the three agencies to implement this improved coordination.

Keywords: health workforce policy, donor assistance for health, aid harmonization.

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I. INTRODUCTION

Shortages, geographic imbalances, and poor performance of health workers pose major challenges for improving service delivery in developing countries. The World Health Organization (WHO) estimates that there is a global shortage of 2.4 million doctors, nurses, and midwives based on minimum staffing levels required to provide essential health services (WHO 2006). Beyond shortages, there are often major inequities in the geographic distribution of health workers (WHO 2010). Staff productivity and quality of care provided are also major problems (Vujicic et al. 2009). These health workforce challenges are a major bottleneck to improved health systems and health service delivery in developing countries (WHO 2006; TIIFHS undated a).

In response, development agencies have increasingly recognized the need to invest in human resources for health (HRH). The Global Fund for AIDS, Tuberculosis, and Malaria (the Global Fund), since its inception in 2002, has recognized the need to invest in HRH and has encouraged countries to use its grants for this purpose through all funding rounds. Through its health systems strengthening funding stream, the Global Alliance for Vaccines and Immunisation (GAVI) has also encouraged countries to include HRH-related activities in proposals (GAVI 2007, 2009a). One of the goals of the United States President's Emergency Plan for AIDS Relief (PEPFAR) is to train and retain 140,000 additional health workers in PEPFAR focus countries by 2014. In the United Kingdom, the Department for International Development was one of the first bilateral development agencies to invest in HRH, working with the government of Malawi to provide training and salary support for the country's medical staff beginning in 2006 (DFID 2010). Multilateral institutions such as WHO, the World Bank, and the International Labour Organization have also supported countries in improving their HRH policies through both lending and technical assistance (WHO 2006; IEG 2009; World Bank 2007).

Despite increased attention and investment, a systematic comparative analysis of HRH-related activities funded across development agencies and financing institutions has not been carried out to date. As a result, a detailed classification of the type of HRH-related activities supported by key development and financing agencies and the extent to which these activities are addressing the problems is lacking. At the country level, there are no analyses showing the coordination level of HRH activities funded by development and financing agencies, how these investments create synergies, and where areas of duplication exist. Such an analysis is important at this time to ensure scarce resources are used most effectively to address HRH issues.

There is a clear commitment among development and financing agencies operating in the health sector to better coordinate activities and align support behind national health strategies, as is evident in initiatives such as the International Health Partnership and the Health Systems Funding Platform. These initiatives aim to better harmonize donor funding commitments, enhance alignment with country systems and improve the way in which international agencies, donors, and developing countries work together to develop

and implement national health plans, support country progress toward national health goals, and accelerate progress toward the Millennium Development Goals.[1]

This paper provides a first step in a detailed comparative analysis of key development and financing agency work in the area of HRH. Specifically, we examine the HRH-related activities of three agencies—GAVI, the Global Fund, and the World Bank. We focus on these agencies for three reasons. First, these are three major agencies that substantially invest in the health sector in low- and middle-income countries. In 2010, the three agencies combined accounted for 20 percent of the total global development assistance for health and for 53 percent of all multilateral development assistance for health (IHME 2010). Second, these three agencies, together with WHO, are collaborating to harmonize health system strengthening actions, including HRH, through the Health Systems Funding Platform (TIIFHS undated b). The analysis sheds lights on areas where closer agency coordination and alignment is needed. Third, these agencies publicly make available data which allows detailed comparative analysis of country-level investments in health systems strengthening activities, including for HRH.

II. METHODS

We primarily drew on three sources of information. First, we reviewed GAVI and the Global Fund grant proposal guidelines and evaluation criteria as well as the World Bank lending operations policies. This information provides a picture of the type of HRH-related activities that are eligible for financing within each agency.

