



Evaluation of UNICEF's Integrated Health Systems Strengthening (IHSS) Programme in Mozambique

UNICEF has supported Mozambique for almost four decades. UNICEF's current child survival strategy aims to address gaps in priority areas, including newborn care, management of common neonatal and childhood illnesses, infant and young child feeding, maternal and childhood immunization and malaria prevention and treatment.

The Catalytic Initiative to Save a Million Lives was an international multi-donor partnership designed to accelerate progress on the health-related Millennium Development Goals (MDGs). As part of the Catalytic Initiative, from 2007 to 2013 the Canadian Department of Foreign Affairs, Trade and Development (DFATD) supported UNICEF's Integrated Health Systems Strengthening (IHSS) programme in Ethiopia, Ghana, Malawi, Mali, Mozambique and Niger.

The aim of the IHSS was to reduce maternal and child mortality by strengthening the health system's capacity to deliver high-impact interventions at the community level. The programme was implemented in two phases in Mozambique. During Phase I (2007-2010), the focus was on the adoption of the Reach Every District (RED) approach, organization of child health weeks and procurement and distribution of insecticide-treated nets (ITNs). Phase II (2010-2013) focused on policy dialogue and planning that resulted in the

¹APEs are community health workers chosen by the communities they serve. They are paid a monthly stipend of approximately \$40. Each APE serves communities of between 500 and 2,000 inhabitants and facilitates the link between health staff and the community.

training and deployment of *Agente Polivalente Elementares*¹ (APEs) to deliver integrated community case management (iCCM) of diarrhoea, malaria and pneumonia. The revitalization of the APE cadre began as a pilot in eight districts in 2010 and was scaled up to reach 120 districts in 2013.

Evaluation purpose and objectives

In 2014 DFATD and UNICEF contracted the Medical Research Council (MRC), South Africa, to conduct an external evaluation of the IHSS. The purpose of the evaluation, which was conducted in partnership with the University of the Western Cape and Save the Children, was to evaluate the effect of the IHSS on coverage of a package of maternal and child health interventions in Mozambique and to inform future programme and policy decisions in Mozambique and regionally.

The objectives of the evaluation were to assess the effect of the IHSS on the following:

- **Relevance:** Alignment with national priorities and plans, enhanced policy environment and promotion of gender equity.
- **Effectiveness:** Effect on strengthening the health system and the capacity of government and/or civil society organizations to train, equip, deploy and supervise front-line health workers to deliver a limited package of high-impact health interventions.
- **Impact:** Effect on coverage of health and nutrition interventions supported by the IHSS; as well as the effect on the number of additional lives saved calculated using the Lives Saved Tool (LiST).
- **Sustainability:** The cost of implementing iCCM and the organizational and financial sustainability of the programme.

At the time of the evaluation, the IHSS in Mozambique was still in the process of going to scale. Therefore, the evaluation served as a mid-term assessment and is not intended as an endline evaluation.

The full evaluation report is available at link. Evaluation briefs for each of the six countries and for the overall programme are available at www.unicef.org/evaldatabase/index_82018.html.

Evaluation findings and conclusions

Key conclusion 1: The IHSS programme was well aligned with the policies of the Government of Mozambique.

The evaluation found that the IHSS supported the Government of Mozambique's commitment to increasing access to essential primary care health services, especially in remote areas. Through a series of interventions, including child health weeks, the distribution of ITNs, the promotion of immunization and improved quality of treatment for childhood illnesses, the reach of the health system was extended considerably in rural areas in Mozambique. Significantly, the evaluation team found a clear sense of ownership of the programme by the Ministry of Health.

Key conclusion 2: By training more than 900 community health workers, the IHSS strengthened Mozambique's health system. However, supervision remains a challenge.

The evaluation team found that the APE training programme is well designed and the curriculum appropriate. The four-month training programme covers health promotion, disease prevention and iCCM. By mid-2013, 2,800 APEs were trained, 905 of them using IHSS funding. Most of the APEs interviewed by the evaluation team seemed knowledgeable, highly motivated and articulated a sense of service to their communities. The evaluation team concluded that the training and deployment of APEs significantly improved the reach of the health system in Mozambique, increasing by 50 per cent the number of children under five years of age with access to basic primary health care services.

