

Towards a Grand Convergence for child survival and health:

A strategic review of options for the future building on lessons learnt from IMNCI

COUNTRY ASSESSMENT: ETHIOPIA

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List of abbreviations

ANC	Antenatal care
ARI	Acute respiratory infections
CBNC	Community Based Newborn Care
C-IMNCI	Community-level component of IMNCI strategy
DHS / MICS	Demographic and Health Surveys / Multiple Indicator Cluster Survey
ENAP	Every Newborn Action Plan
EPI	Expanded Program on Immunization
ESHE	Essential Services Health in Ethiopia
FMOH	Federal Ministry of Health
GAVI	Global Vaccine Alliance
GIS	Geographic Information Systems
HDA	Health Development Army (*also known as WDA, Women's Development Army)
HEWs	Health Extension Workers
HMIS	Health Management Information System
HSDP	Health Sector Development Plan
HSTP	Health Sector Transformation Plan
iCCM	Integrated Community Case Management of Childhood Illnesses
IMNCI	Integrated Management of Childhood Illnesses
IYCF	Infant and young child feeding
KFP	Key Family Practices
KMC	Kangaroo Mother Care
KPI	Key Performance Indicators
LIST	Lives Saved Tool
MCH	Maternal and Child Health directorate (FMOH)
MDGs	Millennium Development Goals
NGO	Non-Governmental Organization
NICU	Newborn intensive care units
ODA	Overseas Development Aid
OPD	Outpatient Department
ORS	Oral Rehydration Salts
PFSA	Pharmacy Fund Supply Agency
PHCU	Primary Health Care Unit
RDT	Rapid Diagnostic Test
RMNCAH	Reproductive Maternal Newborn Child and Adolescent Health
SBCC	Social Behavior Change Communication
SDGs	Sustainable Development Goals
SNNP	Southern Nations, Nationalities and Peoples region
SPA / SARA	Service Provision Assessment / Service Availability and Readiness Assessment (WHO)
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, sanitation and hygiene
WHO	World Health Organization

I. Introduction

Ethiopia reduced its under-five mortality rate (U5MR) from a 1990 level of 205 per 1,000 live births to 59 per 1,000 live births in 2015, meeting the country's Millennium Development Goal (MDG) on child survival in 2012, three years ahead of the deadline [1]. This is a 71% reduction of U5MR in 25 years. The rate of annual U5MR reduction has more than doubled in the period between 2000 and 2015 compared to the period between 1990 and 2000 [2]. Despite this impressive progress, Ethiopia continues to have one of the highest U5MR in the world, and progress has not been uniform across regions, with highest U5MR rate in Benishangul Gumuz region more than triple that of the region with the lowest rate, Addis Ababa, as measured by the 2011 EDHS [3]. Additionally, the neonatal mortality rate has not shown proportional reduction with that of the U5MR and now contributes to 47% of U5MR in Ethiopia [1]. Overall, the causes of U5 mortality in Ethiopia are similar to the global causes.

Table 1. Summary statistics on child health in Ethiopia (WHO/Countdown, 2015)

Indicator	Value
Total population	94.1 million
Total under-five population	14.5 million
Annual births	3.2 million
Neonatal mortality rate (per 1000 live births)	28
Annual neonatal deaths	87,414
Average annual rate of U5MR reduction, 1990-2015 (%)	5
Under-5 mortality rate (per 1000 live births)	59
Annual child deaths	184,186

Various national efforts have been proposed as contributors to recent reductions of U5 mortality in Ethiopia. These include macro-level policies and socioeconomic development (the poverty rate dropped from 45.5% of the population in 1995/6 to 27.8% in 2011/2); the development and implementation of health sector policies, plans and high-impact child survival interventions; strengthening of the health system (manning health facilities with trained health workers, equipping them with equipment and supplies, providing supportive supervision and review meetings, etc.); and increased investment in the health sectors (per-capita health expenditure increased from US\$ 4.09 in 1995/6 to US\$ 7.14 in 2004/5 and to US\$ 20.77 in 2010/11) [2, 4].

In this report, we seek to understand the role of the Integrated Management of Childhood and Newborn Illness (IMNCI) strategy in the improvements in child health described above, as well as facilitating factors and barriers in the implementation of IMNCI and other child health strategies, and additional ways of improving access, quality, coverage and utilization of child health services. This country assessment takes place under the aegis of the Strategic Review, which aims to take stock of IMNCI implementation and the latest evidence on expanding coverage of high-quality case management and care for sick children, to identify options to increase access to and utilization of child health services at country and global levels. Two main methods were used for this country assessment:

1. An extensive desk review, drawing on published and unpublished reports, evaluations and articles in the programmatic and scholarly literature, as well as statistical data, completed in early to mid-April 2016;
2. In-country data collection in the form of key informant interviews at national, district and facility levels in Addis Ababa and Tigray regions (N=25), completed over 10 days in late April 2016.

Data analysis took place iteratively between national and international consultants using the following methods: systematic extraction of key themes from interviews using an Excel spreadsheet, triangulation between written sources and interviews and amongst key informants, and debriefing of preliminary results with Ministry personnel and in-country stakeholders on the last day of data collection.

II. IMCI organization and management

Ethiopia introduced IMCI in 1996/7 during implementation of the first of four successive Health Sector Development Programs (HSDP I – IV) as a strategy for reducing child mortality and morbidity, with a focus on improving management of sick children under five years of age. The **main activities** included in IMCI were prevention and treatment of acute respiratory infections (ARI), diarrhea, malaria, malnutrition, measles and HIV/AIDS [5]. The HSDP II envisioned expanding the IMCI strategy to 80% of the health facilities [6]. Since then, the 2005 – 2015 National Strategy for Child Survival in Ethiopia has **bolstered IMCI activities at facility level** and recommended strengthening of community IMCI [7]. The HSDP III and IV, which correspond with the implementation period of the National Child Survival Strategy, set targets for increasing coverage of IMCI in health facilities to 90% and 100%, respectively, and HSDP III set targets to increase coverage of community IMCI to 80% [5, 8].

Since implementation of HSDP III, Ethiopia's Federal Ministry of Health (FMOH) has prioritized implementation of community-based preventive, promotive and curative care through the **Health Extension Program (HEP)**. As a result, the community component of IMCI has received advanced support from government and health development partners. Community IMCI was the basis for the development of a communication strategy that provided **key messages for the family health card** used by health extension workers (HEWs). In 2010, FMOH introduced **integrated Community Case Management** of childhood illness (iCCM) following local evidence showing the feasibility and impact of the policy in two districts of Tigray and Liben district of Somali [9, 10] and later in Boloso Sore, a district in SNNP region. Implementation began in areas where the HEP was most strongly implemented and eventually expanded to national level [11]. Currently, **IMNCI (including iCCM and CBNC) is a government-owned program that has been scaled up at the national level.**

IMNCI has been and remains a core child survival strategy for Ethiopia. The Health Sector Transformation Plan (HTSP) 2015/16 – 2019/20 outlines major targets, strategies and initiatives to achieve the country's ambitious goals, including reduction of U5MR to 29 per 1,000 live births [12]. IMNCI with its facility and community components is included in the HSTP as a high-impact priority child health intervention. There is a **national scaling-up implementation plan**, with specific activities at national, regional and district levels, developed in collaboration with stakeholders and activities are budgeted for. The plan is reflected in the latest Health Sector Transformation Plan (HSTP). The country

also has a separate National Newborn and Child Survival Strategy (2015/16 – 2019/20) that is aligned with the transformation plan and further details the implementation strategy for delivering high-impact newborn and child survival interventions [13].