Second, we reviewed the HRH-related activities that each agency is actually financing. We did this through a detailed review of GAVI and the Global Fund approved grants and the World Bank approved projects between 2005 and 2009. Specifically, we reviewed all GAVI Health System Strengthening approved proposals (n=45); all the Global Fund Round 8 approved proposals (n=90); and project appraisal documents for all World Bank Health, Nutrition, and Population projects with a health systems performance focus approved in this time period (n=72). We focused on this time period to allow for a comparison of concurrent activities funded by each agency. Further, we focused on approved proposals, rather than a retrospective review of activities, because proposals provide the most comprehensive information available for all three agencies. One drawback of this approach is that what is approved in a proposal can be revised during implementation, although in practice the revisions are typically not substantial.

Third, we leveraged the published peer-reviewed literature and select GAVI, the Global Fund, and the World Bank reports, to understand the overall impact that agency investments in HRH have had on the health workforce in low- and middle-income countries.

[1] For the International Health Partnership, see http://www.internationalhealthpartnership.net. For the Health Systems Funding Platform, see http://go.worldbank.org/0D4C6GPQU0.

III. FINDINGS

ACTIVITIES ELIGIBLE FOR FUNDING

For all three agencies, a wide range of expenditure items are eligible for funding. Since 2005, the activities that GAVI is willing to fund have remained the same. Countries can request funding for activities related to health workforce mobilization, distribution, and motivation including training, allowances, and capacity building. The Global Fund, since its inception in 2002, has been financing a wide variety of items related to HRH including training, recruitment, deployment, salaries, and productivity incentives of health workers. Over the ten funding rounds, there have been no major changes to the expense categories allowed. The World Bank provides financing to countries in the form of grants and loans. In general, the World Bank has a high degree of flexibility in terms of eligible expenditure items the borrower (that is, the government) can finance through grant or loan. Salaries of government employees (including, if applicable, health workers) are generally an eligible expenditure.

However, the proposal evaluation criteria within GAVI and the Global Fund may limit some of the HRH-related activities that can be financed. For example, activities within GAVI proposals must be, among other things, country-driven, additional to current funding levels, catalytic, innovative, and results-oriented. HRH-related activities must also clearly be targeted at health workers who are engaged in immunization and other mother and child health services at lower levels of service delivery – the district level and below (GAVI 2007, 2009a). Similarly, the Global Fund proposal evaluation criteria, used by its Technical Review Panel when assessing technical robustness and feasibility of proposals submitted by countries, stipulate that requested funds must be complementary and additional—that is, they must not replace existing funding, duplicate funding for activities, nor allow diversion of government funding to other areas. The funds must target one or more of the three diseases, link to sector strategic plans, support national plans and strategies, be evidence-based, and be consistent with international best practice. Proposed activities ought to be grounded in a situation analysis and must be ready to implement (The Global Fund Proposal Guidelines Round 2-9).

Another key criterion heavily emphasized by both GAVI and the Global Fund is financial sustainability. A proposal must demonstrate that funded activities are sustainable once the grant expires, particularly when salaries are financed.

ACTIVITIES ACTUALLY FUNDED

We developed a new classification of HRH-related activities for this analysis (Table 1). We classified activities into five major categories, each with three subcategories based on a review of existing HRH frameworks (Shakarishvili et al. 2010; Bossert et al. 2007; WHO 2006; Vujicic and Zurn 2006). The aim was to capture important differences in both subject area (such as training or pay policies) and the nature of support (such as providing technical assistance or financing recurrent expenditures).

Table 1. Classification of HRH-related activities used in review

Major classification	Specific activity
Training health workers	Technical assistance on training policies
	Financing pre-service training costs, including tuition, room, and board
	Financing in-service or post–basic training costs, including per diem
Investing in education and other HRH-related infrastructure	Financing to build/refurbish training facilities for pre-service training
	Financing to expand the number of tutors, including overseas training/exchange programs
	Financing to build or refurbish housing provided to health workers
Providing technical assistance to ministry of health (MOH) HRH units	Establish HRH unit in MOH or train staff to improve HRH management
	Decentralize authority on HRH management decisions
	Design HRH information systems
Providing technical assistance on HRH pay reform	Design, implement, or reform performance-based pay
	Design, implement, or reform rural area retention schemes
	Design, implement, or reform the sanctioning and promotion system for health workers
Direct and Indirect financing of salaries or allowances of health workers	Direct financing of health worker salaries
	Direct financing of health worker allowances
	Indirect financing of health worker salaries or allowances

