

An integrated multi-sector approach to improve the nutritional status among school-age children and adolescents in Malawi

Students receive school meals in Malawi

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MALAWI

What this article is about: This article outlines two programmes – weekly iron and folic acid supplementation for adolescent girls and a nutrition sensitive agriculture programme – which form part of the Malawian government's efforts to optimise adolescent nutrition behaviours.

Key messages:

- Weekly iron and folic acid supplementation achieved high coverage across many schools but was impacted by COVID-19-related restrictions.
- The nutrition sensitive agriculture programme led to steady improvements in adolescent girls meeting minimum dietary diversity standards with the impact of COVID-19 being mitigated through creative learning solutions.
- This integrated, multi-sector approach to adolescent nutrition has proven effective thus far and efforts to scale up are now warranted.

Background

Since joining the Scaling Up Nutrition (SUN) Movement in 2011, Malawi has been implementing 13 high impact SUN interventions for pregnant and lactating women (PLW) and children under five years of age. Despite significant progress in reducing the burden of undernutrition in children under five years of age, poor nutrition in adolescents (10-19 years of age) remains a public health challenge. The Malawi Demographic and Health Survey 2015/16 revealed that approximately 35% of adolescent girls (15-19 years of age) are anaemic while 13% are underweight. In addition, the prevalence of overweight among adolescent girls increased from 4% in 1992 to 7% in 2015/16. School-age children and younger adolescents (6-14 years of age) also face nutritional challenges with anaemia affecting 22% and zinc deficiency affecting 60% of this age group (National Statistical Office Malawi, 2017). Dietary quality for adolescent girls remains suboptimal with only 17% of girls (10-19 years of age) meeting minimum dietary diversity for women (MDD-W) standards (University of Sydney et al, 2019).

Existing nutrition policies and interventions have traditionally focused on the first 1,000 days with less consideration given to the growth and development of adolescents. Stakeholder consultations, led by the Department of Nutrition, HIV and AIDS (DNHA) and including the Departments of Reproductive Health and Nursing in the Ministry of Health and the Ministry of Education, revealed that non-pregnant adolescent girls were neglected from stunting reduction strategies in Malawi.

The Malawi National Multi-Sector Adolescent Nutrition Strategy

In order to guide the implementation of nutrition programmes and interventions, a National Multi-Sector Nutrition Policy (NMSNP) and a National Multi-Sector Nutrition Strategic Plan (NMSNSP) 2018-2022 were developed. To prioritise nutrition programming for adolescents and ensure that they are able to contribute to economic growth and national development, evidence-based advocacy by various stakeholders¹ led to the development of a National Multi-Sector Adolescent Nutrition Strategy (NMSANS) 2019-2023 that aims to improve the nutritional status of both in- and out-of-school adolescents 10-19 years of age. The NMSANS was endorsed by the Nutrition Policy Advisory Team, the Essential Health Package technical working group and the Malawi Cabinet. The NMSANS is aligned to the NMSNP and NMSNSP to address specific nutrition issues affecting adolescents.

The NMSANS has eight priority areas of which four are currently being implemented by the Government of Malawi: *priority area 1:* prevention and control of undernutrition, *priority area 4:* empowerment of adolescents for improved nutrition and livelihoods, *priority area 5:* enhanced social mobilisation and positive behaviour change communication for improved adolescent nutrition and *priority area 6:* other public health interventions.

¹ Government of Malawi, development partners and academia

The NMSANS creates a platform to address the various information needs of adolescents including those related to sexual reproductive rights and life skills thereby contributing to a wider adolescent engagement agenda. This multi-sector collaboration among the various ministries in Malawi has assisted with programme rollout and the integration of adolescent nutrition within the health and education systems proving a sustainable, multi-sector approach to nutrition programming. Table 1 outlines the responsibilities of the various systems involved.

