ASSESSMENT OF INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (IMCI):

Cross-Cutting Themes in Ghana, Malawi, and Sierra Leone

MOMENTUM Country and Global Leadership

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MOMENTUM Country and Global Leadership is part of a suite of innovative awards funded by the U.S. Agency for International Development (USAID) to holistically improve voluntary family planning (FP) and maternal and child health (MCH) in partner countries around the world. The project focuses on technical and capacity development assistance to ministries of health and other country partners to improve outcomes.

1. INTRODUCTION

This report is the result of a multi-level consultation with health workers, administrators, and health system leaders in three countries (Ghana, Malawi, and Sierra Leone) assessing enablers and barriers to implementation of Integrated Management of Childhood Illness (IMCI). It summarizes the findings of the assessment of IMCI in these three countries, sponsored by USAID's MOMENTUM Country and Global Leadership project. Our team conducted a qualitative study and gathered diverse perspectives on IMCI implementation in each country, including reflections on success, challenges, and opportunities for the future. The findings informed an international consultation, comprised of country representatives and international IMCI stakeholders, that was held virtually on 8–9 February, 2023. In this report, we summarize the key findings and share participants' and stakeholders' recommendations for opportunities to strengthen IMCI implementation and improve child health in Ghana, Malawi, and Sierra Leone.

2. METHODS

Across the three countries, we conducted key informant interviews (KIIs) with participants from three districts and the national health system. In Sierra Leone and Malawi, districts were chosen to achieve representation of national IMCI activities. In Ghana, they were chosen from the 11 districts (of 261 total) where IMCI is an "active" strategy (i.e., where IMCI trainings and IMCI-specific supervisions have been conducted recently) and should not be considered representative of IMCI implementation nationally, though participants often commented on their knowledge of other districts. We interviewed a total of 53 participants during April–December 2022 (17 in Ghana, 18 in Malawi, and 18 in Sierra Leone). Participants included health workers at the facility level (n=27), administrators and managers at the district level (n=20), and leaders at the national level (n=6). In each country, district and facility participants were purposively selected to achieve broad representation of health care cadres and leadership positions. Facility-level providers were all trained in IMCI, though the time since their training varied from a few months to more than 10 years prior to the interview. District and national officials included IMCI trainers, providers who had received IMCI training themselves, and other child health leaders responsible for IMCI implementation; we feel confident that district and national participants had appropriate familiarity with IMCI even if they had not received provider training themselves. Interviews were conducted in English via WhatsApp or Zoom calls by one of two study team members and recorded electronically, and verbal consent was obtained for all participants. The median interview lasted 53 minutes.

Interviews were transcribed and coded in Atlas.ti v9.1.2, using a master codebook derived from key concepts from the interview guide plus country-specific emergent codes drawn from a review of interview transcripts. Primary analysis was conducted by an external consultant after discussion of key themes with MOMENTUM team members. This summary report presents: (1) findings that were common across two or more countries, and (2) recommendations drawn both from KII participants and international stakeholders at the global consultation described above. The recommendations contained in this report are primarily drawn from interview participants in each of the three countries. These findings were presented at the global IMCI consultation in February 2023, where attendees (many of whom had participated in the initial interviews) had the opportunity to reflect on findings, identify commonalities between the three countries, and discuss ways forward; the collation conducted at this consultation has informed the ways that findings and recommendations are summarized in this report.

TABLE 1. KEY INFORMANT INTERVIEW PARTICIPANT ROLES AND TITLES, BY COUNTRY AND LEVEL

	Ghana	Malawi	Sierra Leone
Facility	Family physician, physician assistants, enrolled nurses, pediatric nurse, community health nurses (n=9)	Clinical officer, medical assistants, medical technician, nurse-midwife technicians, nurse (n=9)	Community health officers, state-enrolled community health nurses, maternal and child health aides (n=9)
District	Directors of health services, district public health nurses, polyclinic superintendent (n=6)	Directors of health and social services, district IMCI focal people (n=7)	District medical officer, IMCI focal people, district health management team members (n=7)
National	Members of the Newborn and Child Health program and Ghana Health Service (n=2)	Members of the IMCI Unit, Ministry of Health (n=2)	Members of the Reproductive, Maternal, Newborn, and Child Health Unit, Ministry of Health and Social Welfare (n=2)

3. RESULTS

Across all three countries, several common themes emerged related to strengths and challenges in IMCI implementation.

3.1 STRENGTHS AND SUCCESSES

After more than 20 years since IMCI was adopted in each country, participants spoke of several significant strengths of their national IMCI activities and the IMCI protocol in general. Regarding IMCI at the system level, participants of all cadres emphasized that the IMCI protocol was comprehensive and effective, and that it helped support decentralization of care and decision-making at the periphery of the health system. Regarding the service delivery level, they emphasized that frontline providers were empowered to offer quality care, and that when incorporated into integrated supportive supervision (ISS) programs, providers felt that they had the knowledge necessary to deliver IMCI services.

3.1.1 SYSTEM LEVEL

THE IMCI PROTOCOL

In all three countries, participants at all levels agreed that the IMCI protocol was comprehensive and thorough, easy to understand, and effective in improving the quality of care offered to sick children. Participants in all three countries described IMCI-trained providers, though they may be few in number, sharing their knowledge with their colleagues and instructing them in the use of the IMCI protocol and chart booklet, even if the formal training had not been offered to all facility staff. Their ability to "cascade" knowledge in this way depended on a protocol that was clear, easy to use, and well represented in the chart booklet form.

