



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

Niger is one of the poorest countries in the world. More than one in five children in the country dies before the age of five. Within the health sector, UNICEF is working with the Government of Mali to implement high-impact, cost-effective health and nutrition services targeted at hard-to-reach communities.

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. In Niger, the programme focused on training and deploying community health workers, known as the *Agents de Santé Communautaire*¹ (ASC), to deliver integrated community case management (iCCM) of diar-

rhoea, malaria and pneumonia. Other activities included the procurement and distribution of essential drugs and supplies and the training of nurses and doctors in the Integrated Management of Childhood Illness (IMCI).

IHSS activities were implemented across the country's eight regions, with a particular emphasis on rural and hard-to-reach areas (with a total population of 17.16 million people).

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

¹The ASC cadre is a paid community-based lay health worker, with a monthly salary of approximately CFA50,000 (~USD\$100).

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 Niger and to inform future programme and policy decisions in Niger 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.

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 was well aligned with the policies of the Government of Niger.

Niger has a long history of using community health workers to increase access to primary health care, including through the establishment of the ASC cadre. The evaluation found that the programme was well aligned with these priorities and built on the existing community-based service delivery platform. Further, the timing of the IHSS was opportune as it was able to support the country's shift towards free health care for pregnant women and children under five years of age, which began in 2006.

Prior to the IHSS, the services provided by ASCs were largely preventative, but included treatment of diarrhoea and malaria. This changed in 2008, with a policy shift to allow ASCs to provide antibiotics to treat pneumonia. This policy change was partly the result of long-term UNICEF lobbying and support for pilot projects that demonstrated the feasibility of community-based treatment.

Significantly, the evaluation found that not all stakeholders agreed with the focus of the IHSS, with some expressing the view that programme goals could

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

Indicator	Niger rural areas			Average annual rate of change pre- IHSS (1998-2012). Data shown as % per year	Average annual rate of change during IHSS (2006-2012). Data shown as percentage points per year
	DHS 1998 (pre-IHSS)	DHS 2006 (proxy for phase I baseline)	DHS 2012 (proxy for phase II end line)		
Tetanus toxoid vaccination of pregnant women (at least 2 doses)	13 (11-16)	21 (19-24)	51 (48-54)	1 (0.8-1.2)	5 (4.6-5.3)
IPTp (at least one dose)	N/A	0.4 (0.1-1)	58 (54-61)	N/A	
Postnatal care for the mother	N/A	11.7	12.5	N/A	10 (9-10)
Early breastfeeding	24 (21-28)			3 (2-3)	0.1 (-0.1-0.4)
Exclusive breastfeeding	0.4 (0-1)	44 (40-48)	48 (45-51)	2 (1-2)	2 (1-2)
Measles immunization	28 (24-32)	13 (10-17)	22 (19-26)	2 (1-2)	4 (4-5)
DPT3 immunization	15 (12-19)	42 (37-47)	67	3 (2-3)	5 (5-6)
Indicator	Niger rural areas			Average annual rate of change pre- IHSS (2000-2012). Data shown as % per year	Average annual rate of change during IHSS (2006-2012). Data shown as percentage points per year
	MICS 2000 (pre-IHSS)	DHS 2006(proxy for phase I baseline)	DHS 2012 (proxy for phase II end line)		
Vitamin A supplementation	58 (53-64)	68 (65-72)	58 (55-61)	2 (1-2)	-2 [-2(-1.5)]
Care-seeking for suspected pneumonia	23 (18-29)	45 (38-51)	50 (43-57)	4 (3-4)	1 (0-2)
ORS coverage	13 (11-16)	16 (13-18)	44 (40-47)	0 (0-1)	5 (4-5)
Care-seeking for fever	17 (14-20)	42 (40-47)	49 (45-54)	4 (4-5)	1 (1-2)
Malaria treatment	47 (43-51)	31 (27-35)	17 (15-20)	-3 (-3,-2)	-2 [-3 (-2)]
ITN	4 (1-10)	6 (5-8)	18 (16-19)	0 (0-1)	2 (1.7-2.1)

IPTp = intermittent preventive treatment of malaria for pregnant women; ITNs = insecticide-treated nets; DPT = diphtheria, pertussis and tetanus; ORS = oral rehydration salt

- 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

have been more closely aligned with the government's broader vision by, for instance, including more emphasis on maternal survival.