Weekly IFA supplementation for adolescent girls

In 2019, the Ministry of Health's DNHA and Department of Reproductive Health, with support from UNICEF, rolled out a pilot weekly iron folic acid (IFA) programme to adolescent girls in six districts.³ The districts were selected based on the presence of existing UNICEF-supported interventions such as maternal, infant and young child nutrition programmes to leverage existing efficiencies. Adolescent girls 10-19 years of age

were targeted in school and community settings with each girl expected to take 50-52 IFA tablets per year. Following the approval of the NMSANS, key messages were developed and key district and community-level service providers, community leaders and adolescents were sensitised to ensure programme acceptance prior to its implementation.

In schools, a participatory approach was adopted in which each class identified focal adolescent girls who assisted teachers in keeping registers and tracking self-compliance by girls in their classes using self-compliance cards. Every supplementation session was conducted under supervision and with the involvement of either the focal teacher in school or an HSA at community level.

At community level, adolescent nutrition groups were established for those 10-14 and 15-19 years of age. Within these groups, community volunteers and frontline workers facilitated adolescent engagement and participation through nutrition education, counselling, cooking dem-

onstrations and sporting activities. Topics covered included nutrition, livelihoods, sexual and reproductive health and agriculture through the establishment of nutrition demonstration gardens.

Nutrition Sensitive Agriculture (NSA) programme

With support from the World Bank (WB) and the European Union (EU), the Government of Malawi is implementing the NSA programmes in 12 districts where dietary diversity is low.⁴ The WB began a three-year 'Investing in Early Years' programme in 2019 targeting both in- and out-of-school adolescent girls and boys 15-19 years of age in Mwanza and Ntchisi districts. In 2017, the EU implemented a five-year programme targeting infants, PLW and adolescent girls (10-19 years of age) in the remaining 10 districts.

In the EU-supported NSA programme, in- and out-of-school adolescents 15-19 years of age have established nutrition demonstration plots where they learn diverse methods of food production and preservation to ensure the continued availability and variety of safe, seasonal, nutrient-dense foods at the household level. They are taught food preparation techniques through cooking demonstrations using local recipes and locally available foods provided by the community. To further ensure sustainability, community leaders have also contributed farming land for nutrition demonstration plots. Adolescents have contributed to the cooking demonstrations through crops harvested from the demonstration gardens and from the rearing of small stock. In the WB programme, adolescent girls are also given IFA tablets.

The programmes support community social mobilisation and engage in- and out-of-school adolescents to participate in specific community platforms. These take several forms such as teen clubs, youth clubs and adolescent nutrition groups. The NSA programmes are delivered through the internationally recognised care group model comprising PLW and caregivers of children aged under-five. The adolescent nutrition groups were specifically established after evidence showed that out-of-school adolescents did not feel comfortable engaging in the main care groups where nutrition education, counselling and cooking demonstrations were conducted. The frequency of meetings varies from weekly to bimonthly and intensifies during school holidays when more adolescents are present in the community. The groups are led by community nutrition volunteers and peer educators who use counselling cards to discuss various nutrition topics with support from health and agriculture frontline workers and SHN teachers. Nutrition education on dietary diversification using Malawi's six food group model is provided during group meetings and is complemented by education on sexual and reproductive health, WASH and other life skills.

² Malawi six food group model comprises starches/pulses, animal source foods, legumes, vegetables, fruits and fats and oils

³ Mangochi, Dedza, Salima, Lilongwe, Dowa, Machinga

⁴ Mwanza, Ntchisi, Chiradzulu, Thyolo, Mulanje, Kasungu, Salima, Nkhokhotaka, Nkhata Bay, Mzimba, Karonga and Chitipa

Table 1 Responsibilities of government systems within the adolescent nutrition programme