In Ethiopia, IMNCI is defined in a way that echoes the “global definition” but is also particular to the national context, with iCCM and CBNC explicitly included under its umbrella. Many respondents evoked IMNCI’s three components (the “**stool with three legs**”) and said it was a strategy to reduce U5 mortality by addressing the major newborn and childhood conditions in an integrated fashion. At the same time, **many respondents defined IMNCI as a “task-shifting strategy”** because it devolved responsibility to lower levels of the health system in two ways:

1. **Training:** Using mid-level health workers (nurses and medical doctors) instead of pediatricians to facilitate IMNCI training;
2. **Service delivery:** Using nurses, health officers and later HEWs to provide treatment and care for common childhood illness.

Respondents said IMNCI in Ethiopia is seen as a simple evidence-based tool that addresses the major causes of mortality and morbidity and a cost-effective comprehensive approach for achieving national newborn and child survival goals, and one that “responds to multiple contexts and brings quality and logic to management of common newborn and childhood conditions.” IMNCI is seen as a vehicle for change as it is believed to have brought a process for identifying gaps in health system and at the same time provided the opportunity for health system strengthening.

Within FMOH, the IMNCI program sits within the child health program as part of the Maternal and Child Health (MCH) Directorate. The MCH Director reports to the state minister of health. IMNCI is **integrated as part of the newborn and child health programming** in the Ministry. There is no separate officer assigned to specifically manage IMNCI, and child health experts manage it as part of other newborn and child health program activities. However there are IMNCI focal persons at MCH and Primary Health Care (PHC) Directorates at national and regional levels.

III. Implementation of IMCI and other child health strategies

IMNCI is being implemented nationwide in Ethiopia. The 2014 Ethiopia SPA+ report indicated that almost all health facilities (95%) provide IMNCI services (health posts provide iCCM) [14]. On the other hand, the 2014/15 HSDP IV annual performance report of the ministry of health indicated that about 85% of health centers provide IMNCI service [15]. Additionally, there is **variation in the coverage and quality of IMNCI** services across health facilities and communities within districts and across different geographical regions [4, 14, 15].

Following the inclusion of newborn conditions in 2006, other notable expansions of IMNCI have included iCCM in 2010 and the **community-based newborn care** (CBNC) including treatment of newborn sepsis by HEWs in 2013. As a result today, IMNCI in Ethiopia includes services provided traditionally under IMNCI, plus iCCM and CBNC, with training, skills reinforcement follow up and mentoring. The implementation strategy also evolved from IMCI as a skills development strategy (through 11 days

training) to IMNCI (2006) as skills development (through 6 days training) and reinforcement with the introduction of systematic post training follow up within 4-6 weeks, performance review and clinical mentoring every 6 months in 2010. Thus, IMNCI can now be called a **comprehensive package for treatment and care of newborns and children at the community and facility levels**. IMNCI also includes health system strengthening activities with partners and government working on improved commodity supply management. Currently, IMNCI is a discussion topic as part of the primary health care unit (PHCU) remodeling and is foreseen to expand to address needs at primary hospitals.

In interviews, respondents summarized implementation as consisting of **good access to care** (given the large number of health posts and HEWs), **good quality of care** at health post level with more variable quality at health centers (where providers tend to use strategies other than IMNCI), and **under-utilization of services** for reasons discussed further below. While Ethiopia's agrarian areas were well-covered with IMNCI services, respondents said more work was needed to reach populations living in the country's pastoral regions (though USAID has done some interesting pilot projects linking MNCH and animal health via provision of water and vaccination for both children and livestock). Barriers and facilitators to IMNCI implementation and scaling-up are summarized in **Table 2**.

Table 2. Facilitators and barriers to IMNCI implementation & scaling up as reported by key informants

Facilitators	Barriers
<ul style="list-style-type: none"> • National leadership and commitment • National vision encompassing global goals • Strategies in line with global strategies • Ownership of IMNCI by national and regional managers and decision makers • Shared vision by partners and professional associations, who worked in harmony • Government investment in health systems strengthening • Unprecedented global commitment to maternal, newborn and child health • Inclusion of IMNCI in pre-service teaching in mid-level teaching institutions • IMNCI expanded as a comprehensive package including community and facility, child and newborn • WHO technical support 	<ul style="list-style-type: none"> • High turnover & rotation of trained staff within health facilities, coupled with limited human resources • Reservations in integrating IMNCI in pre-service teaching of medical doctors • Lack of managerial and planning capacity of district level managers, contributing to lack of ownership of IMNCI at district level • IMNCI indicators not fully integrated into HMIS • Imbalance investment favoring community based IMNCI more than facility based IMNCI • Low utilization of services and poor care seeking • Imbalanced focus between supply and demand (relatively less focus given to demand generation) • Limited experience in delivery strategies to address needs of Developing Regional States • Difficulties in timely dissemination of technical updates

A number of partners work hand in hand with FMOH in IMNCI implementation and scaling up in Ethiopia, including but not limited to UNICEF, WHO, USAID, CIFF, EPS, PATH, AMREF, IFHP, CHAI, IRC, L10K and Save the Children. A national coordinating mechanism, the **Newborn and Child Survival Technical Working Group**, guides the development and updating of national IMNCI guidelines and implementation plans, which are used as a basis for developing regional plans. A **geographic mapping exercise** is regularly conducted by the FMOH to **assign different regions and districts to partners** with the objective of ensuring equity and avoidance of duplication. Partners are expected to implement the full package of IMNCI in their geographic area and report progress in implementation according to agreed-upon targets as specified by the national IMNCI implementation plans. The full package includes

IMNCI at all levels with health system strengthening and demand generation activities. From the key informant interviews it was clear that partners' activities were indeed aligned with national priorities. As one respondent said, "in Ethiopia we are fortunate that **the government is leading** and we are supporting the implementation of the government's vision" (E0428c).

Adaptions are done through review of local and global evidence and consensus-building among representatives of professional associations, child health related programs and stakeholders, and have included:

2006	11-day training modified to abridged course (6 days), inclusion of newborn care, HIV/AIDS, zinc for diarrhea and ACTs for malaria
2008	Update to address nutrition, HIV/AIDS, sepsis in young infants
2010/11	Revision/update addressing newborn care, malaria, nutrition, HIV/AIDS
2015	Update on pneumonia classification and treatment

A national evaluation of IMNCI as such has not been conducted, although reviews were conducted as part of the development of national child survival strategy. In 2008 Essential Services Health in Ethiopia (ESHE) conducted end-line health facility surveys in Amhara, Oromiya and SNNP region [16-18], which found **improvements in many IMNCI implementation performance indicators** at endline compared with baseline, including health facility readiness and case management [19]. On the other hand, despite an increase in median consultation time from 9 to 15 minutes, quality of counseling of caretakers remained poor. Additionally in 2011 FMOH, WHO and Ethiopian Pediatrics Society performed an IMNCI coverage survey looking readiness of the health system to provide care for sick children, which showed that **facility IMNCI coverage was low** (55%) and there were several gaps in the health system including lack of IMNCI trained health workers (only 23% of facilities had two IMNCI trained health workers), IMNCI registers and chart booklets, pre-referral drugs; and inadequate outpatient therapeutic (OTP) services [20].