HRH-related activities are very prominent in all three agencies' activities. All the Global Fund and GAVI grants and just under half of the World Bank projects that focus on health systems strengthening financed at least some HRH-related activities. The share of grant or project expenditures devoted to HRH-related activities varies from an average of 18 percent in the World Bank projects to 32 percent for GAVI grants (Table 2). The maximum devoted to HRH-related activities in any single grant or project varies from 37 percent in the World Bank projects to 100 percent in GAVI grants. But it is important to note that the share of funds allocated to HRH-related activities is not directly comparable across the three agencies. For example, within the Global Fund grants, salaries of project management staff are included in salaries and allowances paid to health workers. Within the World Bank projects it is possible to exclude all project management staff salaries, which we have done in our analysis. GAVI grants do not have separate project management units and would not typically include salaries for project management staff.

The average annual amount spent on HRH-related activities also varies considerably. The average World Bank project devotes $1.5 million per year to HRH-related activities compared to $1 million for GAVI and $3.7 million for the Global Fund. Even taking into account that these data are not directly comparable, they do suggest that the level of financial resources for HRH-related activities is highest for the Global Fund.

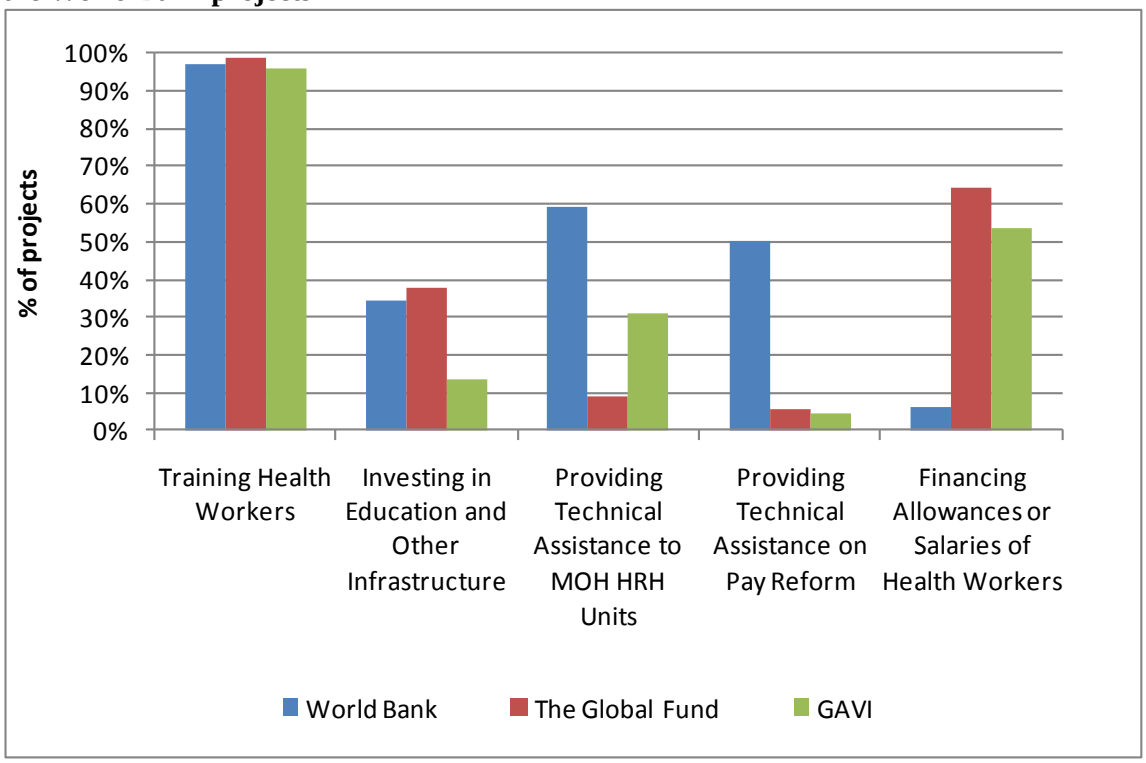
Table 2. Descriptive statistics for GAVI and the Global Fund grants and the World Bank projects analyzed

