ACTION AGAINST HUNGER

SERIES
INNOVATION FOR ACTION

iCCM+ APPROACH

COMMUNITY HEALTH WORKERS ADDRESSING ACUTE MALNUTRITION. FROM IDEA TO REALITY

THE PROBLEM

World hunger remains a scourge and a huge challenge, affecting more than 700 million people, with the most serious consequences leading to the death of those who suffer from it. Some 8,500 children die every day from undernutrition, accounting for almost half of all deaths of children under five.

Acute malnutrition represents the most dramatic face of child undernutrition, with a 12-fold increase in the risk of death in severe cases [1], and continues to threaten the lives of an estimated 6.8 per cent of children under five worldwide [2].

A highly effective treatment for severe acute malnutrition (SAM) is now available. This involves providing children diagnosed with SAM Ready-to-Use Therapeutic Food (RUTF), which consists of an energy- and nutrient-rich peanut paste, to children for a period of 6-8 weeks. If the child is diagnosed with SAM without complications, which is the case in 85% of cases, treatment is administered in health centres. Only in the remaining 15%, when there are complications, it is necessary to treat the child at hospital [3] .

Between 80 and 84 per cent of children with SAM who have received treatment are cured of the disease. More than two-thirds of the 45 million children suffering from acute malnutritiondo not have access to treatment [4]. This is due to a variety of reasons ranging from stock shortages of RUTF, to economic, social, or geographical barriers to accessing health facilities. Within the variety of African countries where we work, more than 50% of the population lives more than 5 km from a health centre, and roads are dangerous or impassable at certain times of the year. In addition, travelling to the centre on a weekly basis is difficult when mothers, who are usually responsible for taking their children to treatment, also have to ensure the livelihoods of the family and take care of the other children.

THE ANSWER

Faced with these difficulties, in 2014, we set ourselves the challenge of improving the coverage of nutrition-related services. To this end, working hand in hand with communities where malnutrition is a problem, we launched a project in which research and innovation have been key.

The response to this challenge came from the successes of the *Integrated Community Case Management* (ICCM) intervention. It consists of community-based management of childhood illnesses (diarrhea, malaria and respiratory infections) through community health workers (CHWs). These are non-medically trained people who acquire general health knowledge and care for families in the community in which they live.

Based on this intervention, Action Against Hunger proposed the incorporation of the treatment of SAM into the CHWs' activity package. This is known as the "iCCM+ approach".

1. United Nations Children's Fund (UNICEF); World Health Organization; International Bank for Reconstruction and Development/World Bank. Levels and Trends in Child Malnutrition: Key Findings from the 2023 edition of the Joint Estimates of Child Malnutrition. 2022. Available online: Levels and trends in child malnutrition: UNICEF/WHO/World Bank Group joint child malnutrition estimates: key findings of the 2023 edition (accessed 27 August 2023).

2. WHO. Guideline: updates on the management of severe acute malnutrition in infants and children. Available online: Guideline: updates on the management of severe acute malnutrition in infants and children (who.int) (accessed 27 August 2023).

3. UNICEF. Global action plan on child wasting: a framework for action to accelerate progress in preventing and managing child wasting and the achievement of the Sustainable Development Goals. 2020. Available online: Global action plan on child wasting: a framework for action to accelerate progress in preventing and managing child wasting and the achievement of the Sustainable Development Goals (who.int) (accessed on 27 August 2023).

4. IFRC, WHO, UNICEF. Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic. Available online: Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic (who.int) (accessed on 27 August 2023.

THE PROCESS

2014-2016

SOLUTION IDEATION, RESEARCH, AND DEMONSTRATION PHASE

- **Location:** Mali and Pakistan
- **Community health workers:** 19
- **Partners:** National Institute of Public Health of Mali (INSP), Mali Nutrition Directorate, Aga Khan University
- **Donors:** Innocent Foundation

2017-2019

DEVELOPMENT AND TRANSITION TO PROJECT SCALING-UP

- **Location:** Mali, Niger, Mauritania, Kenya
- **Community health workers:** 182
- **Partners:** Centre de Recherche Médicale Sanitaire du Niger (CERMES), Research Group of the Complutense University of Madrid (EPINUT), National Institute of Public Health of Mali (INSP), University of Nouakchott.
- **Donors:** Childrens Investment Fund Foundation, Innocent Foundation, People's Postcode Lottery, UNICEF, USAID

- **Achievements:** (2019) Inclusion of iCCM+ as one of UNICEF's simplified approaches to the treatment of severe acute malnutrition in children.

2020-2022

SCALING-UP

- **Location:** Mali, Niger, Mauritania, Kenya, Senegal, Cameroon,
- **Community health workers:** 510
- **Partners:** CERMES, EPINUT, INSP, University of Nouakchott.
- **Donors:** ELRHA, Innocent Foundation, SIDA, UNICEF, USAID

- **Achievements:** (2020) Recommendation by Unicef, WHO , ICRC to work with CHWs during the covid 19 pandemic.

