



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



TECHNICAL BRIEF
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FACILITY-BASED INNOVATIONS IMPROVE LINKAGE TO HIV TREATMENT AND CARE

Photo by Henry Nyaka

Background

HIV has been a global challenge over the past several decades, particularly in developing countries such as Malawi, where adult HIV prevalence is about 10.6%.¹ In an effort to end the epidemic by 2030, Malawi adopted the 90-90-90 strategy in 2015 as an integrated part of the National Strategic Plan for HIV/AIDS.² The 90-90-90 strategy refers to: 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.

While Malawi has made significant progress toward achieving these goals, major challenges remain in identifying PLHIV and linking them to HIV treatment and care services. This has resulted in a suboptimal number of people initiating ART and accessing other HIV services.³ Linkage to HIV care refers to the number of people identified as HIV infected who then successfully initiate ART during a specific time period.

In 2016, data from 34 health facilities that received support from the District Health System Strengthening and Quality

Improvement for Service Delivery (DHSS) Project indicated a low rate of linkage to HIV care (65%).⁴ Management Sciences for Health (MSH) leveraged its evidence and experience from other countries to identify a strategy to mitigate this low linkage rate. The Plan, Do, Study, Act (PDSA) approach introduced several measures to increase the rate of linkage to HIV care among individuals identified as HIV infected.⁵ This technical brief describes this PDSA initiative as implemented by DHSS to assist health facilities in strengthening the HIV continuum of care.

Interventions

The PDSA intervention was introduced in 24 health facilities in Blantyre District and 10 health facilities in Thyolo District, where HIV prevalence was 17.6% and 11.9%, respectively.⁶ Blantyre has one of the highest rates of HIV prevalence in the country and registers high rates of individuals testing HIV infected. As such, it is not only important that these patients

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.

are identified as HIV infected, but also that they are not lost in the linkage to HIV treatment and care services.

DHSS selected facilities after a careful analysis of project-supported sites that had identified challenges with linkage to HIV care for HIV-infected individuals. The project also looked at the availability of human resources, such as expert clients who can physically escort new HIV patients to the ART clinic.⁷ Three large facilities were not included, including Queen Elizabeth Central Hospital in Blantyre, despite being a referral and high-volume facility, because another partner supported it through a different approach. Thyolo and Malamulo hospitals in Thyolo District were not included due to staffing challenges and because they were not able to provide patient escort and daily ART initiation services.

At the 34 selected health facilities, the DHSS clinical mentors oriented and coached facility staff on the PDSA cycle (see box) and monitoring and evaluation tools, including the linkage to care register, ART register, and ART referral reporting forms. Participants included the facility in-charges, laboratory staff, HIV diagnostic assistants (HDAs), expert clients, and the focal ART staff. During the orientations, DHSS supported facility staff to formulate specific, measurable, agreed upon, realistic, and time-based (SMART) objectives aimed at a linkage to care percentage of above 80% by the end of Quarter 3 (Q3) in 2016. Using a team approach, each health facility applied the PDSA cycle in an iterative way.

Plan, Do, Study, Act Cycle

This process involves problem identification using tools such as process analysis, cause-effect analysis, problem analysis, and the fishbone technique. The fishbone diagram is a cause-and-effect diagram that helps people track down the reasons for imperfections, variations, defects, or failures. The diagram looks like a fish's skeleton with the problem at its head and its causes feeding into the spine. Once all the causes that underlie the problem have been identified, one can start looking for solutions to ensure that the problem doesn't become a recurring one.

Plan, Do, Study, Act Cycle Approach

Plan. For the first step of the PDSA cycle approach, after orientation and training, the facility team members identified a change in the referral system that they thought would increase the linkage rate and then developed a plan for testing the effect of the change. In order to plan for the testing of the changes, they were trained on PDSA, followed by on-site coaching and mentoring provided by DHSS. The content of the on-site mentoring included: an explanation of the PDSA model, a discussion of the project developed by the team, prioritizing of the changes to be made for improvement within the referral system, and the development of an implementation plan for each proposed change.

