“From awareness to action:
Health extension workers take on non-communicable diseases”

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LAST MILE HEALTH

CATALYZING CHANGE: NCD BLENDED TRAINING FOR HEALTH EXTENSION WORKERS IN ETHIOPIA

Non-communicable diseases (NCDs) are now the leading cause of death in Ethiopia, with an estimated mortality rate of 554 per 100,000 population. Cardiovascular diseases, cancers, chronic respiratory diseases, diabetes, and kidney disease are among the leading NCDs.

Ethiopia has adopted Sustainable Development Goal 3.4 to reduce premature mortality from NCDs by one-third by 2030.

In recognition of the importance of implementing an effective community response to the growing disease burden, Ethiopia's Ministry of Health integrated NCD services into the Health Extension Program package in 2016. Ethiopia's flagship Health Extension Program is recognized as a global leader in expanding access to primary healthcare in rural and remote areas through community health workers, known nationally as health extension workers (HEWs).

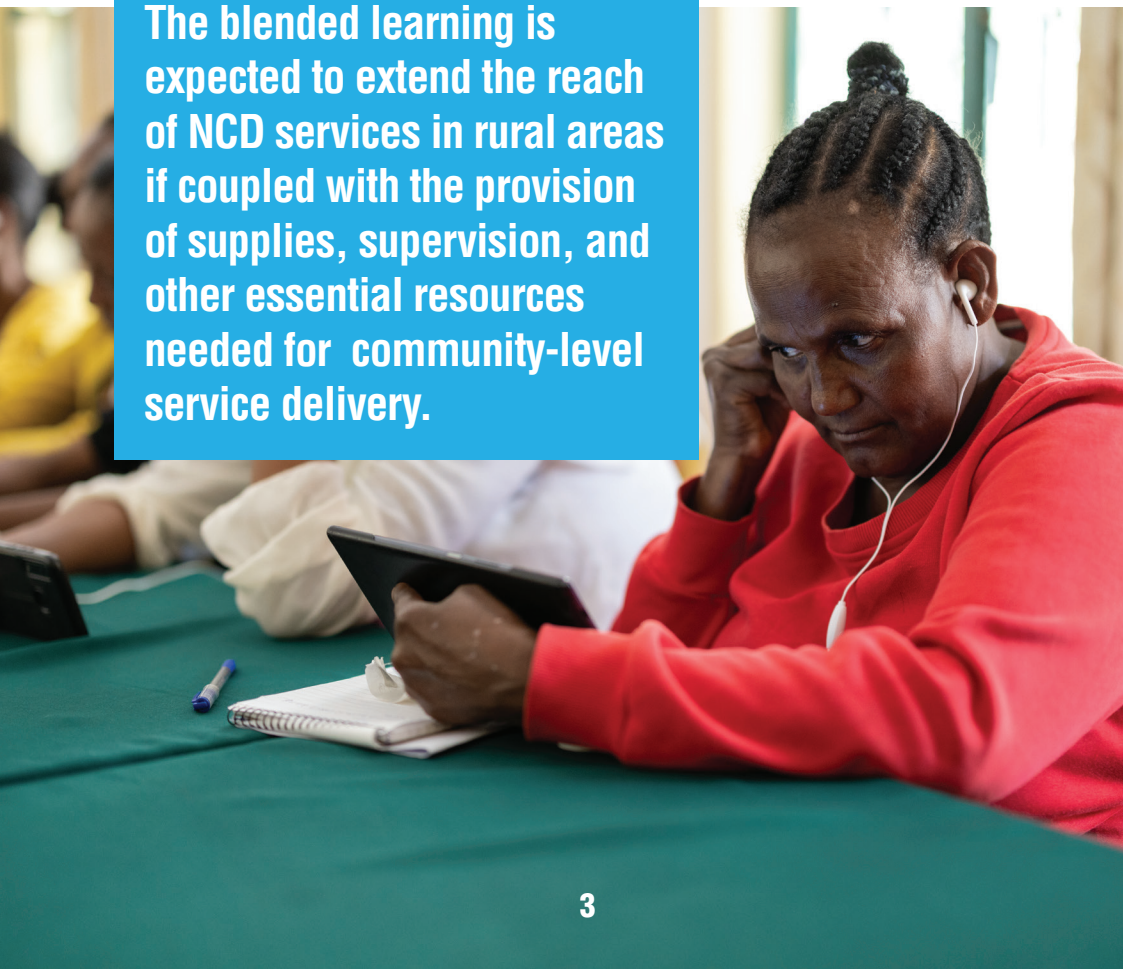
HEWs, most of whom are female, provide preventive, promotive, and curative health services in their communities and are credited with contributing to a reduction in child and maternal mortality in Ethiopia over the past two decades.