There is also good documentation of **successes and challenges in the implementation iCCM**. In 2014 UNICEF, FMOH and implementing partners produced a supplement in the Ethiopian Medicine Journal with series of articles on iCCM [4, 21-27], documenting findings such as:

- Poor iCCM utilization, particularly by young infants;
- Weak drug supply chain management;
- Improvements in caseload issues and quality of iCCM service following supportive supervision visits, performance review and clinical mentoring meetings with HEWs.

At the same time, a summative evaluation of the Catalytic Initiative/Integrated Health System Strengthening Programme in Ethiopia conducted in 2014 found that iCCM had contributed to the health system strengthening, resulting in significant increases in coverage of iCCM services and preventing deaths of under five children. The evaluation also indicated that the **iCCM cost per treatment was relatively high because of low utilization** of services [28]. Separately, evaluations of the quality of care for sick newborns and children showed HEWs performing better in terms of providing quality care as compared to the health workers in the health facilities [29, 30]. In any case, while the studies showed

iCCM has the potential to contribute to further reducing under-five mortality in Ethiopia, national scaling-up will require strong FMOH leadership, policy support and national partnership [4, 21-27].

Demand-side factors have limited the impact of IMNCI and iCCM implementation: a recent cluster-randomized trial looking at iCCM's impact on child mortality in Ethiopia concluded that, despite solid implementation and good quality of care, iCCM programming was not able to generate sufficient demand and utilization to achieve measurable reductions in child mortality [31]. The problem of utilization has been clearly understood by policy-makers and efforts are underway to address it, most notably the creation of the **Health Development Army** (HDA, also known as the Women's Development Army), which since 2013 has mobilized 2.3 million one-to-five networks (volunteers responsible for five households) and over 400,000 group leaders to the engage community, provide promotive and preventive health messages to families, link them with health posts, identify local bottlenecks hindering service uptake, and scale up best practices, though the experience remains recent [12].

Although the impact of IMNCI has not been evaluated nationally, government documents **attribute the rapid decline in child mortality to the scale up of IMNCI in the country, and particularly to iCCM implementation**. Multiple respondents credited IMNCI scale-up with contributing to Ethiopia's achievement of MDG-4. A modeling of potential reduction of child mortality if iCCM is to be scaled in four agrarian regions (moderate scenario), has estimated 10,000 annual mortality reduction [23]. This does not include lives saved by facility-based IMNCI. For these reasons, IMNCI is endorsed as an evidence-based strategy responding to Ethiopia's needs in terms of epidemiology and health system architecture. As a result there has **been strong national commitment and leadership** in supporting its implementation and scaling up. National health sector plans and transformational plans have put IMNCI as a core national strategy for achieving MDG and now SDG goals. The national vision is in line with the United Nations' Global Strategy for Women's, Children's and Adolescents' Health and is shared by development partners, facilitating implementation in country.

IV. Lessons learnt

After nearly 20 years of implementation of IMNCI, and its expansion to include community-level case management under iCCM and care for the sick newborn under CBNC, a number of lessons have been learned. First and foremost, there was universal agreement among respondents that **IMNCI had contributed immensely to reductions in the under-5 child mortality rate**. Typical statements from respondents included, "I've seen so many under-five lives saved, using this strategy" (E0425a) and "with iCCM, we started to train HEW, and what I should tell you is, it really worked" (E0425b). IMNCI was appreciated for its simplicity and effectiveness in guiding mid- and lower-level health care workers to assess, classify and treat the most common cases of childhood illness, and the only workers who were viewed as less effective in doing so were those who did *not* use IMNCI, mainly physicians. Furthermore, CBNC and iCCM were seen as completing IMNCI because they filled in aspects that were less well covered in the initial strategy, namely delivery of newborn care and the extension of case management to the community level.

The long timeline and large scale of implementation afforded a number of **lessons learned** both about IMNCI itself and what is required for successful scaling up of interventions to reduce child mortality and morbidity. Beginning with lessons about IMNCI itself, one overarching lesson was the **need for a balanced approach between the three components of IMNCI**. Several respondents noted that IMNCI was a “stool with three legs,” but by far the greatest share of attention went to the first component of IMNCI, improving health worker performance. As respondents pointed out, the best trained health worker will have limited ability to treat sick children if the health facility is experiencing a stock-out of medicines to treat the sick child (component #2, health systems strengthening) or children are not brought to the health center in the first place, or are brought too late (component #3, family & community practices) – or if the health worker does receive skills reinforcement or follow up after training.

Another important lesson was the need to **institutionalize all components of IMNCI, but particularly the community component**. In 2001-2002, messages

for Key Family Practices (KFP) were piloted in eastern Tigray and Dabat (Amhara), and C-IMCI was used as a foundation to produce a national communications strategy. However the experience was unable to be sustained, as there was no platform on which to implement it (at least until the arrival of the HEP in 2003); furthermore, there was criticism that the messages were limited to child health, with very little content on maternal health which was both a related issue and a priority. As one informant said, “Other countries should learn, they have to institutionalize it, they shouldn’t depend on volunteers – they should have a hard commitment with salaried workers” (E0423b).

Health system capacity built through IMNCI has been used to respond to the recent drought in Ethiopia.

With additional training on how to establish and run Out Patient Therapeutic Programs (OTP), HEWs used the skills they gained from iCCM training to:

- 1) Assess, classify and treat moderate acute malnutrition cases at health post level;
- 2) Counsel mothers on feeding children with moderate acute malnutrition;
- 3) Refer severe acute malnutrition cases to health centers/hospital levels.

Figure 1. Use of IMNCI to treat SAM in conditions of drought

More broadly, the Ethiopian case provides lessons about **what is needed for policy adoption and successful scale-up** of child health interventions. Building upon the strong strategy that IMNCI was seen to be, four main factors of success emerged: 1) **strong government commitment and leadership**, 2) **coordination** of in-country partners as directed by government leaders, 3) the existence of **resources to implement**, and 4) **a ready platform for implementation**. In Ethiopia, the confluence of these factors came together first and foremost as a result of strong leadership at the Ministry level, first under Minister Tedros Adhanom and currently under Minister Kesenetbirhan Admasu. These leaders were able to put in place strong strategies and health systems interventions that served as a basis to maximize the impact of IMNCI, iCCM and CBNC and influence international partners to provide resources and work together towards the goals of reducing child mortality and morbidity and improving child health. The 2005 Child Health Strategy was cited as being a strong document that provided a clear plan for the various stakeholders [7]. Both recent ministers have been skilful at ensuring partners adhered to the national strategy, with Dr. Tedros pushing for them to sign the COMPACT and insisting they divide up regions geographically and implement the full integrated package in their respective areas, ensuring uniformity and continuity of service provision and preventing duplication of efforts. These leaders were

also visionary in creating platforms for the kind of service provision envisioned under IMNCI, most notably with the launch of the HEP in 2003 [6, 32] and more recently with the re-organization of services under the PHCU [12].

The potential impact of IMNCI was limited by a number of **bottlenecks in getting care to children** at national, district, facility and community levels. At **national level**, as discussed above, the FMOH generally played its role well and few bottlenecks were present at this level. One exception was the need to improve forecasting and procurement of medicines and supplies at the PFSA, as respondents cited both delays and the need to update the data on which forecasting was based. Work is currently underway to build capacity at PFSA by government and partners (notably USAID's DELIVER project and CHAI MNCH project) and improve the efficiency of distribution centers.

