MALAWI: DISTRICT HEALTH SYSTEM STRENGTHENING AND QUALITY IMPROVEMENT FOR SERVICE DELIVERY

TECHNICAL BRIEF
JANUARY 2018

IMPROVED INFRASTRUCTURE LEADS TO BETTER QUALITY AND AVAILABILITY OF HEALTH SERVICES

Photo by Henry Nyaka

Background

Malawi is among the countries hardest hit by the HIV pandemic. Malawi has a national HIV prevalence rate of 10.6% of the adult population aged 15–64 years (12.8% women vs 8.2% in men).[1] With 85% of Malawians living in rural areas, access to health services is difficult because of long distances, poverty, and other social factors.[1] Furthermore, most health facilities lack proper infrastructure, adequate space, medical equipment, and other materials to deliver quality services.[2]

These elements are essential for ensuring improved uptake of HIV-related health services. A health facility's physical surroundings contribute to the comfort of patients seeking HIV testing, treatment, and care, and protect confidentiality. This helps ensure not only that patients receive the services they deserve but do so in an environment that inspires confidence and is conducive to a follow-up visit.

Health facility improvements were an important contribution of the District Health System Strengthening and Quality Improvement for Service Delivery in Malawi (DHSS) Project. This technical brief highlights these contributions.

Interventions

DHSS used a variety of methods to identify infrastructure and other needs at targeted facilities. Assessments were made during biweekly routine clinical mentorship and supervision visits. During the quarterly site improvement monitoring system visits by the US Centers for Disease Control and Prevention (CDC), facilities were also assessed for challenges affecting site performance.

The assessments covered infrastructure challenges, furniture and medical equipment needs, and human resource gaps. The clinical mentors discussed the challenges with facility staff to come up with solutions, and further discussions were held with the district health officers (DHOs) who visited the facility with the district health management teams.

THE DISTRICT HEALTH SYSTEM STRENGTHENING AND QUALITY IMPROVEMENT FOR SERVICE DELIVERY (DHSS) PROJECT (2012-2018) supported the Government of Malawi in implementing the National Strategic Plan for HIV and AIDS in line with the Country Operational Plan and supported implementation of the Health Sector Strategic Plan through the project's work in seven districts of Malawi: Nkhata Bay, Likoma, Blantyre, Chiradzulu, Thyolo, Mwanza, and Neno.

Funded by the President's Emergency Plan for AIDS Relief (PEPFAR) through the US Centers for Disease Control and Prevention (CDC) and implemented by Management Sciences for Health (MSH), DHSS contributed to Malawi's goal to become a healthy and prosperous nation free from HIV and AIDS. The project focused on district strengthening and key populations, using targeted evaluation, and providing technical support to the Ministry of Health. The main objective of DHSS was to improve quality, access, and coverage of priority HIV-related health services at priority sites in the seven districts by: identifying 90% of people living with HIV (PLHIV); initiating and retaining on antiretroviral therapy (ART) 90% of PLHIV identified; and achieving 90% viral suppression for ART patients.

Following the assessments, high-burden urban facilities with critical space challenges were prioritized. These facilities have a greater number of patients and contribute more toward achieving district targets. Similarly, the DHOs in the seven districts supported by DHSS asked project staff to prioritize long-standing problems, such as dilapidated incinerators for waste disposal.

Results

The facility assessments revealed gaps identified through routine mentorship and supervision, such as inadequate space for testing and providing antiretroviral therapy (ART) counseling, and lack of essential furniture and medical equipment. A rational improvement plan followed, based on need. It prioritized major and minor renovations of 53 health facilities in Mwanza, Thyolo, Chiradzulu, Nkhata Bay, and Blantyre districts, which led to the purchase of new furniture, medical and communications equipment, and motorcycles (Blantyre and Thyolo).

Major Renovations

Major renovations included:

- **Upgrading unfinished structures to enable clinics to function, and renovating previously unused spaces or waiting areas to serve as ART and HIV testing services (HTS) rooms.** Seven sites benefited from these renovations: Queen Elizabeth Central Hospital, Mwanza District Hospital, and Chirimba, Ndirande, Zingwangwa, Chilomoni, and Bangwe health centers.

Figures 1 and 2: Ndirande Clinic in Blantyre District lacked adequate space for clients (above). Clients would often avoid waiting at the clinic as it lacked shelter from rain and sun. An improved waiting area has led to an increase in clients (below). Renovations have also improved privacy. (Photos by Henry Nyaka)

- **Increasing space for HTS by customizing shipping containers.** The project installed containers at six health facilities: Limbe, South Lunzu, Makhetha, and Chikowa health facilities in Blantyre City District, and Chimvu and Bvumbwe health centers in Thyolo District. These additional rooms helped reduce congestion and increase client intake by about 10-20 people per day. For example, Makhetha clinic ART attendance rose from 662 clients before the installation of the container to 922 after it was installed. Addition of the containers also reduced waiting time for clients because more of them could be served at the same time.
- **Installing incinerators for waste management and infection prevention.** This was completed at 13 facilities in Mwanza, Thyolo, Chiradzulu, Neno, Nkhata Bay, and Blantyre districts.

Minor Renovations

Minor renovations to health facilities included the following upgrades and repairs:

- Painting walls, fixing broken doors and windows, creating room partitions, and furnishing waiting areas. In total, 41 facilities in Blantyre, Chiradzulu, Thyolo, Nkhata Bay, and Mwanza districts were renovated.

