

Malawi's Experience Shows How Nutrition Services Can Help Meet the '90-90-90' HIV Treatment and Epidemic Control Targets

Background

In 2014, the Joint United Nations Programme on HIV/AIDS (UNAIDS) and its partners launched the ambitious “90–90–90” treatment targets to help end the AIDS epidemic, calling for diagnosing 90 percent of all people living with HIV, providing antiretroviral therapy (ART) for 90 percent of those diagnosed, and achieving viral suppression for 90 percent of those treated by 2020.¹ Meeting these targets is estimated to result in 73 percent of people with HIV achieving viral suppression, a crucial step in ending the AIDS epidemic by 2030. The latest global data show that substantial progress has been made toward achieving the targets. In 2016, more than two-thirds of all people living with HIV globally knew their HIV status; of those who knew their HIV status, 77 percent were accessing ART and 82 percent of people on treatment had suppressed viral loads.² Malawi is one of the countries that have made great strides in addressing the HIV epidemic. In 2016, 73 percent of people living with HIV in Malawi knew their status and 89 percent of them were accessing ART; 91 percent of those on ART had their viral load suppressed.³

Optimal nutrition—best achieved through consumption of the right type and amount of food in the right combination—is vital to the health and survival of all individuals regardless of HIV status. Poor nutrition can lower immunity, impair physical and mental development, and reduce productivity. Good nutrition reduces maternal and neonatal mortality, promotes optimal child growth and development, enhances the body's ability to fight infections, and helps achieve and maintain optimal body weight. In people living with HIV, optimal nutrition is critical to effective HIV care and treatment; when the body's immune system is compromised due to HIV or AIDS, this can contribute to malnutrition and susceptibility to infection. On the other hand, a person who is well-nourished is more likely to maintain a stronger immune system that helps fight the HIV infection. Optimal nutrition is also critical to addressing



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chronic metabolic conditions such as hypertension and diabetes mellitus that are becoming increasingly prevalent among people living with HIV.

From 2013 to 2017, the Food and Nutrition Technical Assistance III Project (FANTA) worked with the Malawi Ministry of Health (MOH) to improve the health and well-being of people living with HIV, their families, and communities by strengthening the government's nutrition policies, programs, and systems. This brief describes the data and lessons that emerged from the MOH's and nutrition partners' implementation of nutrition programming to help meet the 90-90-90 HIV treatment and epidemic control targets.

Linking Nutrition Interventions with HIV Care and Treatment

The *Malawi 2015–2020 National Strategic Plan for HIV and AIDS*⁴ and the *National Multi-Sector Nutrition Policy 2018–2022*⁵ highlight the critical role that nutrition plays in HIV care and treatment. The two documents emphasize the need for nutrition integration, referrals, and linkages in the continuum of care of people with or recovering from chronic conditions such as HIV/AIDS and

tuberculosis. Malawi's community-based management of acute malnutrition (CMAM) and nutrition care, support, and treatment (NCST) programs provide platforms for integrating and linking nutrition with HIV care and treatment. The platforms have the potential to increase HIV testing and treatment coverage, engagement in care, ART adherence, and viral load suppression.

In Malawi, CMAM enables service providers to identify and treat severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) in children 0 to 15 years before they become seriously ill. Treatment includes managing underlying infections and providing therapeutic and supplementary foods at decentralized primary health care facilities.⁶ In addition, the few children who develop medical complications are referred to a 24-hour inpatient care facility for specialized intensive treatment. NCST is a patient-centered programmatic approach that helps integrate priority nutrition interventions into the health system, targeting adolescents 15 to 18 years and adults 19 years and older. The interventions include providing nutrition assessment, nutrition counseling based on the assessment results, and treatment of acute malnutrition with therapeutic and supplementary foods.⁷

Nutrition assessment methods used in CMAM and NCST—such as assessing mid-upper arm circumference, bilateral pitting edema, body mass index, and weight loss—can help increase HIV testing, particularly in settings with high prevalence and high rates of undiagnosed infections. It is common for children, adolescents, and adults with acute malnutrition to also have underlying and undiagnosed chronic infections such as HIV/AIDS and tuberculosis. Consequently, in settings with high prevalence and high rates of undiagnosed infections, it is critical that those identified with unintentional weight loss, SAM, or MAM are referred for HIV testing. Service providers then can ensure that individuals who test positive for HIV are immediately referred and can access treatment and care.