The provision of NCD services in rural communities by HEWs is in its early stage in Ethiopia but has significant potential. Despite the launch of the NCDs package in the Health Extension Program in 2016, HEWs have not been trained on NCD through the Integrated Refresher Training (IRT) platform. This has posed a challenge for expanding NCD services in rural communities. Skilled, supervised, and supplied HEWs can play an important role in reducing premature deaths by implementing effective NCD interventions including risk prevention, early detection, screening, and referral.

NCD BLENDED LEARNING FINDINGS

With the aim of expanding access to NCD services in rural communities, the Ministry and Last Mile Health forged a close collaboration to develop a blended learning approach (combining digital and in-person training elements) to equip HEWs and their supervisors with the knowledge and skills needed to deliver NCD interventions. The blended training on NCD is integrated with training on major communicable diseases (MCD), which covers malaria, tuberculosis, human immunodeficiency virus (HIV), and neglected tropical diseases. This was done to ensure the efficiency of training and promote service integration between NCD and MCD.

The blended learning is expected to extend the reach of NCD services in rural areas if coupled with the provision of supplies, supervision, and other essential resources needed for community-level service delivery.



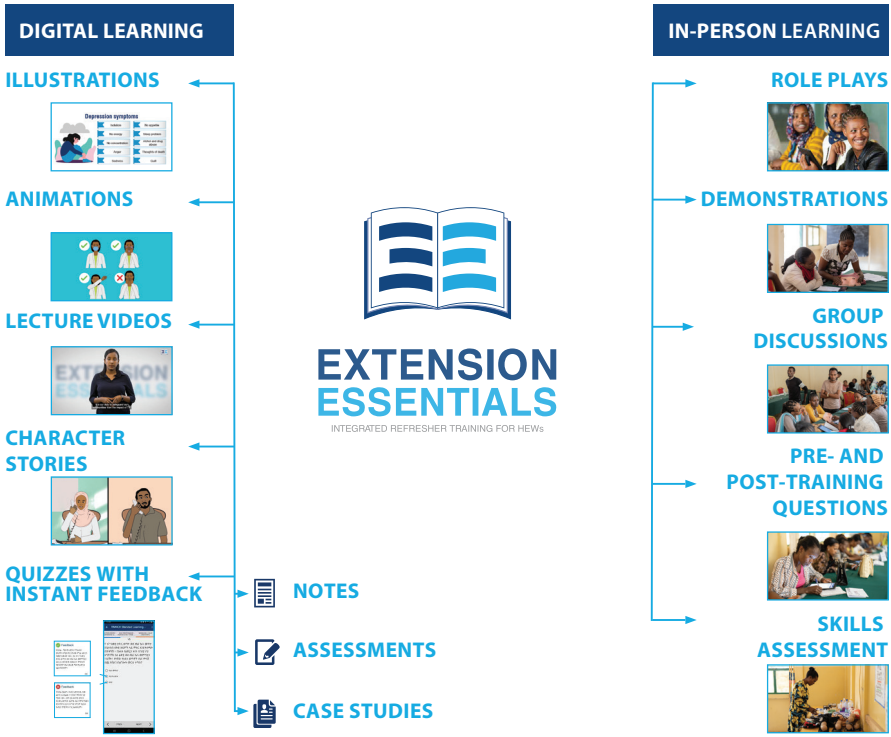
THE SUCCESS OF BLENDED LEARNING REPLICATED FOR NCD TRAINING

The NCD blended training is informed by the success of the blended learning pilot module and subsequent scale up implemented in partnership between the Ministry and Last Mile Health.