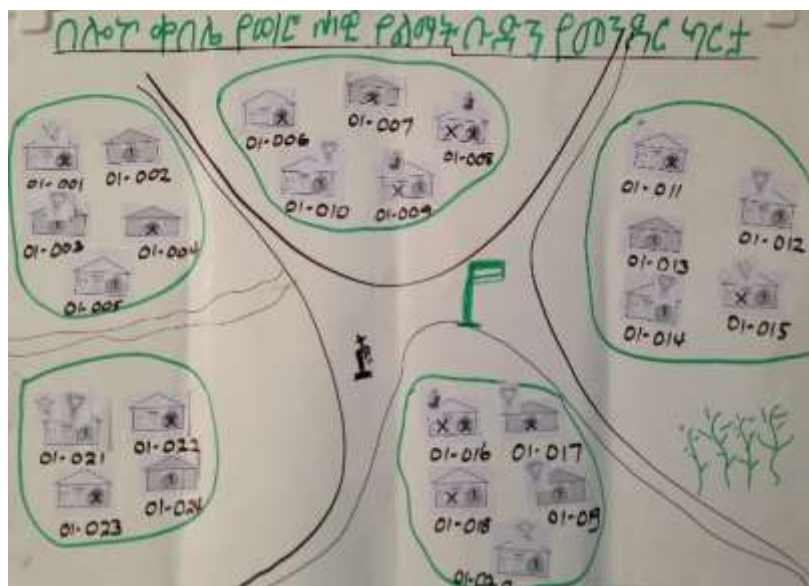
Next, most respondents agreed that significant bottlenecks could be found **at district/woreda level**, where **planning and management capacities were said to be quite weak**. With the strong support of partners, implementation of programs was nonetheless proceeding, however, there was consensus among respondents that ownership of IMNCI, iCCM and CBNC was not strong at woreda level and that these were perceived as the responsibility of partners. When asked what would happen to these programs if partners pulled out tomorrow, the most frequent response was given that IMNCI is (somewhat) integrated into pre-service teachings, at best it will continue but with lower quality. Although many or most respondents identified these issues with management capacity at woreda level, few were able to cite any programs or projects underway to build capacity or specifically support staff or build capacities, though this is a major component of the current HSTP.

At **facility level**, the **usual problems were cited** in the provision of care to sick children: issues with stock-outs of essential medicines and supplies, high staff turnover, and the absence of health workers. These health systems issues are meant to be addressed under the 2015 HSTP and partners are also implementing a number of programs to support them [12]. Regarding the motivation of health workers, our visit to Tigray also raised the issue of health worker burnout: while health workers in the region were cited for their very strong commitment to serving the community, one said, "We're seeing tell-tale signs that they're burnt out: they're not going house to house as expected, they do it with the telephone [instead]" (E0427b). Additionally, a large number of respondents mentioned the issue of **rotation of health workers within health centers**, as this meant that those who were trained in IMNCI were not necessarily those who provided child health services.

Finally, at **community level**, the greatest bottleneck, which greatly limited the impact potential of IMNCI and related program, was **low utilization of services and low-levels of care-seeking**, for children but most of all for newborns. The observations of respondents were echoed by a recent literature review and qualitative barriers analysis performed by UNICEF and PATH, which found that families did not seek care for reasons related both to supply (lack of medicines, health posts were unmanned) and demand (traditional beliefs about the cause of child illness, lack of women's autonomy to take the child for care) [33, 34]. Specifically, respondents said traditional barriers to taking sick newborns to facilities were very significant. Furthermore, while families were aware that health posts provided preventive services such as immunization, not all were aware the curative services were also available, suggesting a need for better communication on this point.

Of the **useful innovations** identified in Ethiopia, some have been taken to scale, whereas others have been partially implemented or were currently being piloted. Perhaps the most important and certainly the most widely implemented innovations were social and programmatic in nature, rather than technical or technological. Of these, the **Health Development Army (HDA) may be cited as an innovative way of involving the community, creating demand, promoting health literacy and fostering in-kind contributions** from the community to the health system in terms of health communication and facilitated referral (see Figure 2).

Figure 2. A model of the Health Development Army's 1:5 and 1:30 model



One important programmatic innovation that may be ripe for scaling up was the use of **internal supervision, mentoring and peer review at facilities** by the health center director and MNCH lead, a government program that is currently being implemented and helps address identified problems with quality of care, as well as turnover and rotation (see Annex 2, “Form C” for a supervision form that is being used for HEWs). Under this program, large changes have been observed in provider knowledge and skills, with increases in successful case management from 50-60% at baseline to 80-90% after mentoring (E0425a). This program was cited by providers in both Addis Ababa and Tigray as being highly supportive of their work (E0426b, E0427a).

Respondents also mentioned a few **technological innovations** which were currently being either piloted or considered for piloting:

- Use of bag and mask by HEWs to resuscitate asphyxiated babies at community level, which has been tested and is in exploration phase for potential scale up (E0425a)
- Testing of the ARIDA device for counting respiratory rates, suitable for use by HEWs, supported by BMGF (E0426d)
- Newborn transportation material (“baby cot”) to keep the newborn warm for up to five hours during transport from home to the facility, to address problems observed with hypothermia for newborns traveling (E0422a)

In terms of future innovations, said Dr. Kesete, “In my opinion, the **most important innovation we have to all look for, is how to deliver** – and how to deliver in a manner that ensures quality and equity, reaching the children that are not reached yet.” Dr. Kesete and other respondents mentioned the need for innovations for newborns, building upon work initiated by partners including UNICEF and USAID, in establishing “newborn corners” in health centers and newborn intensive care units (NICU) in hospitals

(E0423b). In terms of mobile or mHealth technologies, some respondents saw promise for these, others said ICT technologies would have limited reach, at least in the short and medium term. Nonetheless, possible future uses for these technologies are discussed in the next section.

V. Perspectives for the future

The strong leadership and coordination and national level bode well for the future of child health programming in Ethiopia. The plans outlined under the HTSP address many of the problems identified with coverage, access, quality and utilization, notably by strengthening links between components of the PHCU, improving utilization by reaching out to communities, and strengthening quality of care via improved supervision and mentoring of health care workers. In this section, we lay out some additional recommendations specifically as they relate to IMNCI in country and how these can be linked to the overall child health agenda in Ethiopia.

First, regarding the first component on IMNCI on health worker performance, an important lesson expressed by all partners was that **training alone was not enough to bring change in quality of services**. As a result today Ethiopia's training of health workers is defined as training that includes follow-up after training within 4-6 weeks and performance review and mentoring. Health workers at health facilities are expected to supervise HEWs and as a result the training they receive includes 6 days case management and one day on supportive supervision and use of job aids and supervisory checklists. Still, there is a clear need to **improve pre-service training** and **add continuous professional development** as a systematic performance improvement strategy. Pre-service training in IMNCI / iCCM exists at mid-level schools for nurses and health officers, as a blocked course at the end of training and is integrated into curricula. However its implementation varies across schools. Similarly, for HEWs, the 6-day training in IMNCI is provided at the end of the overall one-year training and does not always include clinical practice; thus it does not necessarily become a part of providers' "way of thinking," creating confusion between the understanding created in theory and actual practice (E0427b). Thus, fully integrating IMNCI into the curricula will be important to maximize the positive impact of IMNCI on health workers skills, mitigate issues of turnover and rotation, and also ensure sustainability of IMNCI in country. In addition, mid-level tutors can be used to provide IMNCI training, rather than paediatricians or university-level paediatricians, as is sometimes the case.