Do. Immediately following the first step of the cycle, the teams began to implement the proposed changes. The main changes proposed by the teams regarded offering ART to patients on the same day as they are diagnosed with HIV, known as "same-day initiation." Changes implemented included the registration of new HIV-infected clients in the linkage-to-care register managed by the HDAs, the physical escort by expert clients to the clinic for ART initiation, and the linkage of patients to community support groups for ART retention. Following ART initiation, patients were then advised to return for the next visit with an expert client for group counseling.⁸ The DHSS Project supported the recruitment of additional expert clients in 34 health facilities in August 2016 to further support the initiative.

The proposed changes and the implementation timeline varied by facility, based on the root causes identified. Table 1 (next page) outlines the most common changes implemented in facilities.

The linkage to care registers were introduced in all health facilities in Thyolo and Blantyre districts in January 2017. These registers, developed by the DHSS Project, were later adapted by the Ministry of Health and became the basis for Malawi's Ministry of Health ART referral registers.

Table 1: Common changes implemented from January 2016 to March 2017

Facility improvements	Total facilities
Introduction of linkage-to-care registers	24
Same-day ART initiation	34
ART initiation and immediate transfer out for newly diagnosed patients who live far away from the health facility	2
Recruitment of expert clients to support with counseling and physical escort for people newly diagnosed with HIV	34
Follow-up after two weeks with phone calls for patients who have opted to go another day for ART initiation	15
Increase in the number of ART clinic days to daily for ART initiation	34
Orientation of facility staff on new ART guidelines	34

Study. Following the implementation of the changes, the facility teams reviewed and analyzed the available data and assessed whether or not an improvement had been observed. The team examined whether expectations matched the reality of what happened and what could have been done differently. The teams checked linkage to care registers for completeness and compared them with ART and HIV testing services registers. They then reviewed linkage data from these registers, as well as similar data that was collected at the district level, in order to observe the contribution of facility teams in Blantyre and Thyolo to improve this indicator. During the study period, teams reviewed progress during monthly meetings.

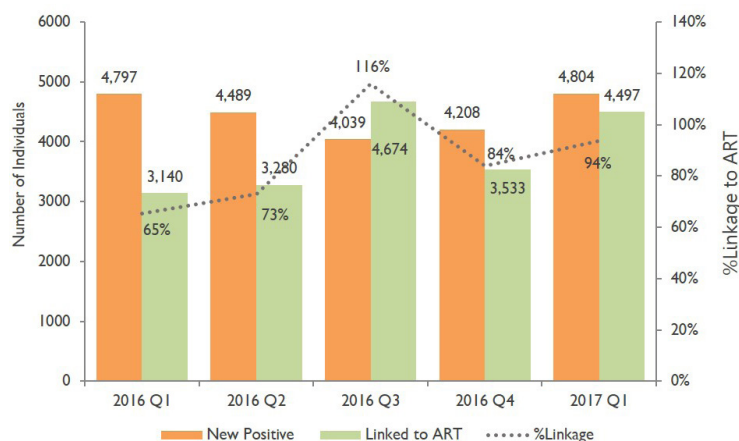
Act. For the last stage in the PDSA cycle approach, the facility teams implemented further changes after observing what had or had not worked and then collected data again. Additionally, they conducted an amended version of the “Do” stage of the cycle approach in order to measure any differences from the additional changes. After recognizing that some patients were opting to initiate ART in clinics other than where they had been tested, the team initiated follow-up with the indicated testing sites to better track referrals. Other patients chose to return to the clinic to initiate treatment on a different day than when they were tested, but never returned. Follow-up with these patients was done by phone, when possible, as some patients provided phone numbers that were out of service. In addition, follow-up by phone in Thyolo was especially difficult because of poor network coverage. Most facility teams met at minimum on a biweekly basis, and the average PDSA cycle was completed in two months.

Results

Overall, the implementation of the PDSA cycle approach resulted in an increase in overall linkage to HIV treatment and care services in Blantyre and Thyolo. Figure 1 shows the linkage-to-care performance for the 34 health facilities in Blantyre and Thyolo between Q1 in 2016 and Q1 in 2017. Linkage to care improved from 65% in Q1 2016 to 94% in Q1 2017.