The blended learning reproductive, maternal, neonatal, and child health (RMNCH) training module was piloted from November 2021 to May 2022 across 20 districts in Ethiopia. Its instructional design adapts existing training content for HEWs, prioritizing hands-on activities for face-to-face sessions and providing guidance for digital self-learning sessions. Following promising results, the Ministry has formally adopted the blended learning approach into the Health Extension Workers in-service training guideline. To date, the blended RMNCH training has been scaled up to reach nearly 4,000 HEWs and their supervisors.

Building on the success of the pilot and scale-up, additional in-service training modules for HEWs on major communicable and non-communicable diseases were then launched through a continued partnership between the Ministry and Last Mile Health.

FEATURES OF THE INSTRUCTIONAL DESIGN



The blended learning instructional design is an exemplary in-service training experience; it utilizes user-centered design, adult learning principles, digital technology, localized multimedia content, and continuous assessment to provide learners with more engaging and meaningful training.

The digital platform provides real-time data to monitor learner performance and evaluate the training, including activity and course completion, time spent in the app, pre- and post-training knowledge and skill assessments, quizzes, learner feedback, and engagement with digital components after the training.

RESULTS OF EARLY IMPLEMENTATION OF NCD & MCD BLENDED LEARNING

The Ministry has prioritized the NCD and MCD training modules in response to the growing disease burden in the country. These modules are designed to equip HEWs with the necessary knowledge and skills needed to effectively deliver NCD services. The combined delivery of the modules is essential because these diseases are interrelated, with many communicable diseases worsened by underlying or poorly controlled NCDs that often go undiagnosed.

The blended NCDs training marks a significant milestone for HEWs as it is the first of its kind in the country.

While the MCDs training was provided in a fragmented disease-specific manner in the past, it is now integrated as a comprehensive module. This approach ensures an effective and holistic approach to building HEWs' knowledge and skills to tackle major communicable diseases.

In January 2024, Last Mile Health launched the NCDs and MCDs blended training, aiming to train a total of 1,541 HEWs and supervisors from 25 woredas across six regions. In the first six weeks of implementation, a total of 273 HEWs and 27 supervisors were trained with the blended NCD and MCD modules.

NCD & MCD COURSE STRUCTURE

Non-communicable diseases

- NCDs and risk factors
- Major NCDs (hypertension, diabetes mellitus, chronic obstructive pulmonary diseases)
- Cancer
- Eye health
- Mental, neurological, and substance use disorders

Major communicable diseases

- HIV/AIDS and STIs
- Tuberculosis and leprosy
- Malaria and other vector-borne diseases
- Neglected tropical diseases
- Public health emergency management

PROJECT SCOPE

Intervention sites

- 6 regions
- 3.5 million estimated population
- 1541 HEWs and supervisors
- 80 course facilitators
- 70 health information technicians

Region	Woredas	Estimated population	HEWs	Supervisors
South Ethiopia	4	467,500	187	19
Amhara	5	862,500	345	34
Oromia	6	720,000	288	29
Sidama	3	527,500	211	21
Central Ethiopia	4	422,500	169	17
South West Ethiopia	3	502,500	201	20
Total	25	3,502,500	1401	140