Nutrition counseling and follow-up sessions provided at the community and facility level also help promote and reinforce messages on the importance of regular HIV clinical visits and drug adherence. Furthermore, studies have shown that providing food and nutrition support can enable people in communities affected by HIV and poverty to maintain ART adherence.^{8,9} In addition, people living with HIV who are on ART and are being treated for SAM or MAM but either fail to respond to nutrition interventions or have consistent weight loss can be referred for viral load testing and

other clinical assessments. This can help improve outcomes for both nutrition interventions and HIV care and treatment.

The Process Used to Improve HIV Treatment Outcomes in Nutrition Programming

To help strengthen HIV care and treatment outcomes within nutrition service delivery platforms, the nutrition unit of the MOH, in collaboration with its partners, implemented several activities:

- **The national guidelines for CMAM were updated** to recommend HIV testing and linkages to care for every child 0–15 years diagnosed with SAM or MAM. The new guidance included treating children with MAM who were HIV-positive or HIV-exposed in outpatient care and meeting their additional energy needs with a ready-to-use-therapeutic food that is more nutrient- and energy-dense than the fortified blended supplementary food given to HIV-negative children with MAM.
- **Updated CMAM monitoring and reporting tools**, including patient treatment cards and registers, were used to capture and track data on HIV testing, test results, and whether HIV-positive children with SAM or MAM were referred for and receiving ART.
- **CMAM training for national and district managers and facility- and community-based service providers** was conducted. The training covered the importance of and the process for referring children with SAM and MAM for HIV testing, as well as how to track HIV test results and document care provided while children are in treatment for SAM or MAM.
- Classroom training was reinforced with **post-training mentoring and coaching at the facility level** using quality improvement methods. Health facility teams were encouraged to review their data and reports at every weekly or biweekly mentoring/coaching session and to identify ways to ensure that the HIV status of all children receiving treatment for SAM or MAM was known and that they were provided appropriate care.
- **CMAM data, including information on HIV testing and linkages to care, were reviewed and performance standards discussed** at the quarterly nutrition technical working group meetings and by the district health management teams. When necessary, poor performing facilities and districts were supported to enhance their performance.

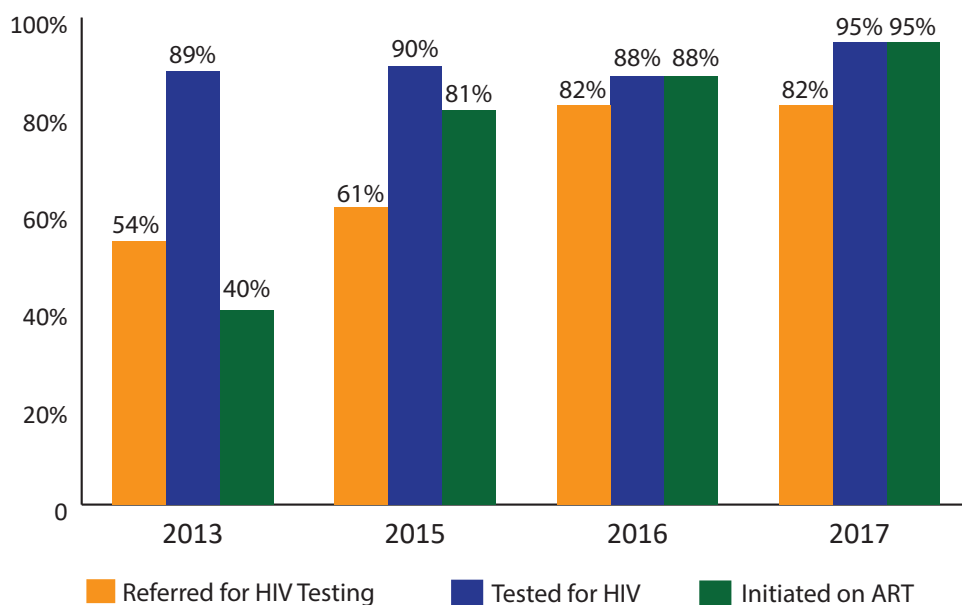
Results

From 2013 through 2017, an estimated 276,737 children with SAM and MAM were tested for HIV, with the percentage of children referred for HIV testing and started on ART rising during that period (Figure 1). By 2017, 82 percent of the children receiving SAM treatment had been referred for testing, and of those who were HIV-positive, 95 percent were put on ART. The increase in HIV testing—and ART initiation—could be attributed to reinforced coverage, better documentation, and training on the updated CMAM guidelines that recommended HIV testing for children with SAM and MAM and immediate referral for ART.

Further analysis of the HIV test results indicated that overall, a high percentage of children with SAM and MAM were HIV-positive. This was particularly

the case for children with SAM and medical complications, reported at 19.7 percent and 13.8 percent in 2013 and 2017, respectively. For these children, ART was initiated after stabilization of medical complications including sepsis, as recommended by the World Health Organization.¹⁰ As noted in the results above, routine HIV testing of children with SAM and MAM helped identify more people living with HIV. The high percentage of children identified as HIV-positive also highlights that undiagnosed and untreated HIV infection may be an underlying cause of acute malnutrition in high HIV prevalence settings.

Figure 1. Proportion of Children Treated for SAM Who Were Referred for HIV Testing, Tested, and Initiated on ART*



* Figure 1 includes children with SAM as well as children with MAM who are HIV-positive or HIV-exposed and received treatment for SAM as recommended under the national CMAM guidelines. The figure presents proportions of children under SAM treatment who were referred for HIV testing; out of those referred, the proportion tested for HIV; and of that group, the proportion of those who tested HIV-positive who were initiated on ART.

Note: Data for 2014 were not available.

Limitations

The MOH and its partners identified the following limitations in their efforts to link CMAM services with HIV care and treatment:

- **Documenting data of children whose HIV status was known before CMAM admission.** The reporting tools used between 2013 and 2017 did not disaggregate the proportion of children whose status was known before they were admitted for the management of SAM or MAM. This may have underestimated the proportion referred for HIV testing upon admission. The national reporting tools were updated in 2017, so future datasets will be able to provide disaggregated information.
- **Limited integration of nutrition data within the overall HIV monitoring and evaluation (M&E) system.** HIV outcome information is documented and reported through the M&E system of the MOH's HIV department, while data on SAM and MAM are documented and reported through the MOH's nutrition unit and the district health information management system. The tools and datasets are not integrated and operate parallel to one another, which makes it difficult for health care providers at facilities and district managers to track SAM and MAM data alongside other HIV outcomes such as viral load suppression.

Opportunities

The MOH and stakeholders identified the following opportunities for improving HIV treatment outcomes within nutrition service delivery:

- **Provide HIV testing to families of children who are HIV-positive and receive CMAM services.** Once a child with SAM or MAM is diagnosed as HIV-positive, efforts should be made to test the child's father, mother, and other family members. Where possible, community- or household-level testing could be provided to families as part of routine CMAM facility or home-visit sessions.
- **Use nutrition assessment data to prompt viral load testing in people living with HIV who have SAM or MAM.** Current nutrition guidelines recommend HIV testing and linkages to treatment, but they do not mention the use of nutritional status data to prompt viral load testing. A deterioration in the patient's condition or failure to respond to SAM or MAM treatment could indicate a health problem such as an unsuppressed viral load. Viral load testing should be added as one of the investigations conducted when people living with HIV fail to respond to SAM or MAM treatment.
- **Use other nutrition intervention platforms to provide HIV testing and linkages to treatment.** There are prospects for maximizing the use of other nutrition intervention platforms such as growth monitoring and promotion and community-based nutrition care groups to educate communities and provide HIV testing and counseling services. Often, the same community- and facility-based nutrition service providers also provide HIV care and treatment, presenting opportunities for service integration.

Lessons Learned and Recommendations

Lesson learned: Including guidance on routine HIV testing and linkages to care for children with SAM and MAM as part of the CMAM standard of care helped increase HIV testing and initiation of ART. Moreover, it helped improve nutrition treatment, care, and outcomes for people living with HIV.

Recommendation: Ensure that viral load testing is included as a standard of care for people with HIV who have SAM and MAM.

Lesson learned: Tracking and reporting on HIV testing and linkages to treatment among children with SAM and MAM facilitated early diagnosis and initiation of HIV treatment in a population with a high HIV prevalence. While these data provided crucial programming information on nutrition and HIV, ensuring that key nutritional status indicators are included or linked with the HIV M&E systems and tools would also help boost referrals of people living with HIV and, ultimately, viral load suppression for those receiving care and treatment.

Recommendations:

- Monitor and report on HIV care and treatment targets within relevant intervention platforms.
- Integrate or link priority nutrition indicators to the HIV department's M&E system.

Lesson learned: Continuous and rigorous review of SAM and MAM data at the facility and district level ensured that standards including HIV testing and linkages to care were met. The reviews also helped facilities discover better ways to manage SAM and MAM in children and address underlying chronic conditions such as HIV/AIDS.

Recommendation: Promote joint nutrition and HIV team review of program data and outcomes at the facility and district levels.

Conclusion

Substantial progress has been made toward realizing the 90-90-90 HIV treatment and epidemic control targets. Still, more efforts are needed to ensure that the remaining proportion of people know their status and are on life-saving ART for the rest of their lives. As noted in the Malawi experience, making the most of existing community-based intervention platforms such as those providing nutrition services can be an effective strategy to help attain the HIV epidemic control goal by 2030.

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