Description	GAVI	The Global Fund	The World Bank
Number of grants or projects analyzed	45	90	32
Average length of grant or project (years)	3.7	5.0	2.6
Average amount of grant or project ($ million)	12.0	77.3	22.6
Average % of grant or project devoted to HRH-related activities	32	24	18
Average annual amount for HRH-related activities for grant or project ($ million)	1.0	3.7	1.5
Max. % of grant or project devoted to HRH-related activities	100	72	37
Total value of grants or projects analyzed ($ million)	540	6,957	723

For all three agencies, training is by far the most common activity (Figure 1). Nearly all grants and projects finance some form of training of health workers.[2] This is most commonly in-service training rather than pre-service training. For example, 99 percent of GAVI grants, 91 percent of the Global Fund grants, and 84 percent of the World Bank projects finance in-service training compared to 29 percent, 12 percent, and 41 percent respectively, that finance pre-service training. Moreover, there is much less focus within grants and proposals on investing in education infrastructure or other infrastructure (such as refurbishing clinics or building housing for health workers). Only one third of the Global Fund grants and the World Bank projects and 13 percent of GAVI grants invest in training infrastructure. These results suggest a heavy focus on short-term, in-service training of existing health workers, rather than investments to expand training capacity to increase the number of graduates entering the labor market.

2 In general, proposals do not contain the sufficient detail of budget information required to determine the full breakdown of funding across the five different categories of HRH-related activities.

Figure 1. Summary of HRH-related activities within GAVI and the Global Fund grants and the World Bank projects



Fewer than 5 percent of the Global Fund grants finance technical assistance to improve the incentive structure, and fewer than 10 percent of its grants finance technical assistance to HRH units within the MOH. Among GAVI grants, technical assistance to improve the incentive structure is rarely financed, but about one third of grants finance technical assistance to MOH HRH units. Of the World Bank projects analyzed, 50 percent finance technical assistance to improve the incentive structure, and 60 percent finance technical assistance to MOH HRH units. The World Bank is also much more likely to finance technical assistance on training policies: 88 percent of the World Bank projects analyzed provide such assistance compared to 8 percent of the Global Fund and 20 percent of GAVI grants.

Training activities target a very broad range of cadres, from highly skilled medical staff to community health workers, focusing predominantly on the public sector. Funding proposals do not always include sufficient information on the types of health workers to be trained. It is, however, very likely that the focus of training activities is decided in the context of the type of health system strengthening activity that the agency is funding. Where information was available in the proposals, our analysis shows that the World Bank tends to fund training of the higher-skilled cadres of health workers, while the Global Fund finances a higher proportion of community health worker training. Furthermore, the Global Fund and GAVI are more likely to fund manager training than the World Bank. In terms of the content of training, the World Bank and GAVI tend to fund a variety of training including primary care, and maternal and child health services, while the Global Fund tends to focus much more on disease-specific training (Table 3).

Financing health worker remuneration is a major activity common to the GAVI and the Global Fund grants analyzed. Fifty-three percent of GAVI and 64 percent of the Global Fund grants finance some form of remuneration for health workers. Within the World Bank projects analyzed, the figure is much lower, at only 6 percent. The type of remuneration payments also vary by agency. GAVI and the Global Fund finance both full salaries of health workers as well as allowances that supplement base salaries. In fact, over half of the Global Fund and 16 percent of GAVI grants financed full salary payments for staff (mostly community health workers). Two World Bank projects indirectly financed health worker allowances through a performance-based sub-national block grants scheme (China) and by contributing to a performance-based incentive scheme for managers (Cambodia). These results suggest that GAVI and the Global Fund resources are also being used to expand the health workforce (mainly among lower-level cadres) by financing newly created salaried positions in addition to increasing income levels of existing health workers through allowances.