Key conclusion 2: By training more than 2,500 community health workers, the IHSS strengthened Niger's health system.

Before being posted to a health post (*Cases de Santé*), ASCs were required to undergo two types of training. The first was basic health training of six months, with three months in a classroom and three months of practical training at an integrated health centre (*Centre de Santé Integre*). This training was funded by and delivered by the Ministry of Health. Once qualified as an ASC, (s)he received an additional six-day training course on iCCM. The evaluation indicated that the IHSS provided iCCM training for 2,560 ASCs, concluding that this significantly strengthened Niger's health system at the community level.

The programme also invested in the training of frontline health workers to enable them to supervise ASCs. Although less than 10 per cent of ASCs received a monthly supervision visit (as required by Ministry of Health protocol), quarterly supervision was relatively frequent, with 71 per cent of ASCs receiving quarterly supervision in 2013.

Key conclusion 3: The IHSS supported the procurement and distribution of a range of essential supplies. However, the use of a parallel system was contrary to the programme's health systems strengthening approach.

The IHSS programme, with matching funds from UNICEF, funded the procurement and distribution of the medicines required for the treatment of diarrhoea, malaria, pneumonia and acute malnutrition. The evaluation team concluded that without this contribution, the implementation of the government's free health care policy would not have been successful. While the evaluation found evidence of stock outs for all iCCM drugs, with stock outs of zinc and artemisinin-combination therapies (ACTs) the most common, most health posts did not experience stock outs of longer than one week.

Significantly, the evaluation found that IHSS procurement and distribution was done outside of the Ministry of Health supply chain system for other drugs. This was done to circumvent the challenges faced by government systems, including poor infrastructure and limited administrative, storage and transport systems. 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 the country.

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

The evaluation found high utilization of iCCM-trained ASCs in Niger. In 2012, the 2,560 programme-trained ASCs delivered 1.5 million iCCM treatments to children under 5 years of age. Each ASC provided an average of 603 iCCM treatments a year (54 per cent of them for malaria, 27 per cent for pneumonia and 18 per cent for diarrhoea). Together with the government's free health care policy, the evaluation found that the IHSS was central to this high rate of care-seeking through the training of ASCs and provision of free medicines and supplies.

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

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 (2000-2007) and the IHSS period (2007-2012). These data revealed higher annual rates of change in the IHSS programme period for tetanus toxoid, DPT3 and measles vaccination, insecticide-treated nets (ITNs) and oral rehydration salts (ORS). A decline in the annual rate of coverage change between the pre-IHSS and IHSS programme periods occurred for early breastfeeding, vitamin A supplementation, and care-seeking for suspected pneumonia and fever.

Worryingly, the evaluation found that coverage of antimalarials actually decreased during the IHSS, from 33 per cent in 2006 to 19 per cent in 2012. This decline could be attributed to several factors, including a decline in care-seeking for fever, the seasonality of the surveys and the introduction of rapid diagnostics tests (RDTs) in 2008, resulting in increased accuracy in the diagnosis of malaria, as well as stock outs of both RDTs and antimalarials.

Key conclusion 6: During IHSS implementation, equity improved around a number of indicators, including ORS coverage and tetanus toxoid vaccination.

When investigating the programme's impact on equity, the evaluation found that many of the coverage increases achieved during the IHSS were pro-poor. For instance, the gap in ORS coverage between the richest and poorest wealth quintiles appears to have decreased during the IHSS period. As shown in Figure 1, both quintiles show significant increases in coverage, but these gains are markedly higher in the poorest quintile, where coverage of ORS more than doubled from 14 per cent to 34 per cent.

Similarly, equity in coverage of tetanus toxoid vaccination also increased (see Figure 2). In 2006, coverage estimates among the poorest were markedly

Figure 1: Use of the ORS for children <5 with diarrhoea in the richest and poorest quintiles