Nonetheless, respondents said it would be important to involve universities and particularly to **create centers of excellence for pre-service training at teaching hospitals**, as has been done at Hawassa University. As to whether medical doctors themselves should practice IMNCI and whether IMNCI should be the standard of care at outpatient hospital level, there was considerable disagreement and confusion on this point. Several respondents said that paediatricians and other medical doctors tended to think "IMNCI was inferior, not in terms of care ... but [in terms of] the different standards that should be practiced" (E0423a). Medical doctors preferred to use the stethoscope to examine infants and children for lower-respiratory problems, for example, and often considered their training in patient management to be superior to what was encompassed by the IMNCI algorithm. At the same time, these providers were expected to supervise mid-level providers who assessed children using IMNCI. Thus it will be

important in the future to **create clarity on whether medical doctors should practice IMNCI** and, if they do not, whether and how they should supervise providers who do.

Several respondents offered suggestions to introduce **alternative approaches to in-service training**, as current modalities were considered costly and time-consuming in terms of the costs of printing materials, recruiting trainers and the required absence of health workers from their posts. There was a suggestion to reduce the amount of reading material in IMNCI training modules, limiting it to basic information and few exercises. Additionally, to improve sustainability and the ability to efficiently scale up, one respondent said, “the right place for in-service training is health science colleges and universities – empowering them to do in service trainings would mean also strengthening pre-service because they will own this approach, and support the health centers” (E0425b).

Mobile and information technologies could be useful in sustainably developing health workers skills—for example using ICATT or computer-based learning, ideally distributed via USB key, as internet service is not reliable in many areas. The number of health centers in Ethiopia equipped with computers is increasing, which could allow providers to update their training as needed, potentially mitigating problems related to staff turnover and rotation. (ICATT was also mentioned as potentially being useful for pre-service training, though there were also suggestions that not all students would be able to access the necessary computers.) As a corollary to improved in-service training, there was strong agreement among respondents that in addition to strengthened supervision (further discussed below), **mentoring and follow-up should be institutionalized** so that providers can receive updated knowledge and ongoing clinical coaching. Government-led internal supportive supervision at health facilities and partner-led IMNCI follow-up visits, performance review and clinical mentoring meetings have been scaled up but should be fully institutionalized and sustainably supported.

Regarding the second component of IMNCI, there was strong agreement that **health systems strengthening must remain a key component** of any future version of IMNCI or future child health strategy. A number of health systems strengthening activities are included under the HSTP, the importance of which was emphasized by nearly all respondents. Perhaps first and foremost comes the **reinforcement of planning and management capacity at the woreda level**, as these workers are at the frontline of implementation – and there is currently a big gap in the capacity of health managers to effectively plan, implement and monitor-evaluate health programs. As a result implementation of IMNCI at lower levels has depended heavily on partners’ technical and financial support; for this reason, many respondents said ownership at woreda level was far from satisfactory. One potential solution, in addition to traditional capacity building, was through data, specifically the inclusion of IMNCI monitoring indicators on scorecards (along the lines of Dr Kesete’s “information revolution”), allowing citizens to follow the performance of the woreda and demand improvements where indicated. In any case, it is clear more thinking is needed on this aspect, in line with global thinking around remodeling of the PHC unit.

On a related point, respondents expressed a **clear need for better data**, in terms of 1) the regularity of collection and transmission throughout the system, 2) which specific data collected, and 3) data analysis. What is needed most is not advanced technological systems but rather a “mindset revolution” among clinicians, who currently see data as “not their problem” and are thus not motivated to collect and transmit high-quality data. Rather data should be used to monitor clinical outcomes, allowing clinicians to use it to learn in real-time and advance their careers, a change in thinking that Dr Kesete said

would be more beneficial and influential than enhancing the use of ICT platforms. Dr. Kesete further stated the need to go beyond the measurement of inputs (training, provision of medicines) to measure processes that are linked to quality, specifically by **defining a set of key performance indicators (KPIs)**.

Another key step will be to **strengthen linkages throughout the PHCU**, which “has been discussed since 2013, but implementation is not strong” (E0426c) and which functions better in some directions than in others. For example, health center workers provide supervision to HEWs at health posts, and HEWs to members of the HDA, and these systems were usually described as satisfactory, although in some cases these were not optimal, as HEWs were known to say, “We don’t know these people who come to support us!” (E0425b). On the other hand, providers at health centers are not themselves supported or mentored by primary hospitals. Work is underway to resolve this situation under the HSTP, and respondents agreed it must remain a priority. Additionally, respondents said **health centers should provide a higher level of service than health posts**, for example by using additional diagnostics like pulse oximeters; better supplies such as oxygen, intravenous fluids and second-line antibiotics; and admission in in-patient beds. Equally important will be to **strengthen linkages to private sector and consider this a part of the health system**, for example by introducing IMNCI in private facilities, where an estimated one-third of children in Addis Ababa receive care (E0426a).

The **third component of IMNCI**, family and community practices, is being taken forward in Ethiopia under the HEP and particularly by the HDA, as discussed above. Community participation in the health system was described as intrinsically valuable, not least because health system improvement will not occur unless communities demand it. Still, in this area, **solutions may need to originate outside of health sector**, for example in the context of adult literacy and life skills training program. In this respect, Dr. Kesete related a telling anecdote:

Figure 3. HMIS officer in a health center in Tigray, surrounded by his output



“We did this exercise when we were co-convening the Promise Renewed movement, where we used the LiST tool and increased coverage of all high-impact newborn and child survival interventions to 100%, but we couldn’t get child mortality in Ethiopia below 24 [per 1000 live births] with current knowledge and current technology. But when we took educational standards for women to all secondary levels of education, then the figure dropped to close to 15 per 1000, similar to the developed world.”

As another respondent said, **“When people are more educated, they demand!”** (E0425b). In this respect, health literacy may be a shorter-term solution, with women’s education and broad literacy programs more important in the long run. The **proliferation of the private sector** also underlines the need for health literacy, as people will need to understand which services are available at which level, and also the level of quality of care that they are entitled to.

One clear message emerging from this country assessment was the need for a **strong focus on the newborn in any future strategy**, particularly as the contribution of neonatal causes to U5MR has increased from 30% in 1990 to 48% in 2015, a trend that is poised to continue in the future [1]. The Ethiopian government has clearly understood this message, and many efforts are currently underway, with FMOH having recently procured warmers for each health center, with 1,900 already furnished and the next 1,800 furnished over the coming year. Additionally, in the next few years, neonatal ICUs will be provided in 130 hospitals, with FMOH now working on developing NICUs in 80 hospitals up to Level III to provide more advanced neonatal care services. However, said one respondent, most partners hesitate to invest in newborn care except via training, because the capital investment is so large, costing for example \$24M for the 80 hospitals mentioned above (E0425b).

While care for the newborn has been a component of the global IMNCI strategy since 2003, many respondents said a **greater push on newborn care is needed** – typically one respondent said the “N” in IMNCI stood for “non-existent” instead of “newborn” (E0428c). Respondents said that presently there has been **too much focus on neonatal illness**, and that future strategies needed to **promote care practices for healthy newborns** to prevent illness in the first place and include content around antenatal care, delivery, and postnatal care. On this point, one phrase continually reoccurred – “You cannot separate the mother and the newborn.” In this respect, the recent emphasis in Ethiopia on institutional delivery, delivery care and the push to reduce maternal mortality can be seen as an opportunity in terms of both programming and financing, as **early pregnancy identification** (by members of the HDA) and **improved integration with maternal health services** will only serve to benefit the health and newborns. Along these lines, respondents mentioned the possibility of **providing training for midwives in some components of IMNCI**, since this cadre is often in most direct contact with the newborn and can provide essential messages to delivering women. However it was **unclear how exactly respondents viewed the linkages with care around the childbirth agenda** and which interventions should be delivered as a complement to IMNCI, though this has been a recent priority under the Safe Motherhood Initiative and more recent Safe Newborn activities.