The IHSS also invested in the supervision of APEs. Facility-based health professionals are responsible for overseeing the work of APEs through monthly

Table 1: Summary of all trend indicators included (% and 95% confidence intervals)

| Indicator | Mozambique rural areas | | | | |
|---|------------------------|----------------------|--------------------|--|---|
| | DHS 2003 (pre IHSS) | MICS 2008 (baseline) | DHS 2011 (endline) | Average annual rate of change pre-IHSS (2003-2008). Data shown as % per year | Average annual rate of change during IHSS (2008-2011). Data shown as % per year |
| Tetanus toxoid vaccination of pregnant women (at least two doses) | 54 (51 - 57) | 65 (63 - 67) | 51 (48 - 54) | 2.20 (1.71 - 2.69) | -4.63 [-5.41 - (-3.85)] |
| Early breastfeeding | 67 (64 - 70) | 65 (63 - 67) | 77 (75 - 79) | -0.50 [-0.97 - (-0.03)] | 4.20 (3.49 - 4.91) |
| Exclusive breastfeeding | 32 (28 - 37) | 38 (N/A) | 40 (36 - 45) | 1.20 (0.07 - 2.33) | 0.80 (-1.10 - 2.70) |
| IPT | No Data | 39 (N/A) | 17 | - | -7.2 [-7.9 - (-6.6)] |
| Vitamin A supplementation* | 43 (41 - 46) | 65 (63 - 68) | 69 (66 - 71) | 4.38 (4.07 - 4.69) | 1.07 (0.60 - 1.53) |
| Measles immunization* | 71 (67 - 75) | 69 (66 - 73) | 78 (74 - 81) | -0.30 (-0.91 - 0.31) | 2.80 (1.91 - 3.69) |
| DPT3 immunization | 66 (61 - 70) | 69 (64 - 73) | 73 (69 - 77) | 0.60 (-0.03 - 1.23) | 1.50 (0.57 - 2.43) |
| ITN | No Data | 22 (N/A) | 33 (N/A) | - | 3.8 (3.2 - 4.3) |
| Care-seeking of suspected pneumonia | 53 (47 - 59) | 65 (57 - 71) | 44 (33 - 55) | 2.38 (1.24 - 3.52) | -6.90 [-10.31 - (-3.49)] |
| ORS coverage | 42 (37 - 47) | 37 (34 - 41) | 50 (45 - 56) | -0.86 [-1.67 - (-0.05)] | 4.33 (2.94 - 5.72) |
| Care-seeking for fever | 46 (42 - 50) | No Data | 50 (45 - 55) | - | - |
| Malaria treatment | 16 (13 - 19) | 27 (23 - 31) | 32 (28 - 36) | 2.18 (1.71 - 2.65) | 1.67 (0.54 - 2.80) |

IPTp = intermittent preventive treatment of malaria for pregnant women; ITNs = insecticide-treated nets; DPT = diphtheria, pertussis and tetanus; ORS = oral rehydration salt; N/A = Not Available? * Used 2003 as a baseline

- Decrease in rate of change between pre-IHSS and IHSS programme period
- Stable coverage rate between pre-IHSS and IHSS programme period
- Increase in annual rate of change between pre-IHSS and IHSS programme period

visits. However, as field visits are highly dependent on the availability of vehicles and petrol, in practice they occur much less often, about once every three months in many cases. The evaluation found that this level of supervision is inadequate and may threaten the quality of care and morale of APEs.

The motivation and retention of APEs is another factor that may affect the long-term success of the strategy. In interviews conducted by the evaluation teams, dissatisfaction with the size of the monthly subsidy was frequently cited as a demoralizing factor for APEs. While \$40 per month is a significant amount in poor rural areas, it is less than a living wage. There were often delays in the payment of the subsidy, causing further frustration.

Key conclusion 3: The IHSS supported the procurement and distribution of a range of essential supplies. However, improved monitoring is needed to ensure accountability.