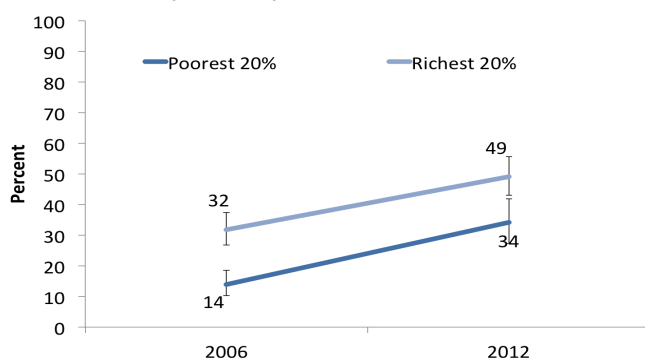
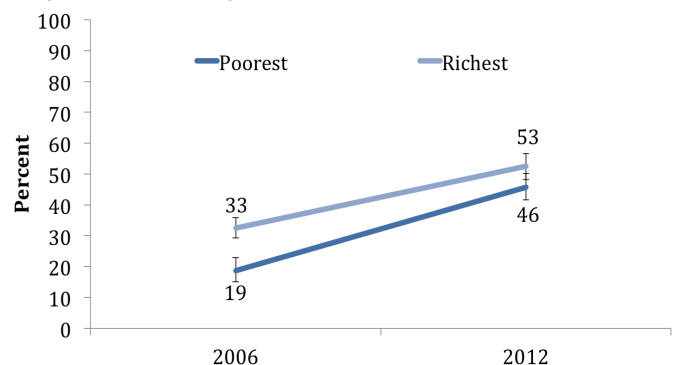


Figure 2: Tetanus toxoid vaccination coverage in the richest and poorest wealth quintiles



lower than among the richest (19 per cent and 33 per cent, respectively). By 2012, coverage estimates between these two quintiles were not significantly different from each other, with the poorest quintile reporting 46 per cent coverage, and the richest quintile reporting 53 per cent coverage. Conversely, the evaluation also found increased inequality in coverage of postnatal care and antimalarial treatment.

Key conclusion 7: The IHSS contributed to a significant number of deaths averted.

The evaluation used LIST to investigate the extent to which changes in child mortality in the intervention areas could be attributed to increases in coverage of programme-supported interventions. The modeling 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. The evaluation found that the introduction of the haemophilus influenzae type b (Hib) vaccine and the increase in ORS coverage together accounted for approximately 50 per cent of deaths averted in 2012. ITNs and antimalarial treatment accounted for an additional 24 per cent of deaths averted, while care-seeking for pneumonia accounted for 6 per cent.

Given the notable increases in coverage of these interventions during the programme period, the evaluation found it plausible that the IHSS contributed to the deaths averted.

Key conclusion 8: The additional cost of an iCCM treatment was relatively low, at an average of \$3.32 per treatment.

The costing exercise conducted by the evaluation team found that the ad-

ditional cost of a malaria treatment provided by an ASC, including rapid diagnostic test and drugs, was \$0.91. Treating one case of childhood diarrhoea with ORS and zinc cost \$5.04 and pneumonia costs were found to be \$1.52 per treatment. The weighted average additional cost of an iCCM treatment was \$3.32, which was the second lowest among the focus countries (after Malawi). The share of ASC-related fixed costs represented an average of 9 per cent of the cost per treatment.

Key conclusion 9: A majority of ASCs trained in iCCM were female. However, female attrition was a challenge.

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 more than half (58 per cent) of the ASCs trained in iCCM were female. This was a substantial achievement, especially given the lower levels of women's access to education in Niger. However, attrition among females appeared to be high, as only a quarter of ASCs in 2013 were female.

The Way Forward

The evaluation found that as a result of high utilization, the iCCM programme in Niger is cost effective. However, with competing demands on the government budget from increased security concerns, there is a real possibility that the government's expenditure on health may decrease, and support from donors will be needed to ensure the sustainability of the iCCM programme. In this context the Global Fund's new funding model, which can support the cost of iCCM programmes, could help ensure the continuity of the programme.

Key recommendations to UNICEF and its partners

- ✓ Investigate the high attrition rate among female ASCs.
- ✓ Improve the supply chain for iCCM medicines, including strengthening stock management at facility level to address the problem of expired drugs.
- ✓ Strengthen routine health information systems at all levels of the health system.
- ✓ Monitor the quality of iCCM care on an ongoing basis.
- ✓ Further investigate the underlying reasons for the stagnation or decline in coverage of interventions.
- ✓ Develop a formal system to facilitate efficient validation and payment of claims at health depots under the free health care programme.
- ✓ Closely monitor changes to primary health care delivery (such as the delivery of obstetric and neonatal care at health depots), including cost implications and the impact on ASCs.



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This brief is based on the comprehensive Evaluation of UNICEF's Integrated Health Systems Strengthening (IHSS) Programme in Niger, 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.