In addition to expanding the content on newborn care in IMNCI beyond management of sepsis, difficulties in implementation must be addressed, particularly given the barriers to service utilization mentioned above. As such, respondents said the newborn area was **ripe for innovation** both in terms

technology (some examples of which are discussed above) and service delivery mechanisms. Regarding the latter, some said “**the future is in CBNC**,” because it brought management of newborn sepsis closer to the newborn when referral is not possible; such comments also underlined the need to improve referral linkages and ensure quality across the continuum of care, since most sick newborns will still need facility-based care. It was also suggested that there could be clearer communication on “What is a newborn?” since the traditional definition is an infant less than 28 days, but IMNCI clinical care guidelines include infants up to two months.

Last but certainly not least, the future of IMNCI and child health more broadly in Ethiopia will depend on obtaining **sufficient and sustainable sources of financing**, without which, Dr. Kesete said, the best laid plans will be merely “hot air.” In the short-term, the need is for **equal partnership between partners and countries**, taking the form of country ownership with long-term commitment of donors – to avoid the type of rapid donor pull-out that sunk Ethiopia’s leading tuberculosis treatment program in the early 1990s. In the medium to long term, Dr. Kesete said that asking how to attract donor investment was the “wrong question” – the need was rather to **increase domestic investment and improve the absorptive capacity of the health system**, which has been an issue in the past. This need will become more pressing as Ethiopian transitions to middle-income status in the next decade or so, requiring a transition to national ownership and national financing. Thinking on this issue as articulated by the Minister is encapsulated in the HTSP however these solutions will need to be proven feasible and sustainable in practice as well as in theory. One thought is that the **multi-sectoral nature of solutions** to child health mortality, encompassing areas such as women’s education and water, sanitation and hygiene (WASH) interventions can be viewed as potentially diversifying sources of financing and “**increasing the pot**.”

One potential platform for achieving a number of these goals (sustainable domestic financing, accountability to end users, community participation) could be **Ethiopia’s two health insurance schemes**: social insurance for formal sectors and pensioners and community-based insurance for the rural population and informal sectors, both launched recently under the HTSP and implemented in over 400 of 846 woredas. (E0425d). The pilot of community-based health insurance in selected districts in Ethiopia showed promising results including improvements in the responsiveness of the health system [13]. Minister Kesete recounted a story from a pilot district in Amhara region, where health insurance rates are close to 100%:

“The farmer told me, ‘Look, now we have this insurance card, we have paid the membership fees, so we are entitled to access to the services. I paid for it, I deserve it. When people don’t get treated properly, they ask why ... And the district administrator, who is the board chair of the health center, he has developed a keen interest on the day-to-day activities of the health center. Access to quality health services has become a political issue!’”

In line with Ethiopia’s HTSP and the Ministry’s stated priorities, **concerns of equity must be of prime importance** if child survival and health goals are to be reached. In 2000, children born in rural Ethiopia had 31% higher risk of deaths compared to children born in urban areas, but this risk rose to 38% in 2005 and 37% in 2011 [3, 35, 36]. Similarly, in 2000 children of mothers with no primary education had 121% higher risk of death compared to children of mothers with secondary or higher education that has increased to 157% and 163% in 2005 and 2011, respectively. And in 2005 children in households in the

lowest wealth quintile had 41% higher risk of dying before their fifth birthday compared to children in wealthiest households, a risk that increased to 59% in 2011. Cognizant of this, FMOH has included **addressing equity in health as one of the four transformational agendas** of the HSTP [12].

As put by Minister Kesete, “Going into the SDG era, the low-hanging fruits are already done – diarrhea, pneumonia, although they still are relevant ... you need a strategy to [identify] pockets with high child mortality and implement IMNCI and other interventions to improve the care of the sick child So I think when we talk about IMNCI and other innovations in the future, the most important innovation I look for is a service delivery innovations that can bring in equity.” Currently, the main mechanism for reaching these with services is via the HDA and their link to health posts, but arguably **more thought is needed on specifically how to direct investment to these hard-to-reach places**. In terms of where financing is directed, **investment must be balanced between supply- and demand-side interventions**, especially given that supply-side issues such as drug stock-outs and the absence of HEWs from health posts constitute major barriers to demand for and uptake of services.

Figure 4. Poster of the SDGs by the office of the Minister of Health



VI. Actions needed at country level

Moving into the SDG era in Ethiopia, it seems clear that IMNCI fits with government plans under the child survival strategy, HSTP, HEP, plans regarding the PHCU and overall health sector programming. However, in terms of attention and financing, there are **many competing priorities**, as pointed out by the Minister himself, who said that when discussing next year's budget allocation was warned by the Minister of Finance that “it will not be like last year.” In concert with plans laid forth in Ethiopian government plans, our respondents suggested a number of actions were needed at country level to achieve national child survival goals and promote newborn and child health and development.

First, **at the national level, coordination should continue as such, with basket funding remaining key** to prevent duplication and maximize impact. Yet while national-level leadership is generally excellent, **the focus must now turn to leadership and capacity at the woreda level**, particularly in terms of enhancing planning and management skills and building toward ownership of IMNCI and other child survival programming.

In terms of specific implementation modalities, FMOH should **evaluate the impact of rotation of health workers within health facilities on performance and quality of service**. Additionally, government and other stakeholders should **consider how technology can contribute to scaling up** (e.g. PDAs for

assessment & monitoring; ICATT, smartphones or computer-based training for clinical mentorship, on-the-job training). Now that many providers possess phones and even smartphones, it is worth considering whether one could utilize these platforms to provide supportive supervision or clinical updates, or use handheld PDAs to facilitate both diagnosis and reporting.

In terms of financing, the domestic share must increase as Ethiopia moves toward middle-income status, and consideration must be given to whether models of health insurance and in-kind contributions from the community via the HDA will suffice. Currently, some 35% of funding for health comes from donors and 30% is out of pocket, with the remaining coming from government sources. With health spending currently at 8% of government expenditure, there is **a critical need to move quickly toward the 15% of GDP target set by the Abuja declaration**. Close attention must be paid to efforts in this direction, and lobbying and advocacy should remain a focus of both government actors and partners.

For **monitoring progress and accountability**, current efforts to promote “health literacy” and initiatives to count “lives saved” at woreda or regional level are heading in the right direction. Additionally, in coming years, it will be critical to monitor progress in terms of community participation and demands for quality service generated by the HDA and via social and community-based insurance to determine whether these models are both effective and sustainable.

VII. Actions needed at global level

While country-level key informants were generally satisfied with guidance provided by global-level stakeholders, a number of recommendations for improvement were forthcoming.

First and foremost, respondents said **partners need to align with country priorities**, not just pay lip service to this idea. This is especially true for health systems strengthening – some respondents complained, for example, that stakeholders including GAVI and the Global Fund had sought to improve procurement and supply chain issues for individual medicines or classes of drugs, whereas, one Ministry respondent said, “There are hundreds of drugs I want to get right!” (E0425d). Said the same respondent:

“Health systems can only be built well by the government ... **health systems should be a country-led initiative without any prescriptions**. My challenge to the new Director General [of WHO] is to work on this health systems thing, as there are several channels – bring them into one if they really want to make a difference! [Partners] know it, but they don’t do it. Trust the country. They think they know much better than the country – which is unlikely.”