On completing the training programme, each APE received a bicycle, flashlight, register book, shoulder bag and referral slips. Ongoing supplies were delivered monthly to the nearest health facility where they were collected by the APEs. In general, the evaluation found an adequate supply of drugs and supplies for the delivery of iCCM. In fact, Mozambique was the best performing country in this regard, with 94 per cent of APEs reporting no stock outs of oral rehydration salts (ORS), 86 per cent reporting no stock outs of amoxicillin, 79 per cent reporting no stock outs of artemisinin-combination therapies (ACTs) and all APEs reporting consistent supplies of zinc.

Significantly, the evaluation found a discrepancy between the number of drugs provided to APEs and the number of cases of diarrhoea, malaria and pneumonia treated. While the national protocol is for APEs to return surplus stock to the health facility to be re-absorbed into the facility's stock, it was not clear if this was being done. The evaluation team concluded that monitoring of surplus stock is inadequate and needs to be improved.

Key conclusion 4: The IHSS catalysed increased utilization of community health services.

The evaluation found that as communities became aware of the newly trained APEs, their consultation numbers increased. Data show an increasing caseload during programme implementation, with an average of 46 iCCM cases per APE (about one per week) between June 2011 and May 2012, rising to 142 cases (three per week) between June 2012 and May 2013. While these caseloads are relatively low when compared to other countries, they reflect an important trend towards care seeking at the community level.

Data also show that of those caregivers who sought care from appropriate providers for their children's fever, suspected pneumonia and diarrhoea, there was an increase in the proportion of those who saw a community health worker. The evaluation team concluded that these improvements in care seeking at the community level can be plausibly attributed to the IHSS.

Key conclusion 5: Improvements in coverage of a number of focus interventions were realized during the IHSS.

To assess the plausible contribution of the IHSS to changes in coverage of supported interventions, the evaluation team compared the annual rate of change in coverage between the pre-IHSS period (2003-2008) and the IHSS period (2008-2011). These data revealed higher annual rates of change in the IHSS programme period for early breastfeeding, measles vaccination and ORS coverage (see Table 1). A decline in the annual rate of coverage change

between the pre-IHSS and IHSS programme period occurred for tetanus toxoid vaccination of pregnant women, vitamin A supplementation and care-seeking for suspected pneumonia.

The iCCM programme in Mozambique had not been scaled up by the time endline data was collected in 2011. The evaluation was therefore not able to attribute improvements in coverage to the IHSS. However, the evaluation found that the results were "highly commendable and promising" and that improvements in coverage of key child health indicators are likely to be found in the future.

Key conclusion 6: The IHSS contributed to improved equity in access to health services.

The evaluation revealed improvements in equity around a number of interventions. For instance, as shown in Figure 1, the percentage of children treated with antimalarials showed very similar (increasing) coverage rates for both the richest and poorest quintiles between 2003 and 2008 (the pre-IHSS period). However, by 2011 treatment with antimalarials among the poorest quintile surpassed that of the richest. Although the reasons for this shift are unclear, the evaluation team concluded that it is plausible that the IHSS contributed to increased access among the poorest quintile.

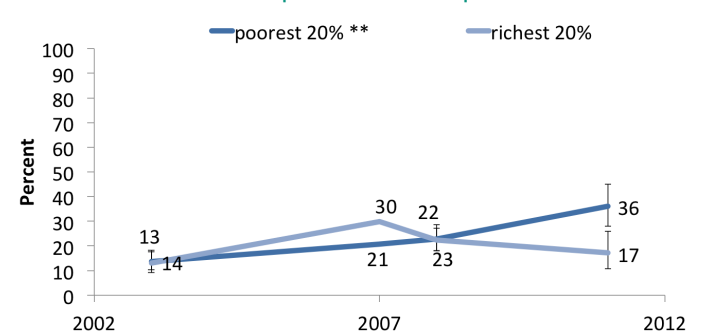
Key conclusion 7: While attributing deaths averted to the programme would be premature, the IHSS delivered interventions that have the potential to save lives.

The evaluation used LIST to investigate the extent to which changes in child mortality could be attributed to increases in coverage of IHSS-supported interventions. The evaluation team was clear that determining the impact of the IHSS programme on lives saved would be premature at the time of the evaluation. However, the modelling exercise indicated that IHSS-focus interventions, including ITNs, the haemophilus influenzae type b (Hib) vaccine, ORS and ACTs, have the potential to save lives in Mozambique.

