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Critical interactions between Global Fund-supported programmes and health systems: a case study in Lao People's Democratic Republic

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In Lao PDR, investment by the Global Fund to Fight AIDS, Tuberculosis and Malaria has played an important role in scaling up the response to HIV and tuberculosis (TB). As part of a series of case studies on how Global Fund-supported programmes interact with national health systems, we assessed the nature and extent of integration of the Global Fund portfolios within the national HIV and TB programmes, the integration of the HIV and TB programmes within the general health system, and system-wide effects of Global Fund support in Lao PDR. The study relied on a literature review and 35 interviews with key stakeholders using the Systemic Rapid Assessment Toolkit and thematic analysis.

In Lao PDR, the HIV and TB programmes remain vertical and mostly weakly integrated with the general health system. However, Global Fund investments have extended the network of facilities delivering care at local level, resulting in greater integration with primary care and improved access for patients, particularly for TB. For HIV, as the prevalence remains low, services primarily target high-risk groups in urban areas. Less integrated functions include procurement and drug supply, and monitoring and evaluation. HIV and TB programmes are only starting to coordinate with each other. Global Fund-supported activities are generally integrated within the national disease programmes, except for monitoring and evaluation.

Synergies of Global Fund support with the health system include improved access to services, institutional strengthening and capacity building, improved family planning (with wider condom distribution through HIV/AIDS social marketing programmes), and the delivery of add-on interventions, such as vaccinations and health education, alongside Global Fund-supported interventions at community level.

Unintended consequences concern the lack of alignment between national stated priorities (maternal and child health) and the strong focus of external partners, such as the Global Fund, on financing communicable disease programmes.

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Keywords Integration, Global Fund, health system strengthening, tuberculosis, HIV, Lao PDR

KEY MESSAGES

- In Lao PDR the tuberculosis programme has gradually become more integrated with the primary care system at delivery point (notably thanks to Global Fund investment) while the HIV/AIDS programme remains primarily vertically delivered through targeted interventions at high risk groups in urban areas.
- Positive effects of the Global Fund are found in capacity building, institutional strengthening and synergy with other programmes such as family planning.
- There are issues around sustainability, notably of the TB programme, which is 100% funded by the Global Fund, and concerns about resources allocation imbalance towards disease control programmes.

Background

Lao People's Democratic Republic (Lao PDR) is situated in South East Asia and has a population of 5.9 million. The country has a low population density and is mostly rural. It is ethnically diverse with ethnic minorities living in the highlands where health services are sparse and challenging to access (National Statistics Centre 2005; WHO 2009a). Lao PDR is one of the poorest countries in the region, although economic growth has been significant in recent years (Perks *et al*. 2006; UNDP 2008). The health system is dominated by the public health system, and has four administrative strata: central, provincial, district and health centre levels.

The health profile of Lao PDR is characterized by high but improving maternal and child mortality (70/100 000 and 405/100 000, respectively) and a persisting burden in infectious diseases (WHO 2009a). Tuberculosis (TB) prevalence was 289/100 000 in 2007 while case detection and treatment completion rates have been gradually improving to 78% and 88%, respectively. Lao PDR remains a low prevalence country for HIV/AIDS (0.2% of 15–49 year olds) which is driven by populations with high-risk behaviours such as sex workers and men who have sex with men (MSM) (Lao PDR 2008; UNAIDS 2008; WHO 2009b).

Lao PDR is facing many challenges in common with other low-income countries including lack of human resources, inequitable geographical spread of health care workers, insufficient salaries, weak clinical skills and low productivity. The national health care system is underfunded and a large part of health expenditure (55%) comes from households, while external donors finance 30% of the health budget (WHO 2009a).

The country has successfully secured financial support from the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) for all three disease programmes under numerous rounds, totalling an approved maximum amount of US$76 million (Table 1). It has received the most funds for malaria (US$37 million), followed by HIV/AIDS (US$27 million) and TB (US$11 million). In addition, as part of Global Fund Round 8, Lao PDR has become one of the first countries to be awarded an HIV grant that also includes a major component that supports health systems strengthening (HSS) (GFATM 2009).

This article reports on the main findings from a case study in Lao PDR, conducted as part of a series of country case studies to assess the extent of integration of HIV and TB programmes with the general health system, the level of integration of the Global Fund portfolio within the disease programmes, and system-wide effects (synergies and unintended consequences) on the health care system.

Methods

The study design was based on that described for a Vietnam case study in Conseil *et al*. (2010), with the analytical framework and toolkit extended to assess not only the integration of the national HIV and TB programmes with the general health system, but also the integration of Global Fund HIV and TB portfolios within their respective disease programmes, and any system-wide effects of Global Fund support. As in Conseil *et al*. (2010), data were collected through a literature review and the use of a Systemic Rapid Assessment Toolkit (SYSRA) for gathering information about structures and modes of operation of complex health systems (Atun *et al*. 2004; Atun *et al*. 2010). The literature review included policy documents, implementation reports and peer-reviewed articles that were published in the English language during the past 10 years, and identified using medical databases, search engines, websites of key national and international organisations, and key informants. Primary data were collected through qualitative interviews using a semi-structured interview topic guide designed as part of the SYSRA, conducted between July and September 2009. Overall, 35 interviews were conducted with key stakeholders including government health officials, partners and civil society actors at national, provincial and district levels, both within the disease programmes and in the general health care system. National level interviews were conducted in Vientiane, and sub-national level interviews were conducted in the Luang Prabang and Vientiane regions.

Full details of data analysis can be found in Conseil *et al*. (2010). Briefly, the six health system functions proposed by the SYSRA framework (stewardship and governance, financing, planning, service delivery, monitoring and evaluation, and

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Table 1 Summary of approved Global Fund proposals in US$, Lao PDR

Intervention	Global Fund Round and time period	Funding requested	Total approved funding	Amount disbursed till Nov 2009
HIV/AIDS	Rd 1: 1 May 03 to 31 May 08	3 407 664	3 407 664	3 375 607
	Rd 4: 1 Jul 05 to 30 Jun 10	7 747 873	7 747 873	6 662 910
	Rd 6: 1 Nov 07 to 31 Oct 09	7 927 179	7 927 179	3 243 046
	Rd 8: 2009 to 2014	23 487 409	8 207 778	4 558 861
	Total	**42 570 125**	**27 290 494**	**17 840 424**
Malaria	Rd 1: 1 May 03 to 31 May 08	12 709 087	12 709 087	12 709 087
	Rd 4: 1 Jul 05 to 30 Jun 10	14 502 222	14 502 222	9 766 025
	Rd 6: 1 Sep 07 to 30 Nov 09	3 668 239	3 668 239	1 698 533
	Rd 7: 2008 to 2013	24 628 024	6 740 783	3 801 109
	Total	**55 507 572**	**37 620 331**	**27 974 754**
Tuberculosis	Rd 2: 1 Oct 03 to 30 Sep 08	3 530 391	3 530 391	3 439 395
	Rd 4: 1 Sep 05 to 31 Aug 10	3 617 781	3 617 781	3 285 244
	Rd 7: 1 Oct 08 to 30 Sep 10	10 905 922	4 368 246	2 771 516
	Total	**18 054 094**	**11 516 418**	**9 496 155**
Grand total		**116 131 791**	**76 427 243**	**60 127 449**

demand generation) were subdivided into 25 elements (as defined in Table 2), for which we classified the level of integration as 'not integrated', 'partly integrated' or 'fully integrated', through iterative analysis and triangulation of the collected data. Classification of the level of integration was agreed upon by two staff of the London School of Hygiene & Tropical Medicine, one of whom was also an assessor across three other case studies presented in this supplement, to ensure consistency.

Results and discussion

Integration

This case study found that, while the Global Fund HIV and TB portfolios are largely integrated into the national HIV and TB programmes, the latter remain vertical and mostly weakly integrated with respect to the general health system in Lao PDR (Table 2). There are separate financing, governance and planning functions for HIV/AIDS and TB programmes, distinct from those of the general health system. Procurement, supply-chain management and monitoring and evaluation (M&E) systems operate separately from the general health care system. At senior levels, staff and infrastructure are dedicated to each programme, although there is greater integration at lower levels of care. Demand generation for both diseases differs from the general health system, with free access to medicines, payment of incentives to patients and distribution of information, education and communication (IEC) through dedicated channels.

Overall TB (and malaria) is more integrated with primary care than HIV/AIDS, notably because of the different epidemiological characteristics of the diseases. Lao PDR remains a low prevalence country (<0.2%) for HIV and strategic interventions primarily target high-risk groups situated in urban areas through specialized health care services rather than the general population. HIV and TB are only starting to coordinate care for co-infected patients, and a new policy now recommends provider-initiated counselling and testing to improve diagnostic rates.

However, recent investments, and notably those funded by the Global Fund, have permitted an extension of the network of facilities delivering services at local level, resulting in greater integration with primary care and improved access for patients. This includes TB case-detection at village level and the provision of directly observed treatment, short-course (DOTS) at health centre level by general health care staff, as well as improved access to voluntary counselling and testing (VCT) at district levels and better access to antiretroviral treatment (ART) in a higher number of provinces. In addition, new initiatives have been devised to ensure better coordination and collaboration between disease programmes functions and general health system operation. The HSS components of the Global Fund Round 8 HIV Proposal will set up common infrastructure and procedures for a drug delivery mechanism, while a new M&E strategy will aim for greater consistency in data collection and reporting.

The level of integration of the Global Fund with national disease programmes is high (with the exception of M&E) (Table 2), but paradoxically this is partly because the Global Fund has become the main funder of these programmes. The Global Fund is a major player in Lao PDR, financing 100% of its TB programme (2008) and a large and increasing share of the HIV/AIDS programme (60% in 2008), raising important sustainability concerns. Staff salary and infrastructures are financed by the Lao PDR government, with the exception of limited incentives for a few staff at national level and the provision of new equipment.

System-wide effects

Overall, the wider benefits identified of Global Fund support are seen in terms of progress in health outcomes. Interviewees stated that the Global Fund contributed in the decrease

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Table 2 Extent of integration of Global Fund portfolios for HIV and TB into the disease programmes, and the disease programmes into the general health system, for each health system element and function in Lao PDR

Health system functions	Elements of integration	Global Fund portfolio into the disease programme		Disease programme into the health system	
		HIV	TB	HIV	TB
Stewardship and governance	**Overall extent of integration**				
	1: Regulatory mechanisms				
	2: Accountability framework				
Service delivery	**Overall extent of integration**				
	3: Human resources for counselling and testing				
	4: Human resources for laboratory testing				
	5: Human resources for care and treatment				
	6: Human resources for delivery of HIV-positive mothers		n.a.		n.a.
	7: Physical infrastructure for counselling and testing				
	8: Physical infrastructure for laboratory testing				
	9: Physical infrastructure for care and treatment				
	10: Physical infrastructure for pregnant HIV-positive females		n.a.		n.a.
	11: Procurement and supply of laboratory equipment				
	12: Procurement and supply of medicines				
	13: Care pathways for opportunistic infections		n.a.		n.a.
	14: Care pathways for preventing mother-to-child transmission (PMTCT)		n.a.		n.a.
Demand generation	**Overall extent of integration**				
	15: Financial incentives				
	16: Information, education and communication				
Monitoring and evaluation	**Overall extent of integration**				
	17: Data collection and recording				
	18: Data analysis				
	19: Reporting systems				
	20: Performance management system				
Planning	**Overall extent of integration**				
	21: Planning				
Financing	**Overall extent of integration**				
	22: Fund pooling				
	23: Provider payment methods				
	24: Funding source	n.a.	n.a.		
	25: Cross-programme use of funds				

Key:

This element is **fully or predominantly** integrated into the general health system, i.e. this element is (quasi) exclusively under the management and control of the general health care system.

This element is **partially** integrated into the health system or; this element is integrated in some but not all cases, i.e. this element is managed and controlled both by the general health care system and a specific programme-related structure.

This element is **not**, or only to a very limited extent, integrated into the health system as a whole, i.e. this element is (quasi) exclusively under the management and control of a specific programme-related structure which is distinct from the general healthcare system.

n.a. Does not apply.

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in malaria prevalence in recent years, disappearing from the top 10 disease burdens in Lao PDR, while TB detection and treatment rates consistently improved in past years. HIV prevalence remains low but causation is difficult to prove. Behaviour changes and reduced stigma are viewed as a sustainable outcome of the disease programmes that benefit patients and the wider health sector.

Wider effects of the Global Fund on the health system are primarily visible in terms of improved access to services at lower levels of care and because of better equity and affordability. TB and HIV services are free of charge and patients receive specific payment to cover food and transport costs. One knock-on effect has been the establishment of a conditional cash transfer programme developed by the World Bank based on the Global Fund model. The devolution of care for TB and malaria to lower levels has also strengthened community involvement in the prevention and control of these diseases, with health volunteers working in close collaboration with health centres in health promotion activities, diagnosis awareness, distribution of insecticide-treated bednets and patient monitoring.

There are institutional benefits of the Global Fund for the wider health sector, which include capacity-building for staff, institutional strengthening and contribution to the management of other infectious diseases. For instance, training funded by the Global Fund has enhanced generic staff management capacity. Another positive outcome has been how the multi-sectoral governance structure for the Global Fund programmes (Country Coordinating Mechanism) has positively influenced the health agenda policy, with for instance MSM becoming more visible. Multi-stakeholder representation has reportedly influenced other governance models in the health sector.

Wider effects observed also include benefits for family planning such as wider condom distribution and social marketing through the HIV/AIDS programme, and the delivery of add-on services at community level with the support of Global Fund programme staff and equipment. These include vaccinations, insecticide-treated bednet distribution and IEC interventions that are delivered alongside Global Fund-supported interventions.

Negative effects primarily concern weaker areas of the health system, where the Global Fund has tended to set up parallel and often costly management systems such as procurement and drug supply and M&E systems. Large and potentially duplicative resources are devoted to the reporting of the three diseases, with limited investment towards strengthening the overall system, although greater focus on the latter is anticipated in the future.

Policy implications for the Global Fund

Our analysis has shown that there are some wider benefits from Global Fund-supported programmes, notably in improving availability and access to TB and HIV (and malaria) services and in creating some degree of cross-subsidization of add-on interventions at lower levels of care. Health outcomes have improved for the three diseases with the scale up in services, which in theory could free up resources at national and local levels to address other priorities, although this has not been measured.

Policy implications for the Global Fund arise from the critical role that the agency plays in Lao PDR, because of its significant, if not dominant funding role in the three disease programmes. There are issues of sustainability of support, mechanisms of support (which stakeholders suggest should be structural rather than proposal led) and issues of operational management.

Lao PDR, being a low-income country, remains dependent on external funding to finance a large part of its health-related activities. Because many global health initiatives such as the Global Fund support a vertical disease control approach, the overall share of the funding allocated to individual disease programmes has been increasing over the years, leading to imbalances. Stakeholders at national level have suggested that external funders re-balance support to other important needs such as maternal and child health (MCH). They note that the Global Fund in its current operating mode promotes strict earmarking and lacks the capacity to re-allocate funds to address needs in a flexible manner: ''*The Global Fund should consider support to the health care system as a comprehensive package especially on MCH rather than selective diseases*'' (Ministry of Health official). This view corroborates on-going global discussions to support the establishment of a Global Fund for Health (Cometto *et al*. 2009; England 2009).

In terms of operational management, the Global Fund should focus on capitalizing on existing synergies, particularly at lower levels of care, and aim at further enhancing alignment between its delivery and the national systems. It should continue investing in the strengthening of selected health system functions such as procurement and supply chain systems and M&E. Finally, the Global Fund should aim at better measuring accessibility of care, equity and quality outputs and outcomes both within its programmes and across the health sector.

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Conflict of interest

The methods used to conduct this study were developed in consultation with Professor Rifat Atun, Dr Jeffrey Lazarus and Dr Sai Pothapregada of the Global Fund. They played no part in the conduct of the research nor in drafting the manuscript. Dr Rattanaxay Phetsouvanh and Dr Chansouk Chanthapadith are employed by the Ministry of Health of Lao PDR and involved in overseeing and supervising Global Fund grants. They were involved in facilitating interviews and interpreting findings in Lao PDR.

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