Table 3. Summary of training activities for GAVI and the Global Fund grants and the World Bank projects (%)

Where training activities are financed…		GAVI	The Global Fund	The World Bank
Which cadres receive training?	Medical	24	83	85
	Nursing	43	83	85
	CHW/Outreach	57	83	40
	Managers	69	72	50
	Other	19	93	30
Which sectors do they work in?	Public sector	79	99	88
	Private sector (incl. NGOs)	9	64	19
What is the focus of the training?	Disease-specific only	10	97	0
	General only	65	1	70
	Mixed	25	1	30
	Number of grants or projects analyzed	43	89	31

Note: Rows do not always add to 100% as some grants and projects have multiple entries.

Looking more in depth at those grants or projects that finance remuneration activities, the types of cadres that receive remuneration payments differ by agency. Within GAVI grants there is much more focus on financing remuneration payments for lower-level, community health worker-type cadres (Table 4). Within the Global Fund grants, there is a much more even balance between cadres. The Global Fund grants are also more likely to finance remuneration of managers[3] (for example, hospital or district manager) than

[3] This refers to managers of health services in the country, not managers or other administrative staff within the country-coordinating mechanism.

GAVI. Only one of the two relevant World Bank project had information on which cadres receive allowances, and the allowances in this case were provided for managerial staff working in the MOH.

Health workers in the public sector are more likely to receive financing for remuneration than those in the private sector (Table 4). But the Global Fund is much more likely than the other two agencies to finance allowances or salaries of health workers in the private sector. Where remuneration is financed, it is to health workers in the private sector four out of ten times in the Global Fund grants compared to less than one out of ten times in GAVI grants.

Table 4. Summary of remuneration activities for GAVI and the Global Fund grants and the World Bank projects analyzed (%)

Where salaries or allowances are financed…		**GAVI**	**The Global Fund**	**The World Bank**
Which cadres receive payments?	Medical	30	49	0
	Nursing	43	49	0
	CHW/Outreach	78	43	0
	Managers	9	68	100
	Other	9	62	0
Which sectors do they work in?	Public sector	91	89	100
	Private sector (incl. NGOs)	9	40	0
	Total number of grants or projects where remuneration activities are financed	24	58	2

Note: Rows do not always add to 100% as some grants and projects have multiple entries.

The Global Fund and GAVI proposals have very limited information about how remuneration payments will be sustained. Where remuneration is financed, in 81 percent of the Global Fund proposals and in 46 percent of GAVI proposals that were reviewed there is no information provided on how these payments will be sustained beyond the grant life (Table 5). Where information is provided, by far the most frequent response is that the government will assume the additional costs. Within the World Bank projects where allowances are financed, this was done through a formal government financing program. Thus, despite a strong emphasis on sustainability within GAVI and the Global Fund guidelines, the issue does not seem to be dealt with adequately at the proposal stage. In the Global Fund Round 10 guidelines, in fact, sustainability was not included as one of the evaluation criteria. This fact is likely a reflection of the challenge of developing a sustainability strategy at the proposal stage under significant uncertainty about both the impact of remuneration payments (that is, should they be continued?) and future financial resources available (that is, what will the government budget be?).

Proposals also lack information on how health worker remuneration levels have been determined. This is an extremely important issue and is discussed further in the next section. The available evidence suggests strongly that donor-funded programs have the potential to pay health workers different wages than non-donor-funded programs, resulting in unanticipated movements of health workers between the public and private sector and between general primary or secondary care to disease-specific programs. Our review found that the vast majority of the Global Fund and GAVI proposals do not provide any information on how allowances and salary levels have been determined (Table 5). Where information is available, there is no clear pattern—allowances and salary levels are based on a mix of government guidelines, analysis of market wages, or other methods. In comparison, both of the World Bank projects that financed health worker remuneration did so through an ongoing government program.