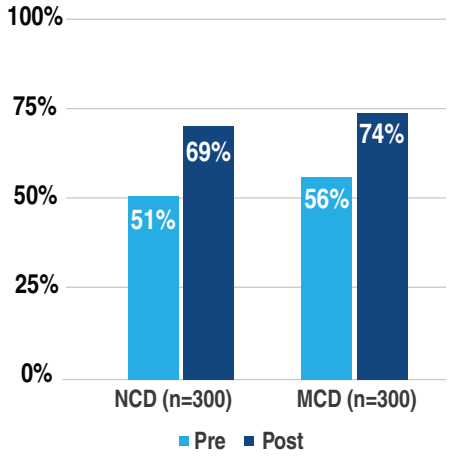
Table 1: NCD and MCD blended training project scope

RESULTS

We introduced pre and post training case-based knowledge and skills assessments on selected competencies to determine if the blended NCD and MCD training supports increased knowledge and skills needed for health extension services. The results presented are from learners who completed both the pre- and post-assessment conducted from January to February 2024 (knowledge assessment includes HEWs and supervisors, N=300; skills assessment only includes HEWs, N=273) from five woredas in two regions (Sidama and South Ethiopia).

We have observed that learners had lower pre-training knowledge and skill scores for NCD and MCD modules compared to RMNCH, which is likely a reflection of limited prior exposure and training on these topics. The marked improvement in post-training knowledge and skill levels indicates the effectiveness of the learning methodology and the use of skills labs at continuous professional development centers to enhance practical skills, employed by the blended learning approach.

Average knowledge score



The average knowledge score increased by 18 percentage points for both NCDs and MCDs.

There was marked improvement in knowledge competencies for all NCDs and MCDs post-training as compared to pre-training levels.

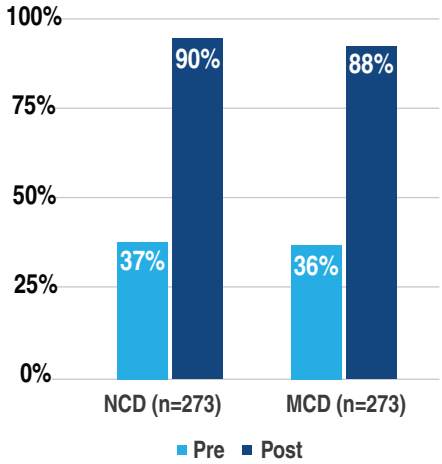
NCD

Average knowledge scores improved from 51% to 69%.

MCD

Average knowledge scores improved from 56% to 74%.

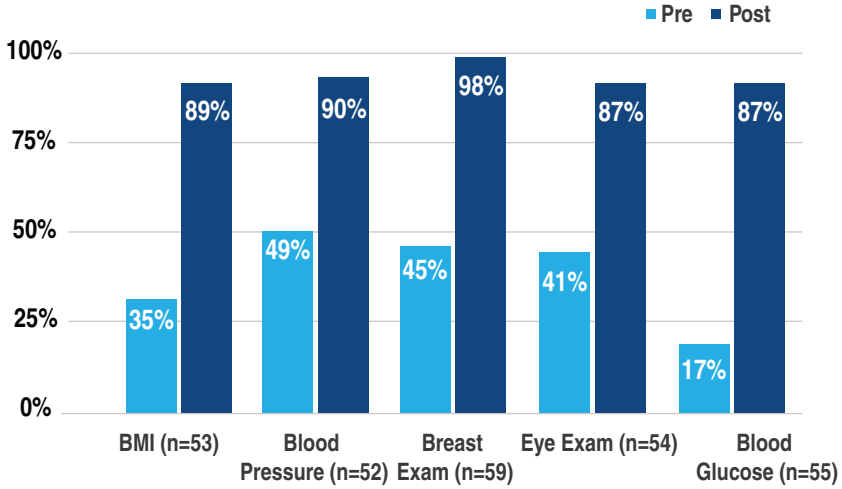
Average skills score (composite)



Average skills scores in NCDs and MCDs increased by 53 and 52 percentage points respectively.