The data shows an overall improvement in linkage to HIV treatment and care services from the time the initiatives were

Figure 1: Linkage to HIV treatment and care services in 34 facilities in Blantyre and Thyolo



established in Q1 2016 to Q1 2017. However, in Q3 2016, the eligibility criteria for ART initiation changed due to the introduction of the Test and Start policy, whereby all patients identified with HIV, irrespective of their CD4 count or clinical stage, were eligible for ART. Patients living with HIV who were not eligible for ART previously (i.e., CD4 counts above 500 cells/mm³), were now eligible to initiate treatment. As a result, an increased number of patients were enrolled into ART programs during this period.

The trend of linkage to care continued to improve, reaching 94% in Q1 2017 at the end of the intervention period. Further analysis of program data showed that the linkage rates in 29 of the 34 health facilities improved dramatically or were above 90% by the end of the intervention period. In four health facilities, however, linkage rates in Q1 2017 were between 52% and 78%. The DHSS team analyzed the low linkage rates in these facilities and identified two main reasons. In two health facilities, severe staff shortages and high staff turnover resulted in a low linkage rate; this was aggravated by refusal of staff in one clinic to implement same-day initiation. In the two other facilities, patients who tested as HIV infected lived far from

the clinic and preferred to start treatment at health facilities closer to where they lived. Of these two, one facility is located near a busy market in Blantyre City and attracts people visiting from far away and the other conducts frequent outreaches to test for HIV positivity in remote locations. For both of these facilities, it is much more difficult to track referrals.

Conclusions

Through the implementation of the PDSA initiative, the DHSS Project observed an overall improvement in the rate of linkage to HIV care in Thyolo and Blantyre districts. Results show that linkage rates for Blantyre and Thyolo were above the national average of 87% in Q1 of 2017.³ DHSS considers the creation of facility teams and the introduction of the PDSA cycle addressing the root causes of poor performance in linkage to HIV care services contributed to this indicator improvement in the two districts.

A number of changes instituted through the facility teams could have contributed to this increased performance, including implementing same-day ART initiation, tracing patients that did not start treatment, and having expert clients physically escort new clients to the ART clinic. However, the results of this initiative were affected by a national policy shift

on treatment to Test and Start during Q3 2016. As discussed above, this was accompanied by a spike in the number of patients linked to care and treatment services in both Blantyre and Thyolo.

With the advent of such a major policy change during the middle of the implementation period, it is hard to distinguish whether the ensuing success was due to either the PDSA initiatives, the improved policy, or a combination of both. Most likely, the result is a combination of both, as the improvement from only 65% linked to HIV treatment and care services during Q1 2016 to 94% in Q1 2017 exceeds national averages. High linkage rates are essential to achieving epidemic control. Malawi's implementation of Test and Start has been a major step toward this goal. The PDSA cycle not only proved to increase linkage rates but also reinforced ongoing, proactive engagement of health providers to carry out this policy. The systematic implementation of PDSA will therefore be a key element in achieving the 90-90-90 targets, and also in sustaining them.

This summary brief was prepared by Suleman Issah, Irvine Mchacha, Paul Puleni, and Aziz Abdallah.

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3. Government of Malawi. Ministry of Health. Integrated HIV Program Report, April-June 2017. Lilongwe, Malawi, 2017.
4. Ministry of Health. Department of HIV and AIDS, ART/PMTC supervision report, December 2016.
5. Plan, Do, Study, Act Cycle <https://innovations.ahrq.gov/qualitytools/plan-do-study-act-pdsa-cycle>
6. Malawi Demographic and Health Survey 2016.
7. Expert clients are people who are HIV infected, on treatment, and have openly declared their status. Their most important role is to inspire others to seek testing and treatment. As living proof that treatment works, expert clients also provide essential peer-based support to patients who have just begun HIV treatment. The expert clients provide psychosocial counseling to patients who have tested HIV infected, followed by antiretroviral (ART) initiation counseling. The ART patients are then physically escorted to the ART clinic by the expert clients.
8. A patient guardian accompanies a patient to the health facility and provides support. Support can be anything from moral support, to support to adhering to medication, to helping a patient when hospitalized.

Additional information can be obtained from:
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