System	Key stakeholders and their roles and responsibilities
Health system	<p>The Department of Nutrition, HIV and AIDS (DNHA)</p> <ul style="list-style-type: none"> Convenes and chairs the multi-sector national nutrition committee and coordinates the actions and activities of development partners Coordinates and mobilises resources for the adolescent nutrition programme Trains frontline workers (School Health and Nutrition (SHN) teachers and Health Surveillance Assistants (HSAs)) <p>Community Health Nurses (CHN)</p> <ul style="list-style-type: none"> Receive and distribute iron folic acid (IFA) tablets to all schools within a health facility's catchment area Supervise HSAs Consolidate monthly reports from schools and community platforms for submission to the district <p>HSAs</p> <ul style="list-style-type: none"> Administer IFA and deworming tablets to out-of-school adolescent girls at designated locations within communities Compile monthly reports from the community platform for submission to the health facility Serve as a direct link between the health system and the education system
Education system	<p>Ministry of Education</p> <ul style="list-style-type: none"> Facilitates the integration of the NMSANS into the existing school health and nutrition platforms of the education system Provides a platform and an enabling environment for the successful delivery of the adolescent nutrition programme <p>SHN teachers</p> <ul style="list-style-type: none"> Manage stocks of IFA and deworming tablets within the school premises Provide health education talks and individual counselling to learners Administer weekly IFA and deworming tablets once a year Support the capacity-building of adolescent girls (in-school) in the production of nutritious foods and rearing of small stock Compile weekly and monthly reports for submission to the nearest health facility
WASH System	<p>Ministry of Agriculture, Irrigation and Water Development</p> <ul style="list-style-type: none"> Coordinates the water, sanitation and hygiene (WASH) interventions in schools and communities Provides access to safe water supplies and sanitation facilities in schools
Food System	<p>Ministry of Agriculture, Irrigation and Water Development</p> <ul style="list-style-type: none"> Facilitates the inclusion of adolescent nutrition activities into the agriculture, food and nutrition security strategic documents Creates an enabling environment for the rollout of agriculture sector-specific adolescent nutrition interventions <p>Agriculture Extension Development Officers (AEDO)</p> <ul style="list-style-type: none"> Support the capacity-building of adolescent girls (out-of-school) in the production of nutritious foods and rearing of small stock Promote the consumption of diversified, safe and nutritious foods using the Malawi 'six food group' model² among adolescents Promote skills acquisition in food processing and meal preparation for improved nutrition

Monitoring and evaluation

The Government of Malawi developed various monitoring tools for the IFA programme to collect monthly data on coverage, compliance and dietary diversification practices at community and school levels. The tools were developed by multi-sector teams in the technical working group and include:

- Self-compliance cards: used by adolescent girls to record weekly IFA intake
- Weekly registers for community and school platforms: used by HSAs and teachers respectively to record weekly IFA intake by adolescent girls
- Monthly community and school reports: used to collect indicators on IFA coverage and compliance (IFA intake in all weeks of the month). These are the primary indicators for the programme describing the percentage reached with IFA tablets and monthly intake by adolescent girls
- Commodity stock books: used to record the movement of supplies at health facility and school levels to prevent stockouts

For the NSA programme, a monitoring and evaluation framework was developed, the data from which contributes to the monitoring of national nutrition indicators.

Results

Weekly IFA supplementation

The weekly IFA supplementation programme reached 70% of adolescent girls in 1,788 schools and 192 health facilities in 2019 and 47% in 2020, due to COVID-19 related school closures. The preliminary results in 2020 revealed that over 36% of adolescent girls achieved monthly compliance (girls consuming four or five tablets⁵ a month) for the six months that they received supplements before and after school closures.

NSA programme

Out of a targeted 2,725 adolescent nutrition groups 2,013 were established between January 2019 and March 2021 with the establishment of groups continuing until December 2021. As of March 2021, over 55,903 adolescents were members of the adolescent nutrition groups and an estimated 378,995 adolescents have benefited from nutrition extension services including nutrition education, WASH and reproductive health. Over 617 cooking demonstrations have been conducted, providing 7,492 adolescents with knowledge and skills around food preparation, preservation and utilisation.