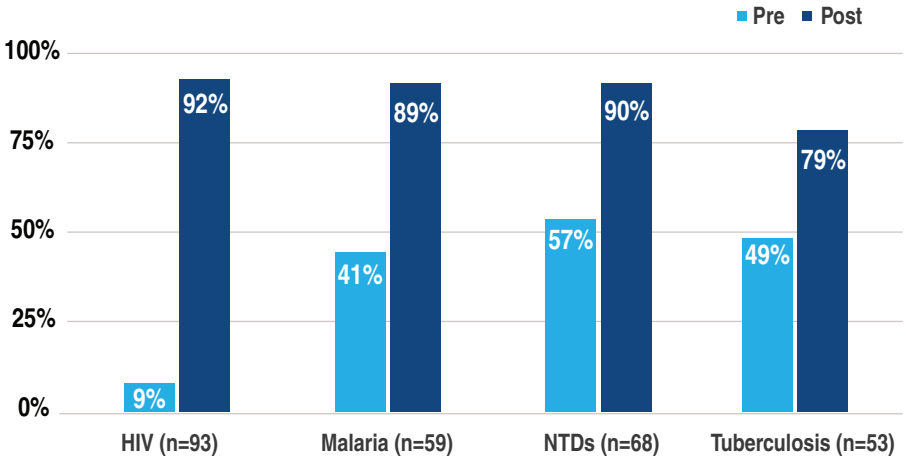
Each learner was assigned one of five NCDs (BMI, Blood Pressure, Breast Exam, Eye Exam and Blood Glucose) and one of four MCDs (HIV, Malaria, NTDs, and TB) assessments. Composite NCDs score is based on average scores across all NCD assessments, and the same is true for MCDs.

Average NCD skills scores



Average NCD skills score increased by 54 (BMI), 41 (blood pressure), 53 (breast exam), 46 (eye exam) and 70 (blood glucose) percentage points.

Average MCD skills scores



The average MCD skills scores increased by 83 (HIV), 48 (malaria), 33 (NTDs), and 30 (TB) percentage points.

Improvements in skills assessment scores were especially impressive for blood glucose measurement (17% pre to 87% post) and for HIV testing (9% pre to 92% post).