Key conclusion 8: The additional cost of an iCCM treatment was relatively high, at an average of \$7.98 per treatment.

The costing exercise conducted by the evaluation team found that the additional cost of a malaria treatment provided by an APE, including rapid diagnostic test and drugs, was \$7.50. Treating one case of childhood diarrhoea with ORS and zinc cost \$8.68 and pneumonia costs were found to be \$7.53 per treatment. The weighted average additional cost of an iCCM treatment in Mozambique was \$7.98, which is relatively high compared to Malawi and Niger, where the average cost was \$1.44 and \$3.32, respectively, but much lower than in Ghana, where the cost was \$13.20.

Figure 1: Treatment with any antimalarial amongst children <5 with fever in richest and poorest wealth quintiles



The evaluation found that fixed costs, including training, supervision, monthly stipends and equipment, represented the bulk of the costs of the APE programme, accounting for 84 per cent of malaria treatment costs, and 96 per cent for diarrhoea and pneumonia. The average drug cost per treatment was found to be \$0.77, or 9 per cent of the total cost per treatment. The evaluation team suggested that as the programme matures, the average APE caseload should increase, decreasing the cost per treatment.

Key conclusion 9: Gender equality remains a challenge in Mozambique's iCCM programme, with females making up only 30 per cent of APEs trained by the IHSS.

One of the explicit intentions of the IHSS was the empowerment of women, particularly through training women to deliver community-based health care. The recruitment of women as APEs was made a priority by the Ministry of Health and included in the 2010 APE National Policy. However, UNICEF data show that only 30 per cent of APEs trained through the IHSS were female.

The evaluation found that recruiting women to become APEs is particularly difficult in the north due to cultural constraints, low educational levels among women (APEs are required to have a minimum of seven years of schooling) and strong reluctance of husbands to allow wives to pursue a four-month training course that takes them away from home.

The Way Forward

The evaluation found that the APE programme in Mozambique is clearly part of national policy and is fully owned by the Ministry of Health. The main concern about the sustainability of the programme, consistently reiterated in interviews with key stakeholders, is the capacity of the government to take on the responsibility for APE subsidies. As an interim measure, some donors have indicated their willingness to continue to pay the cost of training and supplies if the government commits to paying the APE subsidies. However, the government's clear support of the programme has not yet translated into a commitment to pay for subsidies.

Key recommendations to UNICEF and its partners

- ✓ Explore various mechanisms to ensure donor and NGO coordination and adherence to programme norms, while allowing flexibility to explore innovative approaches.
- ✓ Carefully pilot and evaluate the possibility of expanding the services offered by APEs, including around family planning and tuberculosis treatment.
- ✓ Revise human resource requirements to regularize the APE workforce.
- ✓ Conduct trials on cost recovery mechanisms.
- ✓ Design and implement activities to generate increased demand for the services of APEs.
- ✓ Improve and regularize the supervision of APEs, including training on the proper use of registers and reports.
- ✓ Compare the current four-month continuous training model with episodic training of one month every quarter for four rounds.
- ✓ Promote experienced and well-functioning APEs to a supervisory or mentoring role.
- ✓ Conduct periodic lot quality assurance sampling (LQAS) surveys to validate routine data and assist with planning.
- ✓ Develop a set of indicators to measure the effectiveness of APEs.
- ✓ Encourage government commitment to take on the financial burden of APE subsidies.
- ✓ Maintain short-term donor funding for the programme while alternative sources are explored.
- ✓ Encourage the World Bank and the Global Fund to support APEs as a mechanism to deliver integrated primary health care in hard-to-reach and vulnerable communities.



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This brief is based on the comprehensive Evaluation of UNICEF's Integrated Health Systems Strengthening (IHSS) Programme in Mozambique, which can be downloaded from www.unicef.org/evaldatabase/index_82018.html. The purpose of this brief is to facilitate the exchange of knowledge between UNICEF and its partners. The contents of the evaluation report, and consequently of this brief, do not necessarily reflect the policies or views of UNICEF. For more information, please contact the UNICEF Health Section.