Summative External Evaluation of UNICEF’s Integrated Health Systems Strengthening (IHSS) Programme in Ethiopia, Ghana, Malawi, Mali, Mozambique and Niger

Improving the health of the world’s women and children is a core UNICEF objective. UNICEF’s role in supporting governments in this regard extends across a number of areas, including scaling up high-impact interventions, promoting healthy behaviours and contributing to the evidence base.

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 2003 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 IHSS aimed to contribute to the ultimate outcome of reducing maternal and child mortality. In alignment with government policies and plans, the IHSS sought to strengthen the health system’s capacity to deliver high-impact interventions at the community level, thereby contributing to increased intervention coverage and lives saved. The programme was implemented in two phases. In most countries, Phase I (2007-2010) focused on the delivery of a number of preventive interventions, including immunizations, vitamin A supplementation, promotion of infant and young child feeding (IYCF) practices and the distribution of insecticide-treated nets (ITNs). During Phase I, the Lives Saved Tool (LiST) was applied across the six focus countries, showing that the greatest reductions in under-five mortality could be realized by strengthening...
the case management of childhood illnesses. As a result, and in close consultation with DFATD, a decision was made to focus the remainder of the programme on scaling up integrated community case management (iCCM) of diarrhoea, malaria and pneumonia (the three main killers of children under-five). Thereafter, Phase II (2010-2013) focused on:

1. Formation of policy reforms to allow community health workers (CHWs) to provide treatment for diarrhoea, malaria and pneumonia, and alignment of iCCM within existing policies and strategies;
2. Training on iCCM for CHWs and CHW supervisors at health facilities; and
3. Establishment of systems for supplying CHWs with essential commodities, and supervising and monitoring their work.

### Evaluation purpose and objectives

In 2014 DFATD and UNICEF contracted the Medical Research Council (MRC), South Africa to conduct a summative 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 the focus countries and to inform future programme and policy decisions in those countries.

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 LiST.
- **Sustainability:** The cost of implementing iCCM and the organizational and financial sustainability of the programme.

This evaluation brief presents the overall findings from the six countries, highlighting similarities and differences across the settings. Evaluation briefs for each of the six countries and for the overall programme are available at [www.unicef.org/evaldatabase/index_82018.html](http://www.unicef.org/evaldatabase/index_82018.html).

### Evaluation findings and conclusions

#### Key conclusion 1: The IHSS was well aligned with the policies of the focus countries.

In some countries, alignment was assisted by the IHSS capitalizing on opportune moments when key policies and strategies were being formed or implemented (e.g. Niger’s creation of the *Cases de Santé* platform of service delivery; Ghana’s change of policy to allow CHWs to administer antibiotics and zinc). However, in some countries the introduction of iCCM required significant effort to gain buy-in from various stakeholders, including policymakers, health practitioners and communities. The evaluation found that although UNICEF engaged in an intense process of policy work in each country, Ethiopia stands out as an example where the most intensive work was carried out to successfully convince policymakers to implement and scale up iCCM.

#### Key conclusion 2: By training more than 50,000 community health workers on iCCM, the IHSS strengthened the health systems of the focus countries. However, supervision remains a challenge.

The evaluation demonstrates that the programme invested heavily in the training of CHWs for the provision of iCCM. In fact, the programme contributed to the training of more than 50,000 CHWs across the six focus countries, ranging from 27,116 in Ethiopia to 905 in Mozambique. The length of the training varied across countries. Ghana provided CHWs with five days of basic training and an additional three days on iCCM. At the other end of the spectrum, CHWs in Mozambique received four months of basic training and a further 4-5 weeks of iCCM training.

The evaluation also found that the IHSS invested in the training of over 10,000 health facility staff to equip them with the skills necessary to supervise iCCM delivery. While the countries adopted different models of supervision, in general policies stipulated that CHWs were to be visited at least once every three months by their direct supervisors. However, many of the CHWs did not receive regular supervision visits as planned. In Ghana, Ethiopia, Malawi and Mali, only 55-65 per cent of CHWs reported having received a supervision visit during the last three months. Niger

### Table 1: Timeline of phasing-in of iCCM by country

<table>
<thead>
<tr>
<th>Country/Period*</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>No iCCM</td>
<td>iCCM (diarrhoea, malaria)</td>
<td></td>
<td></td>
<td>Full iCCM</td>
<td></td>
</tr>
<tr>
<td>Ghana</td>
<td>No iCCM</td>
<td></td>
<td>Full iCCM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malawi</td>
<td>No iCCM</td>
<td></td>
<td></td>
<td>Full iCCM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mali</td>
<td>No iCCM</td>
<td></td>
<td></td>
<td></td>
<td>Full iCCM</td>
<td></td>
</tr>
<tr>
<td>Mozambique</td>
<td>No iCCM</td>
<td></td>
<td></td>
<td></td>
<td>Full iCCM</td>
<td></td>
</tr>
<tr>
<td>Niger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Full iCCM</td>
<td></td>
</tr>
</tbody>
</table>

and Mozambique were more successful in this regard, where the figures were 71 per cent and 98 per cent, respectively. Most countries experienced a range of challenges around supervision, including insufficient funding for transportation and overstretched human resources.