Figures 3 and 4: Nkalo Health Facility in Chiradzulu District was in poor condition (left). It had shabby walls, falling ceiling boards, malfunctioning doors, and broken windows. Renovations fixed these problems. (Photos by Henry Nyaka)

Communications and Transportation

Lack of or unreliable Internet services, as well as a shortage of computers and other equipment, compromised the ability of district health offices to put data into the District Health Information System 2 (DHIS2). In order to facilitate improved communications at the district and national levels, the project procured and distributed two computers, one printer, and Internet bundles for each of the seven project-supported district health offices. Prior to the distribution of these materials, only 60% of reports were entered on time into DHIS2. Afterwards, the percentage rose to 95%.

DHSS also provided 92 mobile phones to the districts to assist with defaulter tracing—when patients on ART miss an appointment or medication pick-up—and enable for more efficient communications about stock-outs in supported facilities.

The lack of reliable transportation services was identified as a major obstacle for locating defaulters, particularly in hard-to-reach areas not accessible by public transportation. The project procured and distributed 10 motorbikes to health facilities in Blantyre and Nkhata Bay districts.

Furniture and Medical Equipment

DHSS procured and distributed medical equipment and furniture to 87 of the 95 supported health facilities (Tables 1 and 2). Items included examination equipment, filing cabinets, pin boards, desks, chairs, shelves, and buckets. These items helped improve the standard of treatment and care. For example, new benches provided more comfortable seating in waiting areas; basins and bins enhanced facility hygiene; and lockable cabinets allowed for the safe storage of registers.

Table 3 (next page) breaks down each category in Table 2 into the specific pieces of furniture and medical equipment that were distributed.

Lessons Learned

- Investing in infrastructure, including renovations and procurement of essential equipment, improves quality of care, client satisfaction, and case management by making health facility surroundings more attractive, pleasant, and appropriate for service delivery.
- Material improvements for services must extend beyond a facility's infrastructure and address transportation and communications needs as well as furniture, medical equipment, and other supplies to improve quality of care, patient tracking, and client intake and follow-up.
- Providing health facilities with communications devices improves defaulter tracing, supply chain management, and reporting.

Table 1: Medical equipment distributed by DHSS (2014-2017)

Type of equipment	Blantyre	Chiradzulu	Likoma	Mwanza	Neno	Nkhata Bay	Thyolo
Sterilizers	2	2	2	0	1	4	3
Stethoscopes	59	15	2	10	8	18	17
Thermometers	146	46	9	24	18	24	28
Oxygen concentrators	1	2	0	0	0	0	0
Blood pressure machines	101	21	5	27	22	18	26
Cesarian section sets	0	5	0	0	0	0	0
Fetoscopes	11	0	0	0	2	0	0

Table 2: Furniture and medical equipment distributed

Items	Blantyre	Chiradzulu	Likoma	Mwanza	Neno	Nkhata Bay	Thyolo	Balancing
Medical examination equipment	1,171	180	40	157	144	151	314	2,157
Infection-prevention equipment	457	164	15	88	108	105	167	1,104
Desks	115	10	6	15	22	22	60	250
Shelves and cabinets	180	60	4	8	9	25	56	342
Chairs and benches	426	56	12	92	100	97	201	984
Pin boards	67	18	2	12	11	10	38	158

Conclusions

Well-maintained and rehabilitated infrastructure in health facilities contributed to improved quality and availability of, and access to, essential health services at the DHSS-supported facilities in Malawi. Through its support to health facility renovations, DHSS improved and increased the spaces in which HIV services are provided and enhanced privacy for patients seeking these services. The interventions also enabled more patients to be served at the health facilities while reducing their waiting times.

By providing supplies and equipment, the project made services available where they were not offered previously. For example, the provision of cryotherapy machines in facilities for women with cervical cancer both increased access to cervical cancer screening and also reduced the cost for these patients to seek out screening and treatment services in hard-to-reach facilities.

The project's communications support greatly improved access to the Internet by district health offices, allowing staff to more easily and readily report data into DHIS2. By providing motorcycles and mobile phones, the project improved the capacity of health facilities to successfully trace defaulter patients, especially in the hard-to-reach areas of Blantyre and Thyolo districts.

Finally, these interventions may also have an impact on less visible and less tangible improvements, including providers' motivation and job satisfaction (and thus staff retention), or their ability to better serve clients, not only for HIV, but for other health issues both during project implementation and after.

Table 3: Furniture and medical equipment distributed by category

Category	Items
Medical examination equipment	Fetoscopes, examination couches, weighing scales, Salter scales, patient blankets, middle-upper-arm circumference tapes, washable patient mattresses, height boards, timers/stop watches, thermometers
Infection-prevention equipment	Buckets without taps, buckets with taps, peddle bins, hand-wash basins
Desks	Desks with drawers, desks without drawers
Shelves and cabinets	Metal shelves, filing cabinets
Chairs and benches	Pharmacy stools, steel-based chairs, metal-based benches
Pin boards	Pin boards

This summary brief was prepared by Patrick Ndovi, Irvine Mchacha, Henry Nyaka, Thandi Bobe, Aziz Abdallah, Sarah Birse, and Elke Konings.

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Additional information can be obtained from:
Management Sciences for Health
Aziz Abdallah, Project Director, aabdallah@msh.org
Lilongwe, Malawi

This publication was supported by cooperative agreement number 5U2GGH000721-03 from the US Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.