Table 5. Summary of remuneration payment sustainability strategy for GAVI and the Global Fund grants and the World Bank projects analyzed (%)

Where salaries or allowances are financed…		**GAVI**	**The Global Fund**	**The World Bank**
What is the sustainability strategy?	Government to assume cost	69	91	100
	Other agency to assume cost	0	9	0
	Costs will not continue	0	18	0
	Other	31	0	0
How have payment levels been determined?	Government guidelines	20	62	100
	Analysis of market rates	0	23	0
	Other	80	23	0
	Total number of grants or projects where remuneration activities are financed	24	58	2

Note: Rows do not always add to 100% as some grants and projects have multiple entries.

To ascertain how these aggregate findings play out in a particular country, we identified 10 countries where all three agencies were financing HRH-related activities over a common time period. The findings from these 10 countries in Table 6 seem to support the findings from the aggregate analysis. All three agencies are heavily involved in financing training activities. The World Bank is focused more on financing technical assistance, and GAVI and the Global Fund are often both financing remuneration of health workers in the same country.

Table 6. Overview of GAVI, the Global Fund and the World Bank HRH-related activities in 10 countries

Category	Agency	Armenia	Bolivia	Burkina Faso	Congo, Dem. Rep. of	Ethiopia	Kyrgyz Republic	Liberia	Madaga-scar	Vietnam	Zambia
Training health workers	GAVI	■	■	■	■	■	■	■	■	■	■
	GFATM	■	■	■	■	■	■	■	■	■	■
	World Bank	■	■	■	■	■	■	■	■	■	■
Investing in education and other infrastructure	GAVI										
	GFATM	■			■	■	■		■		■
	World Bank	■						■		■	
Providing technical assistance to MOH HRH units	GAVI				■						
	GFATM	■						■			
	World Bank	■			■		■			■	
Providing technical assistance on pay reform	GAVI	■						■			
	GFATM			■							
	World Bank			■	■		■		■	■	■
Financing allowances or salaries of health workers	GAVI	■			■		■	■	■	■	■
	GFATM		■	■				■	■	■	■
	World Bank										

While further analysis is needed, findings from these 10 countries suggest that there a risk of duplication or unharnessed synergies exists. All three agencies are financing training activities in all countries. There is far less emphasis on supporting policy reform or expanding training capacity. Existing efforts, such as the International Health Partnership and the Health Systems Funding Platform, present viable and timely mechanisms for the agencies to pursue greater coordination in planning, funding, and implementing HRH-related activities in national health systems.

REVIEWING THE EVIDENCE ON THE IMPACT OF HRH-RELATED ACTIVITIES

We reviewed the available literature on the impact of HRH-related activities financed by GAVI, the Global Fund, and the World Bank. We analyzed the independent five-year evaluation of the Global Fund (TERG 2009) and the supporting background documents (Macro International Inc. 2009a, b, and c). We also reviewed independent evaluations of GAVI and the World Bank (GAVI 2009b; IEG 2009). In addition, we conducted a literature survey on related topics with particular focus on the three agencies, including a review of 25 reports and articles published since 2005 that analyze the impact of donor support targeted at human resources for health. In this section, we focus on the evidence related to training and remuneration activities, as these were the most commonly funded

activities by the three agencies. While we focus on the three agencies, we also highlight interesting findings for other agencies as well, most notably the PEPFAR.

Our review suggests that the impact of large investments in short-term, in-service training is unclear. As noted, all three agencies have a heavy emphasis on in-service training. In line with its mandate, the Global Fund often has a more narrow, disease-specific focus. The independent five-year evaluation of the Global Fund reported "ministries of health value disease-specific, facility-based training" (TERG 2009). However, the impact on quality of care, health worker knowledge, retention, and related issues has not been evaluated as data on tracking progress on HRH outcomes are "limited and of poor quality" (Macro International Inc. 2009c). Moreover, a large share of the Global Fund programs that focus on short-term, in-service training does not have a clear link to any coordinated national training plan (TERG 2009).