Next, many respondents stressed the need to **explore less costly and more user-friendly ways to disseminate updates and training materials** to technical experts at the national level and end users. Regarding updates, there is a need to balance regularity and timely dissemination of new information, possibly using the regions as facilitators to do so. Typically, one respondent said:

“The regularity of these things at global level, there needs to be some discussion. It’s not only the guidelines – with every update we need to change registers, training, as soon as you finish, something else comes! For me – the pace of change is too much.” (E0426d)

Suggestions were made for WHO and partners to disseminate new knowledge through existing platforms such as professional association meetings and continued proactive participation of WHO experts in technical working group meetings.

In terms of content, respondents were generally satisfied with the content of IMNCI and trusted global-level stakeholders to produce guidelines based on the latest evidence. However, to the extent suggestions were made, these were for **further integration and the inclusion of content for the well child**, and the suggestion was made to consider including child development in a future strategy in line with “Survive, thrive, transform” agenda of the new Global Strategy.

Finally, regarding **the question of re-branding IMNCI**, the majority of respondents advocated keeping the name, given widespread name recognition among operational actors; however many also recognized imperatives at the global level and the potential of a new name to motivate global actors and raising resources (**Table 3**). If IMNCI were to be re-branded, one actor pointed out that this task was “beyond technical” – the need would be to “make it sexy” using the expertise of private sector actors (E0426d). But respondents emphasized that doing so would also entail risks at the operational level and destroy the “brand recognition” built over nearly two decades. Lastly Dr. Kesete suggested that any new name should also keep and build upon the “IMNCI” designation.

Table 3. Perspectives on re-branding IMNCI

Pros	Cons
<ul style="list-style-type: none"> • “Sometimes when you change the name, you mobilize resources. We called it iCCM, which is exactly IMCI, and we got resources.” • “I see there’s fatigue in country for IMNCI and iCCM, so I see the value of branding it and making a more attractive name, but also to show the different things we’d be doing.” 	<ul style="list-style-type: none"> • “There could be unintended consequences – people may assume there is no more IMNCI.” • “IMCI ... people even consider it’s an Amharic word. It has been already branded, and people accept it.” • “At the end of the day, there are more [important] issues about why IMNCI is working or not. Addressing those is much more important than addressing the name.”

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Annex 1. Timeline of IMCI

Year	Policy event	Implementation milestone
1996/1997	IMCI introduced in Ethiopia	
2000	National review of IMCI in three regions (Tigray, Addis, SNNPR) (E0423b)	
2003-2004	Testing of messages for C-IMCI and communication strategy in Tigray (E0423b)	
2004	Launch of Child Survival Technical Working Group (E0423b)	USAID program arrives focusing on IMCI, EPI and nutrition focusing in three regions (Oromia, Amhara, and SNNPR) (E0423b)
2006	Adaptation of IMNCI to include newborn, among other changes	Designed register (E0423b)
2012	MDG-4 achieved 4 years ahead of deadline	
2013	PHC concept introduced	

Annex 2. Form “C”: iCCM Supportive Supervision/ Follow-up checklist [pre-filled sample]**I. Identification**

1.1	Date of visit (dd /mm/yyyy) 07/07/2011
1.2	How many weeks ago was the last visit: _4_ weeks.
1.3	Region: <u>SNNPR</u> Zone: <u>Gamo Gofa</u> Woreda: <u>Melo Koza</u> Kebele/H. Post: <u>Yista</u>
1.4	Kebele's total population; <u>7,658</u> ; Total U5 children in the kebele <u>946</u>
1.5	Name of supervising health centre: <u>Laha</u>
1.6	Name of HEW in charge: <u>Amarech Demeke</u>
1.7	Lead supervisor's name: <u>Tariku Kuma</u> Responsibility (e.g. HEP supervisor, iCCM coordinator, HEP focal person) <u>HEP supervisor</u> Organization (e.g. MOH, Implementing Partner [specify name]) <u>MOH</u>
1.8	Was Direct Case Observation made? Yes ___ No <u>X</u> Total number of sick U5 observed: _____; Number of Sick Children (2 -59 months) _____ Number of Sick Young Infant (0 up to 2 months) _____ (if you get sick children during your visit do direct case observation using the appropriate recording form annexed at the end of this form)
1.9	iCCM registration book reviewed: Yes <u>X</u> No . Total number of sick U5 children reviewed <u>7</u> ; Number of Sick Children (2 -59 months) <u>6</u> , Number of Sick Young Infant (0 up to 2 months) <u>1</u>
1.10	Total number of HEWs in Health Post: 2 Name of HEW supervised: 1. <u>Amarech Demeke</u> ; 2) <u>Elfresh Mamo</u> ; 3) _____
1.11	How many Voluntary Community Health Workers in this kebele? <u>12</u> _____ a. Which of the below activities do they perform: i. Mobilizing families to seek iCCM services <u>X</u> yes ___ no ___ not yet begun ii. Health promotion activities <u>X</u> yes ___ no ___ not yet begun

II. Key Issues from the previous visit (if there was a visit before)

No.	Major findings that need to be improved	Action	Time line	Responsible person
2.1	ORT corner not established	Procure and deliver to the HP water jug, cup and spoon	21/0711	Tariku Kuma
2.2	Chart Booklet was not in place	Immediate feedback given and she agreed to bring and use the chart booklet	08/07/11	Amarech
2.3	There were no sick young infant	Strengthen community		Amarech

	registered	mobilization Strengthen PNC home visit		
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HEW QUALITY REVIEW

III. HEW case management performance (quality of care) assessment of selected cases (Select at least two most recent cases for each classification)

Classifications of the sick child 2 month to 5 years -including severe classification	#Classifications seen=A	Agreement between case management tasks		
		Assess and classify B	Classify (DSD)*** and treat C	Classify and Stated follow-up date D
		#Agree	#Agree	# Agree
Pneumonia				
Severe pneumonia or Very severe disease				
Malaria				
Very severe febrile diseases/Complicated measles				
Diarrhoea :No/some dehydration				
Severe dehydration/ Dysentery/persistent/ severe persistent diarrhoea				
Severe uncomplicated malnutrition				
Severe complicated malnutrition				
Total classifications seen in SC				
Age below 2 months				
Very severe disease				
Total classifications seen in SYI				

*SC= sick child (2-59 months); **SYI= sick young infant (up to 2 months); ***DSD= Correct Dose, Schedule and Duration.

Guide on how to fill the grid

A= Tally the total number of selected cases against each main classification of reviewed U5 children

B= Tally the number of classifications that agree with assessment among the reviewed U5 children.