Steady improvements in MDD-W have been demonstrated, increasing from 32% to 47% for adolescent girls between 2018 and 2021 (University of Sydney et al, 2019; FAO and UNICEF, 2021). Programme reach was maintained during the COVID-19 pandemic by migrating nutrition education and trainings to mobile phones and included messages promoting diversified diets as key to strengthening the immune system. Results from knowledge, attitude and practices (KAP) surveys in 2020 and 2021 indicated that consumption of biofortified foods such as Vitamin A-fortified maize, iron-fortified beans and orange-fleshed sweet potatoes increased from 12% to 19% (FAO

and UNICEF, 2020; FAO and UNICEF, 2021). While the consumption of animal-source foods has declined from 51% to 33% over the past few years (University of Sydney et al, 2019; FAO and UNICEF, 2020), efforts to change behaviour and improve access to small livestock have been credited for a recent increase to 39% (FAO and UNICEF, 2021). During qualitative interviews, community members explained that households prefer not to slaughter their livestock for food but would rather sell their livestock to buy relatively cheaper sources of protein.

Qualitative data from the 2021 KAP survey also suggested that the adolescent groups are an important platform for girls to access nutrition-related information (FAO and UNICEF, 2021). Adolescent groups participating in the survey demonstrated increased knowledge since the previous survey in relation to the importance of the six food groups, the role of nutrition-sensitive agriculture in the production and consumption of iron-rich foods, optimal maternal and child feeding practices and barriers to good nutrition including food taboos (FAO and UNICEF, 2021).

Successes

To ensure programme acceptance and success and to maximise benefits, adolescent girls were carefully and intentionally involved in the design and implementation of the IFA intervention. The primary messages and information, education and communication materials for the intervention were designed by technical experts but reviewed by adolescent girls whose recommendations were incorporated to make the materials more adolescent-friendly.

The creation of adolescent nutrition groups has facilitated the inclusion of adolescents in nutrition programmes. Incorporating sporting activities like netball and football as well as nutrition demonstration plots, sexual reproductive health education and cooking demonstrations has encouraged adolescents' participation. Adolescent nutrition groups have been particularly useful for out-of-school adolescents who may have additional needs, such as psychosocial support, that can be addressed through greater engagement and the necessary referrals at the community level. Previously, Malawi lacked a standardised approach towards nutrition education for adolescents. However, through the development and rollout of the adolescent NSA package, coherent and comprehensive nutrition education has been provided to adolescents using a counselling package for adolescent engagement.

Challenges

There is limited data for adolescent boys and girls 10-14 years of age resulting in a lack of evidence for ongoing resource mobilisation to address their nutritional challenges. Coordination challenges between education and health systems occurred at service delivery level, especially for reporting. To address this issue, review meetings among service providers were regularly conducted, focusing on the roles for each sector in programme implementation.

Closure of schools due to the COVID-19 pandemic affected IFA coverage and compliance for

the school platform. This resulted in DNHA developing standard operating procedures for nutrition activities in the context of COVID-19 that included the implementation of the adolescent nutrition programme. Some adolescent girls were reached through the community platform during school closures. However, more efforts are required to engage out-of-school adolescents including exploring working with the Department of Youth, youth clubs and organisations.

Conclusion and next steps

The integrated multi-sector approach to improving the nutritional status of adolescents in Malawi has proved effective and promises to make a significant contribution to national development. Moving forward, under the leadership of the Government of Malawi, efforts are being made to ensure that the adolescent nutrition programme is scaled up in a phased approach:

- 2019-2020 six districts
- 2020-2021 additional nine districts (15 districts in total)
- 2021-2022 additional 13 districts (nation wide coverage)

Efforts are also being made to bring more partners on board to expand the programme. There are also plans to ensure that the dietary diversification programme features a holistic package of interventions including IFA supplementation for out-of-school girls. It will be important to engage adolescents in two groups, 10-14 and 15-19 years of age, to ensure age-appropriate information is shared and suitable teaching methods are used. In the long-term, the Government of Malawi hopes to include the adolescent nutrition programme under the normal government procurement system so that it can be sufficiently budgeted and financed. At district level, this is currently being lobbied by the Department of Nutrition through the launch of SUN 3.0 to ensure the sustainability of the programme.

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⁵ Four tablets if the month has four weeks and five tablets if the month has five weeks

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