Reviews of GAVI suggest that the impact of training activities on the health workforce cannot be fully tracked because information that would allow proper tracking of changes in behavior and quality of care is not systematically collected (GAVI 2009b). Rather, the performance indicators for measuring the impact of training usually focus simply on the number of health workers trained rather than quality of training or behavior change of health workers.

There has been no comprehensive review of the impact of training activities funded through the World Bank projects.

Our analysis suggests that a more thorough and outcome-based evaluation of training activities supported by the three agencies is needed. In addition, and perhaps more urgently, the level of coordination of training activities supported by the three agencies also needs to be closely examined. A coordinated approach might entail each agency and other development partners financing one or more component of a comprehensive training program for health workers. This could be facilitated, for example, through a coordinated proposal-evaluation process. The alternative is one in which training activities are planned and financed separately by each agency, are specific to the particular objectives of that grant or project, with little evaluation or follow up on the greater system-wide impact. Under a less coordinated approach the same health worker might, for example, receive short-term training multiple times per year but not as part of an overarching long-term training strategy.

Financing salaries and incentives of health workers has, in some cases, made an important contribution to country efforts to increase staffing and improve retention. Support for salaries and incentives within the Global Fund-financed programs has in some cases allowed expansion of hiring and improved health worker retention, especially in rural areas (Macro International Inc. 2009b; MPSCG 2009; PHR 2010; Oelrichs in process). In Kenya, for example, the Global Fund support, along with support from PEPFAR and the Clinton Foundation, enabled a major increase in the strategic recruitment and retention of public sector health workers to specific geographic areas (Oelrichs in process; Marsden and Chirchir 2008). Some of the key success factors of the Kenya program included an agreement between the government of Kenya and

development partners that staff would be absorbed into the government payroll at the end of the program, with necessary resources reflected in the government's medium-term budget framework. The selection and appointment process was also generally transparent and open, and close monitoring and supervision policies were put in place to ensure salary payments were tied to attendance. The program also specifically had checks to ensure that staff was not recruited from certain other provider organizations. The fact that there was significant unemployment among health workers at the time was also a key enabling condition (Vujicic et al. 2009). In Malawi and Zambia, a similar donor-supported program enabled retention and strategic placement of health workers (MPSCG 2009).

However, there are also considerable risks that need to be managed when using external resources to finance health worker remuneration. While the evidence base is limited, the available research and expert opinion suggest that significant unintended labor market distortions often arise from this type of financing. For example, targeting remuneration payments at health workers who focus on priority disease interventions could significantly alter relative pay in the health sector. In turn, this might lead to significant movement of health workers out of certain areas of care that might receive less support from development agencies (general primary care, for instance) toward those that do (such as tuberculosis clinics or specialized laboratories). Similarly, when agency support is primarily to either the public or private sector, a similar effect may occur, leading to health worker movements between the public and private sector. If resources are targeted to only some geographic areas, this may attract health workers to those areas.

The following quotes illustrate the potential unintended outcomes within country health systems when donor funding is used to finance health worker remuneration:

> *There is much more money for HIV [through the Global Fund in Cambodia], therefore senior staff would leave maternal and child health and go to work on HIV* (Macro International Inc. 2009b).

> *The Global Fund funds [in Kyrgyzstan] strengthened the HIV, TB, and malaria side of the health sector and weakened others by diversion of medical staff to NGOs with higher salaries offered via the Global Fund* (Macro International Inc. 2009b).

Similar disincentives can be created between public and private sectors. As Oomman et al. (2007) note, in Uganda, PEPFAR hiring policies have been criticized by the government for negatively affecting the public health system. According to key informants in their study, PEPFAR recipient organizations have attracted the best health workers from the government systems, especially doctors and higher-skilled nurses, due to higher salary scales. Other countries' experience suggests that where development partners have financed incentive schemes to motivate the health workforce, common unintended consequences include service fragmentation, divided loyalty among health workers, and inflated payment rates through competition among partners for staff (WHO 2010; Wilkinson 2005).