C= Tally the number of classifications that agree with treatment among the reviewed U5 children

D= Tally the number of classifications that agree with the follow up date stated among the reviewed U5 children (when the sick U5 child has more than one health problems that need follow up, take the shortest follow up date that comes first for all the classifications)

III a. Children with severe classifications (as given by HEW) referred correctly

(From iCCM register review of at least 2 selected cases per each classification)

	Severe classifications that need referral (as given by HEW)	Total number	referred	Remarks
1	Severe Pneumonia or very severe disease			
2	Very severe febrile disease or and C. measles			
3	Diarrhea: severe dehydration/ dysentery/persistent or severe persistent diarrhoea			
4	Severe Complicated malnutrition/severe anemia/anemia			

III b. Children with non-severe classifications and compliance to follow up within the treatment period (From iCCM register review of at least 2 selected cases per each classification)

	Non-severe classifications (as given by HEW)	Total number	Received follow up care	Remarks
1	Pneumonia			
2	Malaria			
3	Diarrhea			

III c. Treatment outcome for those non severe classification cases /cases that have received follow-up care/

(From iCCM register review of at least two selected cases per each classification)

	Classifications	Outcomes						Visit done before appointed FU date
		Total no.	# Same	# Improved	# Worsened	# Died	# Unknown*	
1	Pneumonia							
2	Malaria							
3	Diarrhea							

**these are sick U5 children who didn't receive follow-up care or outcome is not recorded*

III d. Children checked for well child care in the reporting period (cases selected for register review)

	Age of sick child	Child care	Total number cases (from the two case per each selected classification)	Number checked
1	≥ 6 months	Vitamin A status		

2	<24 months	Immunization status		
3	≥24 months	Deworming status		

DATA REVIEW

IV. Number of children managed and reported by HEW in the last calendar month-review of report (Examine HMIS reporting form, *Compare with what is recorded in the register*)

Reporting period covered: (21.06/11_dd /mm/yyyy to 20/07/11_dd /mm/yyyy)

No	Classification (including severe classification)	From Reporting form	Re-abstraction from Register	Difference	Remark
1	Pneumonia cases	15	20	5	
2	Diarrhea cases	10	10	0	
3	Malaria cases	12	15	3	
4	New SAM cases	2	2	0	
5	Summation of classification (1-4)	30	47	8	
6	Total number of U5 children seen*				

***Current HIS does not capture number of under five children seen**

SUPPLY REVIEW

V. Logistics

Va. Essential Job aids in place (in use) on the day of visit (Put a v mark)

	Item	Yes	No	Remark
1	Chart booklet			
2	IMNCI Registration book for Sick children 2-59 months of age			
3	IMNCI Registration book for Sick young infants 0-2 months of age			
4	Family health card			
5	OTP card (where service is available)			

V b. Essential Functional Equipment on the day of visit

	Item	Yes	No	Remark
1	Watch with second's arm	X		
2	Weighing scale - Baby lying or Salter scale with bowl	X		

3	MUAC tape	X		
4	Thermometer		X	
5	Newborn Ambu-bag		X	

Vc. Drugs and supplies-Check the expiry date for all the drugs and supplies available (Put a ✓ mark)

No	Oral drugs and supplies	Available on day of visit (✓)		Out of stock in the last one month?-if yes write number of days			To anticipate stock out/monitor appropriate use of drugs and supplies			unaccounted quantity	Should be refilled by (date)
							Received	Used	Balance		
		Yes	No	Yes	# of days	No					
1	ORS Sachets	X				X	500	150	350		
2	Cotrimoxazole tablets	X		X	7		1,000	500	400	100	
3	Artemether Lumefantrine (Coartem) tablets		X			X	3,000	100	0		
4	Chloroquine syrup bottles	X				X	1,000	100	900		
5	RUTF (Plumpy Nut or BP100)* Sachets		X	X	15		1,000	1,000	0		
6	Amoxicillin for OTP* tablets		X	X	15		1,000	1,000	0		
7	Mebendazole/ Albendazole tablets	X				X	500	300	200		
8	Vitamin A capsules	X				X	1,000	700	300		
9	Zinc tablets		X			X	0	0	0		
10	Paracetamol tablets		X			X	0	0	0		
11	TTC eye ointment tubes		X	X	3		10	10	0		
12	Vitamin K ampoules		X	X	3		15	15	0		
13	2cc syringe and needle	X				X	1,000	700	300		
14	Examination gloves cartoon	X				X	2	1	1		
15	RDT reagent test kits	X		X	5		100	70	30		

*for HP that provides OTP service

V d: Drugs and supplies stored in appropriate manner

	Appropriate manner includes all of the following:	Yes	No	Remark
1	Storage is free from rodents or insects;			
2	Protected from sunlight			
3	Sufficient space for the quantity;			
4	Dry space and free from flooding			

VI. ORT corner (Put ✓ mark)

Service	Yes	No	Remark
ORT corner available (at least; a measuring jug, 2 cups, spoon, clean water, ORS)			
ORT corner functional (ORS solution given according to Plan B-registered)			

KNOWLEDGE OF HEWS

(Yes means they provided all answers as listed, they can use their job aids)

VII. Assessment of Knowledge –tell HEW to refer to job aids to answer the questions

			HEW 1*		HEW2*		HEW3*	
	Questions	Answers	Yes	No	Yes	No	Yes	No
1	Cough and difficult breathing							
1.1	What is the correct breathing per minute cut off for the following?	60/min or more						
	Infant less than 2 month	50/min or more						
	Child 2-12 months	40/min or more						
	Child 12-59 months							
1.2	Could you tell the correct doses of Co-trimoxazole for?	Pediatrics tablet 3 tablets twice daily for five days						
	Sick child weighing 12 kg	Pediatrics tablet 2 tablets twice daily for five days						
	Sick child age 8 months							
2	Diarrhoea		Yes	No	Yes	No	Yes	No
2.1	What are the 4 rules of home management for a child with diarrhea (plan A? (Do not prompt)	Give extra fluid (breastfeed more frequently for EBF infant)						
		Continue feeding						
		Give zinc						
		When to return						
2.2	Could you tell the correct amount of ORS for a child with some dehydration	750 ml or 700-900ml over four hours in the HP						
	Sick child weighing 10 kg	400- 700 over four hours in the HP						
	Sick child age 6 months							
3	Danger Signs –mark all that are mentioned without prompting		Yes	No	Yes	No	Yes	No
3.1	What are the General Danger Signs (GDS) in a sick child 2 months up to	Lethargic or unconscious						
		Unable to drink or						

	Questions	Answers	HEW 1*		HEW2*		HEW3*	
			Yes	No	Yes	No	Yes	No
	5 years?	breastfeed						
		History Convulsions						
		Vomits every thing						
3.2	What are the signs of possible serious Bacterial infection (PSBI)/Severe disease in the sick young infant birth to 2 months?	Not feeding well						
		Convulsions						
		Fast Breathing/Severe chest						
		in-drawing						
		Fever or low body						
		temperature						
		stimulated						
		No movement even when stimulated						

**Put NA if HEW was not assessed*

VII. Mention the Essential Newborn Care actions (Put ✓ mark)

	Actions	HEW1*		HEW2*		HEW3*	
		Yes	No	Yes	No	Yes	No
1	Deliver baby on to mother's abdomen or into her arms						
2	Dry baby's body with dry towel; wipe eyes; wrap with another dry one and cover head						
3	Assess breathing, if not breathing or gasping or if breathing is <30 breaths per minute, then resuscitate.						
4	Tie the cord two finger from abdomen and another tie two fingers from the 1st one. Cut between the two ties and separate the baby from the placenta.						
5	Place the baby in skin-to skin contact with his mother and on the breast to initiate breastfeeding						
6	Apply Tetracycline eye ointment once to the newborn's eyes						
7	Give Vitamin K, 1mg IM on anterior mid-thigh						
8	Weigh baby properly						

Ethiopia

iCCM follow-up after training

Facilitator's guide

	Advice mother to delay bathing of the baby for 24 hours after birth						
	Provide 4 postnatal visits during at 6-24 hour, 3 rd day, 7th day and 6 th week						

*Put NA if HEW was not assessed

VIII. Summarize the findings and secure agreement from the HEWs

IX a. Main Positive Findings (strengths):

1. _____
2. _____
3. _____
4. _____

IX b. Findings that need to be improved (weaknesses):

No.	Major findings that need to be improved	Action	Time line	Responsible person
1				
2				
3				
4				

IX c. Further suggestions if any: