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Malawi: Global Health Initiatives and Delivery of Health Care: the case of the Global Fund to Fight AIDS, TB and Malaria

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Abstract

This study was aimed at assessing the impact of Global Fund-supported activities on the delivery of non-HIV services; health worker availability, workload, incentives and motivation; and drug management. Two rounds of data collection took place - in December 2006/January 2007 and June/July 2008 - at 52 randomly sampled health facilities in nine districts, interviewing 524 respondents, including health service managers and service providers. Records of clients accessing the services were also collected for the period spanning the last quarter of 2005 to the first quarter of 2008.

Findings from the study showed a 10% increase in clinical staff in urban and district level hospitals and a three- to six-fold increase in the numbers of health surveillance assistants in the district and sub-district facilities. Workload had risen three to five times, resulting in most staff (68%) working beyond normal hours and facilities resorting to task shifting. No tangible incentives were identified that could be associated with Global Fund-supported activities. Drug management and processes of requisition and replenishment had improved, resulting in a reduction of drug stock-outs by 35-60% between 2006 and 2008. Client volumes for antiretroviral therapy (ART), HIV testing and counselling (HTC) and prevention of mother-to-child transmission (PMTCT) services rose three to seven times in the period, but there were no concomitant declines that could be attributed to Global Fund in client numbers for the non-HIV services.

Background

Malawi is a small landlocked country in Southeast Africa, bordered by Zambia, the United Republic of Tanzania, and Mozambique. In 2008, Malawi was home to 13.1 million people, with an estimated 2.8% annual population growth rate [1]. In 2006, Malawi ranked 162nd out of 179 countries on the UN Human Development Index [2]. Official Development Assistance (ODA) to Malawi in 2006 was US$ 501 million, while

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the country's external debt was US$ 3.4 billion or 26.9% of gross domestic product (GDP) [3, 4].

The first case of AIDS in Malawi was diagnosed in 1985 [5]. Since then, it has become the leading cause of death for the country's most productive age group (15-49 year-olds). In 2007, 930 000 people in Malawi were living with HIV/AIDS [6]. HIV prevalence is estimated at 12%, with higher prevalence in urban areas (17%) compared to rural areas (11%). The national response to AIDS dates back to the second half of the 1980s, culminating in the establishment of the National AIDS Commission (NAC) in 2001 as a multi-sector coordinator of the response. The NAC is responsible for mobilizing resources, both locally and externally, as well as providing overall coordination and leadership on behalf of the government and partners.

Table 1 Basic Socioeconomic, Demographic, and Health Indicators*

*Full data sources for all indicators are provided in Annex 1

Indicator	Value	Year	Source
Population (thousands)	13,920	2007	World Bank
Geographic Size (sq. km)	94,080	2007	World Bank
GDP per capita, PPP (constant 2005 international $)	719	2007	World Bank
Gini index	39	2004	World Bank
Government expenditure on health (% of general government expenditure)	12.1	2007	WHO NHA
Per capita government expenditure on health (current US$)	10	2007	WHO NHA
Physician density (per 10,000)	<1	2004	WHO SIS
Nursing and midwifery density (per 10,000)	6	2004	WHO SIS
Maternal mortality ratio (per 100,000 live births)	1,100	2005	WHO SIS
DTP3 coverage (%)	87	2007	WHO SIS
Estimated adult HIV (15-49) prevalence (%)	11.9 (11.0-12.9)	2007	UNAIDS
Estimated antiretroviral therapy coverage (%)	35 (29-42)	2007	WHO/UNAIDS/UNICEF
Tuberculosis prevalence (per 100,000)	305	2007	WHO GTD
Estimated malaria deaths	12,950	2006	WHO WMR

In recent years, Malawi's National AIDS Programme has been largely externally funded. Some funding agencies provide earmarked support for specific HIV and AIDS activities. Donors in this category include the Global Fund, UNDP, USAID, the U.S. Centers for Disease Control and Prevention (CDC) and the African Development Bank. Other

donors allow pooling of their funds to support priority HIV/AIDS activities defined by the Government of Malawi. These include: the World Bank, the U.K. Department for International Development (DFID), the Norwegian Agency for Development Cooperation (NORAD) and the Canadian International Development Agency (CIDA). The Global Fund is the largest funding agency for the HIV and AIDS programme in Malawi, contributing 77.2% of the programme's total budget in 2006/07.

Table 2 Global Health Initiative Investments*

Global Fund

Round & Disease Priority	Approved (in US$)	Disbursed (in US$)
Round 1, HIV/AIDS	342,557,595	193,794,673
Round 2, Malaria	36,773,714	17,957,714
Round 5, HIV/AIDS	17,920,636	7,708,331
Round 5, HSS	22,643,238	17,207,360
Round 7, HIV/AIDS	15,078,417	5,076,095
Round 7, Malaria	36,545,312	14,961,664
Round 7, TB	7,802,037	2,825,106
TOTAL:	479,320,948	259,530,943

PEPFAR§

Year	Amount Disbursed (in US$)
2004	14,540,168
2005	15,155,307
2006	16,369,500
2007	18,887,000
2008	23,862,300
TOTAL:	88,814,275

§ Not a PEPFAR focus country; above sums represent total allocations to PEPFAR country programmes from bilateral U.S. sources including USAID, Department of Health and Human Services, Department of Labor, and Department of Defense.

GAVI (in US$)

Disease Priority	Amount Approved (in US$)
Pentavalent vaccine	100,808,000
Vaccine introduction grant	100,000
Injection Safety	792,175
Immunization services support	3,588,500
Health system strengthening	11,343,000
TOTAL:	116,631,272

World Bank MAP

Project Title	FY Approved/Closing Date	Commitment (in US$)
Multisectoral AIDS Project	2004/2009	35,000,000

Malawi epitomizes the problem of “brain drain” among health professionals that has affected many African health care systems. About half of the 248 medical doctors working in Malawi in 2007 were in central hospitals and training/research institutions in urban areas, leaving severe shortages in rural areas [7]. The government launched a six-year Emergency Human Resources Plan (EHRP) in 2004 to address its health professional “brain drain” and has used US$ 17.2 million from the Global Fund for this national effort.

Objectives and methodology

The main aim of this study was to assess the impact of Global Fund -supported activities on the delivery of general health care in Malawi. Specifically, the study sought to correlate trends in the scale-up of ART, PMTCT and HTC services with trends in other areas of health systems performance, including: coverage levels of non-HIV programmes (such as antenatal care, immunization, malaria, TB and family planning); availability of various cadres of health workers; workload changes; staff incentives and motivation; service integration; and the management of drugs and medical supplies in health facilities. The results presented below are preliminary and cover a selected initial subset of these topics.

Two rounds of data collection took place in December 2006/January 2007 and June/July 2008 at 52 health facilities in nine districts. Three of the 52 facilities were central hospitals (one from each of the three administrative regions of the country), seven were district hospitals and the rest (n=42) were sub-district facilities from urban and rural areas. Districts, and the sub-district facilities within them, were sampled at random.

Data collection involved interviews with 524 respondents: nine district managers; 12 nurses in charge of district hospitals and health centres; 50 coordinators of ART, PMTCT and HTC services; 130 staff working in human resource departments, laboratories and pharmacies managers; and 332 staff delivering the HTC, ART and PMTCT services. Interview data were captured using semi-structured questionnaires, which allowed for both pre-coded responses as well as verbatim documentation of open-ended responses. Two Research Assistants conducted each interview and recorded the responses. Records of clients that accessed the services at these facilities between the last quarter of 2005 and the first quarter of 2008 were also collected.

The Malawi study was conducted jointly by the College of Medicine and the Centre for Social Research, both of the University of Malawi. Ethical approval was sought from the College of Medicine’s Research and Ethics Committee and the office of the University Coordinator at the University Offices, while a formal approval to collect data from the health facilities was provided by the MOH. All approvals were granted prior to commencement of data collection.

Results

Health Workforce

The study showed modest increases in numbers of clinical staff. An increase in nurses was found mainly in urban areas and at district hospitals, where a 10% increase was observed. A three- to six-fold increase in the numbers of health surveillance assistants (HSAs) was observed, mainly in the district and sub-district facilities. Workload (determined by client volumes per health worker) had risen three to five times in the period under observation, mainly due to HIV-related services. On average, nurses in sub-district facilities were each attending 80 patients in the general outpatient clinic (range 12 to 162), 87 patients in the under-five clinic (range 49 to 268) and six new antenatal mothers (range 2 to 23).

Qualitative data from interviews with the service managers and providers also showed a general feeling that workload was very high, resulting in most staff (68%) working beyond normal hours, especially in rural areas and during the rainy season. Task shifting (across staff cadres and days of the week) was the most common strategy that was being used to address high workload in the sampled facilities. The study found that HSAs and dedicated counsellors constituted 79% of all HTC service providers in the sampled facilities, 11% of ART and 13% of PMTCT providers, which was a shift from the situation observed in 2006 (21% for HTC, <2% for ART and PMTCT services).

The study was unable to identify tangible incentives that could be associated with Global Fund -supported activities, though some staff mentioned attending trainings and receiving training allowances. Attending and receiving allowances for training workshops were seen as less reliable and predictable incentives compared to institutionalized incentive payments.

Medical Products, Vaccines and Technologies

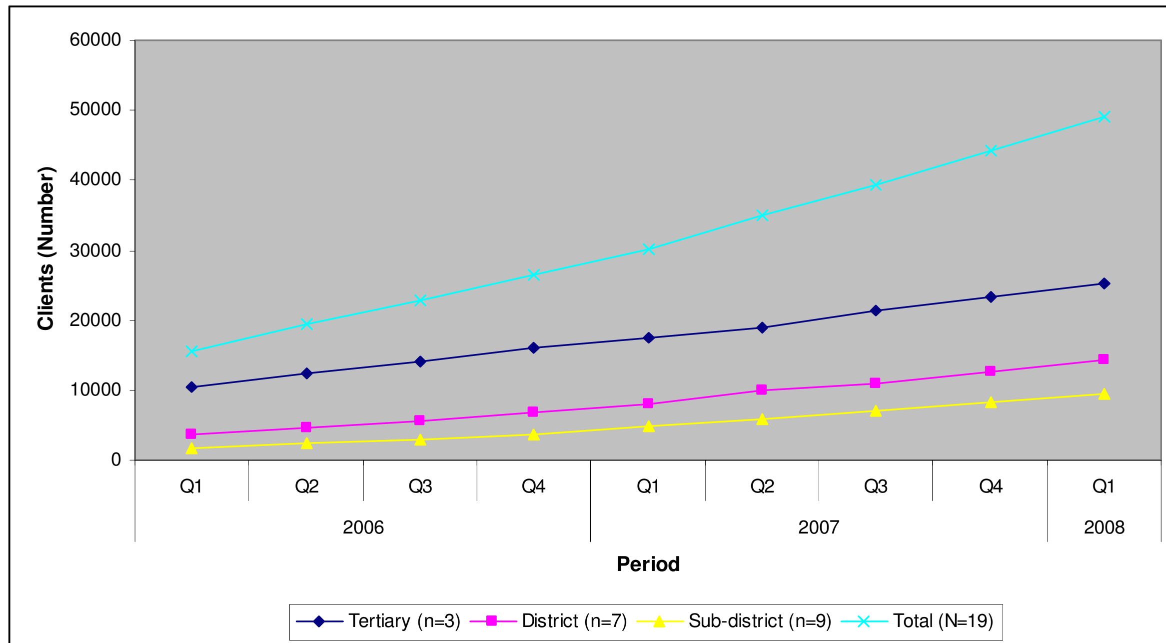
Remarkable improvement was observed during the study period in the management of drugs, as well as processes of requisition and drug replenishment involving the Central Medical Stores, the Resource Management System and other stakeholders. Drug stock-outs were reduced by 35-60% between 2006 and 2008, and recording of the stocks had been harmonized with that of ART and of HIV test kits. This was not the case in the baseline survey, when staff in the pharmacies complained of precarious drug stock recording systems and long delays in replenishment.

Health Service Utilization

Client volumes for ART, HTC and PMTCT services rose three to seven times between the end of 2005 and the beginning of 2008, while there were no concomitant declines in clients for ante-natal care (ANC), immunization services and outpatient department

(OPD) attendance that could be attributed to increases in HIV-related services. The rate of additional clients for ART, HTC and PMTCT was significantly higher ($p<0.05$) among sub-district facilities (health centres) compared to the district and central hospitals (Figure 1). However, on aggregate, disparities in service utilization were apparent between rural and urban areas and between males and females, with rural areas and males (generally) still lagging behind.

Figure 1: Trends in new ART clients between Q4 2005 and Q1 2008 disaggregated by level of facility



Discussion

The findings of the Malawi study show that increased funding for HIV has been associated with a mix of both positive and negative effects on the wider health system. Overall, GHIs (mainly the Global Fund in Malawi) are seen as having had a positive effect on health systems in the country. Key targeted services, especially ART, are being delivered at three to seven times the coverage levels observed in the baseline survey in 2006/07. An important early observation is a marginally greater increase in clients attending sub-district facilities, relative to district and central hospitals. This is expected to reduce the congestion in the district and central hospitals in the long run, thereby freeing these facilities to concentrate on the provision of secondary and tertiary care. Considering that the Global Fund provides more than 70% of the funds for the national response to HIV and AIDS, the scale-up being observed in the sampled facilities (and at national level) can be substantially attributed to the Global Fund.

With the support of the Global Fund, DFID and other donors, Malawi is implementing an emergency human resource programme, which supports capacity building of training institutions to produce more workers. Training of clinicians and nurses takes time (three

to six years, depending on the cadres). Therefore, the effects of such an investment have not yet been seen. This may partly explain why the Malawi study did not find significant increases in the numbers of clinicians and nurses in the study period. The three- to six-fold increases in the numbers of HSAs observed in the period is likely to have resulted from the recruitment exercise that took place in 2007 with the support of the Global Fund, as one way to close the gap in human resources required for service scale-up.

Despite shifting tasks from clinicians/nurses to HSAs/counsellors in the facilities surveyed, workload is still considered high. Although not entirely attributable to HIV-related services, scale-up of the services has not been properly matched with staffing additions. As a result, the process is contributing to further overstretching of the existing staff. This appears to be happening in the absence of incentives that could be associated with Global Fund -supported activities.

Recommendations for maximizing GHI-health systems synergies in Malawi include: (1) continue to increase and strengthen the HTC, ART and PMTCT sites that are opening up in rural and urban areas so that they absorb the majority of the clients. This would reduce client volumes in district and central hospitals, enabling them to concentrate on secondary and tertiary care; (2) monitor the task-shifting processes that are taking place in order to ensure quality of care for HIV services and to observe trends in primary health care services for which HSAs are primarily responsible; (3) develop mechanisms to remunerate staff partaking in task-shifting and to ensure that both newly trained and veteran clinical staff are sufficiently motivated and are fairly distributed amongst rural and urban areas.

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