2023-2025

LONG-TERM SUSTAINABILITY OF SCALING-UP

- **Location:** All countries with a high prevalence of undernutrition and low treatment coverage treatment coverage
- **Counterparts:** At least one technical counterpart in each country of intervention.
- **Donors:** In the process of renewal.

- **Achievements:** (2023) Inclusion of treatment through CHWs in the revised WHO case management guidelines for malnutrition.

TOP 8 FINDINGS OF THE ICCM+ APPROACH

Community health workers, treating severe acute malnutrition...

1 ... are as effective as nurses in health centres, with a similar cure rate for both.

CHWs achieve a cure rate equal to that of nurses in health centres and halve the proportion of children who drop out of treatment.

In studies conducted in Mali, the cure rate for CHW treatment was 94.2%, while the cure rate for facility-based treatment was 88.2%.

EVIDENCE

- Álvarez Morán et al. The effectiveness of treatment for Severe Acute Malnutrition (SAM) delivered by community health workers compared to a traditional facility-based model. BMC Health Serv Res 18, 207 (2018). https://doi.org/10.1186/s12913-018-2987-z .

2 ... have the potential to increase the coverage of SAM treatment.

In the period under study, there was an increase in the coverage offered by CHWs in the treatment of SAM, while coverage from health centres did not increase in Mali, Mauritania and Niger. Intervention at the regional level confirms these results.

EVIDENCE

- Charle-Cuéllar P et al. Effectiveness and Coverage of Treatment for Severe Acute Malnutrition Delivered by Community Health Workers in the Guidimakha Region, Mauritania. Children (Basel). 2021 Dec 4;8(12):1132. https://doi.org/10.3390/children8121132

- Ogobara Dougnon A, et al. Impact of Integration of Severe Acute Malnutrition Treatment in Primary Health Care Provided by Community Health Workers in Rural Niger. Nutrients. 2021 Nov 14;13(11):4067. https://doi.org/10.3390/nu13114067

- Charle-Cuéllar, P et al. Scaling severe acute malnutrition treatment with community health workers: a geospatial coverage analysis in rural Mali. Hum Resour Health 20, 74 (2022). https://doi.org/10.1186/s12960-022-00771-8

3 ... provide treatment of the same quality as nurses in health centres.

With proper training and supervision, CHWs can treat SAM without complications: in Mali and Pakistan, they correctly assess signs of severity and anthropometric measurements of weight and arm circumference, and correctly perform the appetite test.

EVIDENCE

- Alvarez Morán JL et al. Quality of care for treatment of uncomplicated severe acute malnutrition delivered by community health workers in a rural area of Mali. Matern Child Nutr. 2018 Jan;14(1):e12449. https://doi.org/10.1111/mcn.12449

- Rogers E et al. Quality of care of treatment for uncomplicated severe acute malnutrition provided by lady health workers in Pakistan. Public Health Nutr. 2018 Feb;21(2):385-390. https://doi.org/10.1017/S1368980017002610

4 ... contribute to cost-effective intervention.

It costs half as much to treat a child through CHWs in Mali as it does in a health centre. In addition, families who receive treatment through CHWs use half as much time and a third less money per week than families who go to health centres. This achievement is similar in Niger.

EVIDENCE

• Rogers, E et al. Cost-effectiveness of the treatment of uncomplicated severe acute malnutrition by community health workers compared to treatment provided at an outpatient facility in rural Mali. Hum Resour Health 16, 12 (2018). https://doi.org/10.1186/s12960-018-0273-0

• Molanes-López et al. Cost-effectiveness of severe acute malnutrition treatment delivered by community health workers in the district of Mayahi, Niger. https://doi.org/10.1186/s12960-018-0273-0

5 ... can identify and treat severe acute malnutrition early and provide integrated care for children under five.

Children treated by CHWs in Mali are identified early and their anthropometric conditions (weight and arm circumference) are less severe than those treated in health centres.

CHWs have the potential to treat severe acute malnutrition in an integrated manner with the other pathologies (diarrhea, malaria and acute respiratory infections) treated in Mali.

EVIDENCE

• López-Ejeda N et al. Bringing severe acute malnutrition treatment close to households through community health workers can lead to early admissions and improved discharge outcomes. PLoS One. 2020 Feb 5;15(2): e02279 9. https://doi.org10.1371/journal.pone.0227939

6 ... improve the quality of treatment if they work under supervision, although such supervision has no effect on the cost-effectiveness of the intervention.

The quality of treatment provided by CHWs receiving any supervision is better than that of those who received no supervision at all.