Key conclusion 3: The IHSS supported the procurement and distribution of a range of essential supplies. However, systemic supply chain challenges led to frequent stock outs.

The evaluation demonstrates that the IHHS was successful in procuring a range of drugs and supplies for the delivery of iCCM, including oral rehydration salts (ORS) and zinc for the treatment of diarrhoea, cotrimoxazole and amoxicillin for the treatment of pneumonia, and insecticide-treated nets (ITNs), rapid diagnostic tests (RDTs), artemisinin combination therapy (ACT) and fansidar for the prevention, diagnosis and treatment of malaria. However, many countries reported systemic and ongoing challenges within their supply chain systems, resulting in frequent stock outs (see Figure 1). The evaluators found that Malawi had the most significant challenges around supply, with only 34 per cent of CHWs reporting consistent stock of ORS and amoxicillin. Mozambique was the best performing country in this regard, with 94 per cent of CHWs reporting no stock-outs of ORS, 86 percent reporting no stock-outs of amoxicillin, 79 per cent reporting no stock outs of ACT and all CHWs reporting consistent supplies of zinc.

In Mali and Niger, the evaluation found that iCCM procurement and distribution was done outside of the government supply chain system. In both cases, this was done to circumvent the challenges faced by government systems, including poor infrastructure and weak administrative, storage and transport systems. The evaluation found that while this allowed for the rapid and reliable provision of iCCM drugs and equipment, it also increased reliance on external donor support, thus posing a risk to the sustainability of iCCM in both countries.

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

The evaluation found that the IHSS catalysed increased care-seeking for fever, suspected pneumonia and diarrhoea at the community level in a number of countries. For instance, in Niger the proportion of diarrhoea, malaria and pneumonia cases treated at the community level increased from 5 per cent in 2006 to 16 per cent in 2012. A similar nine-percentage point increase was achieved in Malawi. In Mali, data was not disaggregated to provider level for the endline survey. However, based on routine data, the IHSS-trained CHWs treated 18 per cent of all under-five cases of pneumonia, malaria and diarrhoea treated in the public sector (32 per cent of diarrhoea cases, 20 per cent of pneumonia cases and 15 per cent of malaria cases), representing a significant extension of Mali’s health system into the community.

Key conclusion 5: The IHSS contributed to improvements in coverage of a number of high-impact, low-cost interventions.

The evaluation found increased coverage in a number of programme-supported interventions during the implementation of the IHSS, with increases in the provision of oral rehydration salts (ORS; achieved in 5 of 6...
countries), measles vaccination (four of six countries), insecticide-treated nets (ITNs; three of six countries) and malaria treatment (three of six countries), featuring prominently (see Figure 3). The evaluators found less improvement in coverage for exclusive breastfeeding, diphtheria, tetanus, pertussis (DPT3) vaccination and care-seeking for suspected pneumonia (see Figure 2). A number of factors, including the reliance on existing surveys to assess these changes, the fact that the endline survey data did not enable sufficient time for changes to occur in four of six countries and lack of a counterfactual for comparison, limited the ability of the evaluation to attribute the changes directly to the IHSS. However, after taking all data into account, including comparing the annual rates of change in coverage between the pre-IHSS period and the IHSS period, the evaluation team concluded that the programme plausibly contributed to the improvements in coverage realized. The fact that Malawi and Niger, which had longer implementation periods prior to the endline surveys, saw substantial coverage increases in six of 13 interventions and witnessed statistically significant increases in care-seeking at community level, was seen to be an encouraging sign.

Key conclusion 6: The programme’s effect on equitable access to health services was mixed.
To investigate the programme’s impact on equity, the evaluation compared coverage rates among the poorest and richest quintiles of the target population before and after IHSS implementation. Overall, the results were mixed, with equity improving around some interventions, holding steady among others and worsening around a few. For instance, as shown in Figure 4, the percentage of children treated with antimalarials in Mozambique 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. The results were less positive in other focus countries, such as Mali, where the financial, security and political crises had a disproportionate impact on coverage of health interventions for children in the poorest wealth quintile.

Key conclusion 7: The IHSS contributed to a significant number of deaths averted.
The evaluation found that a reduction in child mortality was observed among target populations in all countries with mortality and coverage data available (with the exception of Benishangul-Gumuz region of Ethiopia). LiST was used to estimate the number of child deaths averted as a result of the scale up of programme-supported interventions. The results varied considerably between countries (see Table 3). In Niger, the modelling exercise found that the lives of 65,300 children were saved during the programme period, 56,600 of which (89 per cent) were due to IHSS-supported interventions. At the other end of the spectrum, 3,800 child deaths were averted during programme implementation in Ghana, 60 per cent from IHSS-supported interventions. Given the complex donor environment and shared responsibility for implementation in each of the settings, causal attribution of impact was not possible. However, the evaluation team concluded that the programme plausibly contributed to the lives saved.