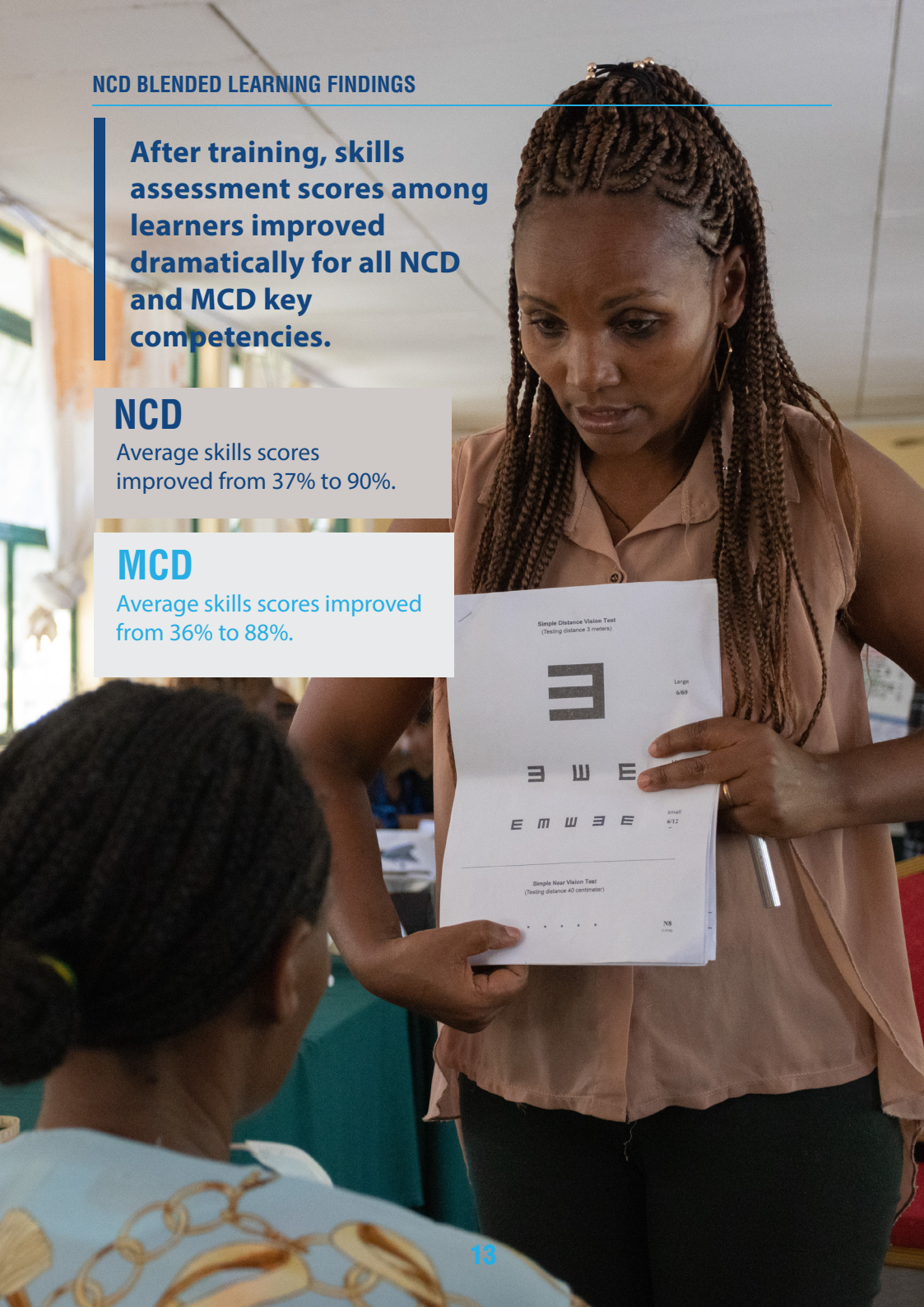
After training, skills assessment scores among learners improved dramatically for all NCD and MCD key competencies.

NCD

Average skills scores improved from 37% to 90%.

MCD

Average skills scores improved from 36% to 88%.



CHALLENGES

Most rural HEWs have not received comprehensive training on NCDs, which poses a challenge on their ability to address the growing burden of these diseases effectively. This project intends to reach only 1,541 HEWs and their supervisors which is limited compared with the need.

In addition, although blended learning markedly improved HEWs' knowledge and skills, there are other system level challenges that need to be addressed for effective service delivery. Furthermore, a shortage of essential equipment and supplies, such as blood pressure apparatus, glucometers, and others poses an additional obstacle to service delivery. These challenges highlight the need for ongoing support and investment in training and resource allocation to strengthen the delivery of NCD services through HEWs in Ethiopia.

CONCLUSION AND NEXT STEPS

Skilled, supplied, and supervised HEWs have the potential to make a considerable impact in reducing premature deaths from NCDs in Ethiopia by making risk prevention, early detection, screening, and referral services accessible at the community level.

The blended learning approach has been proven to be effective in equipping HEWs with the necessary knowledge and skills to provide NCD services in a cost-effective manner. Using continuing professional development centers to train HEWs immensely contributes towards skills improvements by providing the materials and suitable training environment needed for effective skills transfer.

Reaching all HEWs with blended training is essential to expand NCD services at the community level.

To do this, we must leverage existing funding for NCDs and MCDs and mobilize new funding to scale blended training to reach all HEWs. Additionally, providing HEWs with the required equipment, diagnostic supplies and strengthening systems for supervision and support enables the initiation and continuation of NCD services at the community level.