EVIDENCE

• López-Ejeda N et al. Can community health workers manage uncomplicated severe acute malnutrition? A review of operational experiences in delivering severe acute malnutrition treatment through community health platforms. Matern Child Nutr. 2019 Apr;15(2):e12719. https://doi.org/10.1111/mcn.12719

• Charle-Cuéllar, P. et al. Impact of Different Levels of Supervision on the Recovery of Severely Malnourished Children Treated by Community Health Workers in Mali. Nutrients 2021, 13, 367. https://doi.org/10.3390/nu13020367

• Chichon et al. Integrating acute malnutrition treatment into integrated community case management at scale in Kita, Kayes and Bafoulabé districts in Mali: an economic evaluation. **To be published**.

7 ... in emergency situations in Niger maintain effectiveness, increase treatment coverage, and improve the cost of intervention when applying the simplified protocol.

There is no difference in the cure/abandonment ratio when using the simplified protocol (use of the arm circumference as the sole diagnostic criterion and decrease in the number of RUTF bags administered). On the contrary, fewer errors occur in the application of the simplified protocol and treatment coverage increases when it is decentralised in CHWs.

Treatment costs depend on the specific conditions of each population, the coverage and the protocol used. SAM is cheaper to treat than moderate acute malnutrition (MAM).

EVIDENCE

• Charle-Cuéllar, P. et al. Effectiveness and Coverage of Severe Acute Malnutrition Treatment with a Simplified Protocol in a Humanitarian Context in Diffa, Niger. Nutrients 2023, 15, 1975. https://doi.org/10.3390/nu15081975

• Cichon, B et al. Cost of Acute Malnutrition Treatment Using a Simplified or Standard Protocol in Diffa, Niger. Nutrients 2023, 15, 3833. https://doi.org/10.3390/nu15173833

• Sánchez-Martinez et al. Impact of a simplified treatment protocol for moderate acute malnutrition with a decentralized treatment approach in emergency settings of Niger. https://doi.org/10.3389/fnut.2023.1253545

Hawa Coulibaly, a community health worker, counsels a father in Kourouge, Mali.

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8 ... in emergency situations in Mali, maintain effectiveness, increase treatment coverage, and prove to be a cost-effective intervention, if they apply the treatment with a simplified protocol.

The proportion of cured and drop-outs when CHWs use the simplified protocol (arm circumference as the only diagnostic criterion and decrease in the number of RUTF bags administered) is not lower than when the standard protocol is used in health centres. CHWs increase treatment coverage.

It proves to be a cost-effective intervention in Mali due to reduced protocol costs and increased coverage.

EVIDENCE

- López-Ejeda N et al. Effectiveness of decentralizing outpatient acute malnutrition treatment with Community Health Workers and a simplified-combined protocol: non-inferiority cluster randomized controlled trial in emergency settings in Mali. https://doi.org/10.3389/fpubh.2024.1283148

- Cichon, B et al. Cost-effectiveness of Acute Malnutrition Treatment Using a Simplified or Standard Protocol in Gao, Mali. **To be submitted to the journal.**

Meet Hawa Coulibaly, community health worker at Kourague, Mali.

THE RESULTS

Action Against Hunger is behind the third revolution in the treatment of acute malnutrition, the decentralisation of treatment to CHWs. The first revolution was the discovery of F-100 and F-75 therapeutic milks and the second was the discovery of ready-to-use therapeutic food (RUTF), which enabled outpatient treatment of SAM.

Action Against Hunger is an international leader in the treatment of SAM through CHWs thanks to the research and evidence generation work developed over the last 10 years, in collaboration with other partners in ministries of health and research centres at global and local levels.

In this time, the iCCM+ approach has achieved:

In the field of scientific evidence generation

• Research projects in different contexts, which have resulted in 14 publications in scientific journals and 4 pending publications.

In the field of international recommendations for decision-making

• Inclusion of treatment through community health workers as one of UNICEF's simplified approaches to the treatment of severe acute malnutrition in children (2019-2020).

• The recommendation by Unicef, WHO, ICRC to work with community health workers during the covid 19 pandemic (2020).

• Inclusion of treatment through community health workers in the revised WHO case management guidelines on malnutrition (July 2023).

In the area of national recommendations for decision-making

• **MALI**

— Inclusion of SAM treatment through CHWs in primary health care guidelines (2015).

— Inclusion of SAM treatment through CHWs in Mali's malnutrition case management policy (2022).

• **NIGER**

— Inclusion of SAM treatment through CHWs in the Protocol for the Integrated Management of Acute Malnutrition in exceptional circumstances (2023).

• **MAURITANIA**

— Protocol for the Integrated Management of Acute Malnutrition under revision.

• **SENEGAL**

— Protocol for the Integrated Management of Acute Malnutrition under revision.