There is, therefore, still a clear need for more systematic evaluation of past experiences in using donor funds to finance health worker remuneration. The available evidence suggests that there are success stories as well as examples of significant unintended consequences. There is also a need to identify good practices and the enabling conditions that will minimize the significant risks associated with this policy. Nevertheless, in our opinion, the three agencies we analyzed would be well served by adopting a more coordinated approach to develop the necessary measures to assess, anticipate, and prevent the unintended consequences associated with financing health worker remuneration.

IV. DISCUSSION

HRH issues are an important focus area of health systems strengthening activities supported by GAVI, the Global Fund, and the World Bank. Our analysis shows that the three agencies recognize the need for significant investments in HRH. On average, in the subset of grants analyzed, between one-fifth and one-third of their grants and projects in this area are devoted to HRH-related activities. Moreover, based on their funding guidelines, the agencies are flexible when it comes to the type of HRH-related activities that are eligible for financing.

As part of our analysis, we developed a useful classification of HRH-related activities that allowed us to map out the focus of each agency's activities. Our analysis found that by far the most common activity supported across all agencies is training. Almost all grants and projects have a health worker training component, in large part focused on short-term, in-service training. There is limited investment in expanding pre-service training capacity, despite significant health worker shortages in developing countries (TIIFHS undated b; Frenk et al, 2010). Such investments would allow training capacity, and the number of trainees, to expand. A wide range of health workers are benefiting from training activities, including diverse sets of cadres in both the public and private sector.

In terms of training content, the Global Fund grants tend to focus on training that is specific to the three priority diseases, while training activities financed by GAVI and the World Bank tend to be more general, focusing on, for example, primary care or maternal and child health. One likely reason behind the heavy emphasis on in-service training—particularly for the Global Fund and GAVI grants—is the nature of proposal evaluation criteria. The emphasis is on showing results within the time frame of the grant and on sustainability of funded activities, potentially creating a bias toward short-term, non-recurrent expenditure items that focus only on short-term results and do not create contingent liabilities for the government. Based on our findings, we believe that there is considerable scope to improve the level of coordination of training activities supported by the three agencies.

In this analysis, a majority of both GAVI and the Global Fund grants appear to finance health worker remuneration, largely through paying allowances that supplement health worker salaries, while the World Bank projects appear less likely to do so. Remuneration payments often are targeted to a wide range of cadres, in both the public and private

sector. At the grant proposal stage, however, there is often little information available on how payment rates are determined, how the potential negative consequences are to be mitigated, and how payments are to be sustained at the end of the grant period. Financial incentives are potentially a powerful tool in addressing HRH issues. But, as our analysis has shown, there are also several risks involved in financing health worker remuneration. Therefore, we believe all three agencies should consider a more comprehensive and coordinated approach to mitigating these risks. For example, a clear sustainability strategy could be developed with the government and agreed to within a medium-term budget framework. The three agencies could also ensure that remuneration rates are consistent and do not result in large wage distortions, which often promote unintended labor movements within the health system.

Over half of World Bank projects analyzed finance some form of technical assistance compared to less than one third of GAVI grants and less than 10 percent of the Global Fund grants. These technical assistance areas include redesigning pay policies, developing evidence-based national HRH strategies, improving information systems for monitoring the health workforce, and capacity-building activities to strengthen HRH units within the MOH. Developing countries with critical health worker shortages tend to lack the technical capacity to identify and assess crucial issues and to formulate evidence-based policy responses (WHO 2009; Vujicic et al. 2009). This finding suggests that the balance between technical assistance and funding of in-service training and health worker remuneration may need to be reexamined in future rounds of support.

The emerging picture from our review of GAVI, the Global Fund, and the World Bank support for HRH-related activities at the country level suggests an opportunity for greater alignment, coordination, and complementarily among the three agencies. Currently, some activities such as training are heavily supported by all three agencies while other important areas receive much less attention. A more coordinated strategy would, in our opinion, improve the overall impact of financing on the health workforce. To this end, some of the existing initiatives, such as the International Health Partnership and the Health Systems Funding Platform, may present viable and timely approaches for the three agencies to pursue more effective HRH-related financing efforts in low and middle-income countries.

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