Key conclusion 8: The additional cost per iCCM treatment varied significantly between countries.
The evaluation team conducted costing exercises to determine the additional cost of iCCM treatments provided by CHWs trained through the IHSS. As shown in Table 3, the weighted average additional cost varied significantly between countries, from a low of $1.44 in Malawi to a high of $13.80 in Ghana.

The fixed cost per treatment was the main factor influencing this variation, which was in turn dependent on a number of factors, including the
average caseload per CHW. For instance, in Niger, where each CHW provided an average of 603 iCCM treatments per year, the weighted average cost of an iCCM treatment was $3.32 (the fixed cost represented only 9 per cent of the average treatment cost). Conversely, in Ghana, where each CHW provided just nine iCCM treatments per year, the weighted average cost of an iCCM treatment was $13.20 (the fixed cost represented 93 per cent of the average treatment cost). The evaluation found the variation in the cost of drugs and tests per treatment was much smaller, ranging from approximately $0.90 in Ethiopia and Ghana to $3.00 in Niger.

Key conclusion 9: The IHSS programme made significant efforts to increase women’s participation and achieve gender equality. However, there were challenges in meeting some of the gender-related objectives.

One of the explicit intentions of the IHSS was the empowerment of women, particularly through training women to deliver community-based health care. The evaluation found that the percentage of women trained in iCCM differed widely across the countries, from a high of 100 per cent in Ethiopia to a low of 28 per cent in Malawi. Countries such as Mali and Niger, who were initially able to recruit a larger proportion of female CHWs, found that their final ratios favoured men due to higher levels of attrition among women. A number of challenges were reported in countries with low participation of women as CHWs, including low education levels of women (Mozambique, Mali and Niger) and cultural issues which limit married women from working outside the home or village (Mozambique, Mali and Malawi).

The IHSS also included a gender equity focus by delivering interventions known to be effective for addressing gender dynamics, such as making services more accessible to caregivers, delivering interventions directly through home visits and seeking to mobilize and engage communities for improving child health and nutrition outcomes.

The Way Forward

The evaluation found that the IHSS was successful and indeed catalytic in strengthening community-level health systems in the focus countries. Scalable policies and programmes were developed and implemented, and the benefits recognized by most governments and other stakeholders, providing a policy environment that will support the continued scale up of iCCM in most countries. However, in both the short- and medium-term it is likely that the focus countries will continue to rely on external assistance to sustain and scale up their iCCM programmes. This is especially true in Malawi, Mali and Niger. The new funding model of the Global Fund, which could cover a significant share of the operational costs of iCCM (including CHW salaries), could be an important source of support. In addition, the RMNCH Trust Fund is seeking to fill gaps in government and donor funding to maintain evidence-based MNCH interventions in high-burden countries, including the six focus countries.

Table 3: Results of the Lives Saved analyses

<table>
<thead>
<tr>
<th>Country</th>
<th>Proportion of deaths averted at endline year</th>
<th>Cumulative number of deaths averted throughout IHSS implementation</th>
<th>Top three life saving interventions at endline</th>
<th>Proportion of deaths averted due to interventions supported by the IHSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>Range across three regions: 7-32%</td>
<td>6,500 (2007-2013)</td>
<td>• ACT (21%)</td>
<td>63% (2007-2013)</td>
</tr>
<tr>
<td>Malawi</td>
<td>33% (2013)</td>
<td>43,000 (2007-2013)</td>
<td>• Pneumococcal vaccine (25%)</td>
<td>63% (2007-2013)</td>
</tr>
</tbody>
</table>
Key recommendations to UNICEF and its partners

National policymakers
- Consider national-level implementation of community-based platforms, such as iCCM, for the delivery of MNCH and nutrition interventions.
- Prioritize immunizations in MNCH programmes, especially the HiB and pneumococcal vaccines, which featured prominently in the lives saved modelling.
- Include iCCM in proposals to the Global Fund and RMNCH Trust Fund.

Programme managers
- Ensure communities drive the equitable and transparent selection of CHWs.
- Prioritize women for recruitment as CHWs and address issues related to their attrition.
- Improve the supervision of case management by establishing accountability mechanisms, such as the use of objective supervision checklists.
- Improve information management systems around drug stock outs and expired drugs.
- Ensure sufficient funding for the transport costs of CHWs, including the procurement, operation and maintenance of bicycles and motorbikes.

Researchers and evaluators
- Conduct additional research to understand what factors influence caregivers’ choices of location of treatment for ill children.
- Undertake further sustainability studies once iCCM programmes have reached increased maturity and higher utilization rates.
- Conduct additional studies around the effects of iCCM on reduced costs at the health centre level.