In the area of scaling up the iCCM+ approach

• Facilitating the training of community health workers through training of trainers. Accessible in English and French.

• Structuring the monitoring of the iCCM+ approach through monitoring and supervision tools on the KOBO platform.

• Support the expansion of the iCCM+ intervention through the dissemination of the Implementation Guide for the treatment of malnutrition by community health workers.

• Share information useful for the implementation of the iCCM+ approach through the regular publication of newsletters.

• Continue advocacy actions to achieve the institutionalisation of CSAs in order to guarantee their salary and recognition.

UPCOMING CHALLENGES

ICCM+ is a project of the Action Against Hunger network in which all of the organisation's sites participate. Its strategy has 4 key objectives:

Increase the number of countries where the intervention is implemented

— To develop an action plan in collaboration with the Nutrition Directorate, for the implementation of the approach throughout the country with a high prevalence of SAM and low treatment coverage.

— Establish collaboration agreements with various local and international NGOs and donors.

Contribute to scientific evidence with new research studies

— Contribute to filling research gaps by producing new evidence on treatment relapse.

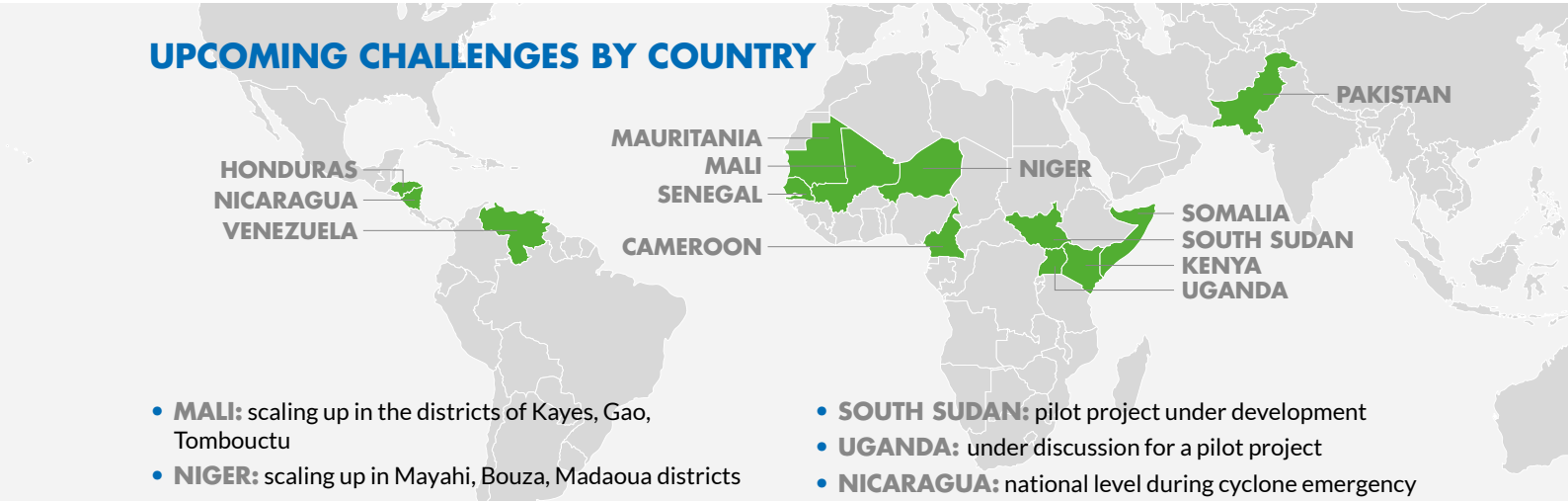
— Measure the social impact of the approach, by integrating prevention actions into the model, as well as cross-cutting environmental and gender issues.

Develop an advocacy plan in favour of the approach

— Promote the professionalism of CHWs by integrating them into the health system and guaranteeing their recognition and remuneration.

— Work to involve all the key players in implementing the approach, in particular the community itself.

UPCOMING CHALLENGES BY COUNTRY



- **MALI:** scaling up in the districts of Kayes, Gao, Tombouctu
- **NIGER:** scaling up in Mayahi, Bouza, Madaoua districts
- **MAURITANIA:** scaling up in the region of Guidimakha and Hod el Chargui
- **SENEGAL:** pilot in the Matam region
- **CAMEROON:** pilot in Mora district
- **KENYA:** pilot in Isiolo and Turkana districts
- **SOMALIA:** pilot project under development
- **SOUTH SUDAN:** pilot project under development
- **UGANDA:** under discussion for a pilot project
- **NICARAGUA:** national level during cyclone emergency 2021
- **VENEZUELA:** regional pilot in 2023
- **HONDURAS:** incorporated to the National Protocol 2023
- **PAKISTAN:** pilot project in Dadu district, Sindh

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For further information on the project:
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