DECENTRALIZED SERVICE DELIVERY

In Malawi and Sierra Leone, providers at the most peripheral facilities (health surveillance assistants [HSAs] at village clinics in Malawi, and maternal/child health aides [MCHAs] at peripheral health units in Sierra Leone) are routinely trained in IMCI, including through pre-service training for all HSAs in Malawi and frequent, though less consistent, in-service trainings for MCHAs in Sierra Leone. This enables quality service delivery at the facilities closest to sick children, accelerating access and improving outcomes. In Malawi in particular, participants remarked that the successful implementation of IMCI at village clinics had led to decongestion at health centers and hospitals and improved child mortality statistics countrywide. Participants in Malawi also described a remarkable degree of decentralized decision-making; for example, providers at all levels were expected to meaningfully analyze IMCI-related data and make programmatic decisions accordingly.

3.1.2 SERVICE DELIVERY LEVEL

EMPOWERING FRONTLINE PROVIDERS

Alongside the benefits to the health system of decentralizing service delivery, IMCI training for frontline providers led to a sense of empowerment and motivation. MCHAs in Sierra Leone and Community Health Planning and Service (CHPS) providers in Ghana remarked on the confidence imparted to them via their recent IMCI training; though this assessment did not interview HSAs in Malawi, facility providers and district officials, who supervise HSAs regularly, suggested that many HSAs feel the same. After mastering the comprehensive protocol, providers cited increased internal motivation to care for sick children. They reported seeing the results of the quality of their care immediately, observing that children fared better and decompensated less often when IMCI guidelines were followed.

INTEGRATED SUPPORTIVE SUPERVISION

In Malawi and Sierra Leone, participants spoke highly of the ISS activities that included IMCI checklists. In Sierra Leone, participants described how ISS offered a morale boost, an increase in provider knowledge, and

early detection of facility problems. In Malawi, IMCI is well incorporated into supervision of HSAs at village clinics. In both countries, however, providers throughout the system would like more frequent ISS visits, especially in light of the benefits of such visits.

3.2 CHALLENGES AND RECOMMENDATIONS

Despite these successes, participants identified a number of key barriers limiting the effectiveness of their countries' IMCI strategies. At the system level, participants described widespread stockouts and shortages of supplies, a vulnerability to partner-driven programming decisions, weak and dysfunctional referral systems, and gaps in leadership and coordination with other ministry and partner programs. At the service delivery level, participants across all three countries described a shortage of trained providers; they also identified challenges to provider motivation and performance, though the underlying reasons were unique to each country.

3.2.1 SYSTEM LEVEL

SUPPLIES AND STOCKOUTS

Across all three countries, stockouts of essential medicines including amoxicillin were reported by most facility- and district-level participants. In Malawi, stockouts were often cited as the most important problem facing IMCI implementation and included equipment and printed materials (such as IMCI chart booklets and patient registers) in addition to medicines. Ten percent of the drug procurement budget had been devolved to district control, but participants at the district level felt that it was not sufficient and that they could better ensure steady supply of essential medicines if they controlled more of the budget. In Sierra Leone, participants at all levels described challenges at multiple points in the supply chain, including: (1) inadequate total funding, (2) central planning and distribution that was not responsive to facility-level needs, and (3) inaccurate facility-level data that led to poor central decision-making. In Ghana, participants offered fewer explanations for persistent stockouts, though some suspected it was due to a lack of overall resources, compounded by slow payments from the National Health Insurance Authority to facilities. These slow insurance reimbursements caused slow payments from facilities to regional medical suppliers, from which facilities were required to procure to benefit from nationally-negotiated prices. Facilities were theoretically allowed to procure some commodities from private suppliers, but only for nonessential commodities, which precluded private supply of IMCI medicines.

Key finding: Though the causes were different, the result was common across the three countries: providers at peripheral facilities often lacked key IMCI medicines and supplies, which led to preventable referrals, lack of pre-referral treatment, unnecessary child deaths, caregiver frustration, and provider burnout.

Key recommendations: (1) Strengthen supply chain and procurement processes to improve responsiveness to facility and district needs; (2) Allow district health management teams to procure from private, approved wholesalers alongside central medical stores to avoid stockouts while ensuring quality.

COORDINATION WITH PARTNERS

In Ghana and Malawi, participants described challenges working with development partner and donor organizations. In Malawi, partner-driven funding choices led to patchy geographic coverage, and projects were often discontinued without a clear plan in place for the Ministry of Health to take over, resulting in programmatic gaps. In Ghana, participants said that partners' geographic or programmatic priorities did not

always align with those of the Ghana Health Service; for example, a partner may only want to offer IMCI training to providers at health centers, which interview participants felt did not acknowledge the interrelatedness of the health system and the importance of training at multiple levels, including the periphery and more central facilities. Underlying reasons for the inability or unwillingness of governments to challenge partner priorities were not immediately clear and the topic may benefit from further study. Of note, in all three countries, participants acknowledged the essential role that partners play in IMCI, given under-resourced national programs. Currently, partner-supported activities generally focused on IMCI trainings and supervision visits to frontline facilities.

Key finding: Despite their importance to IMCI implementation, coordinating the activities of diverse development partner and donor organizations was challenging for district and national officials in Ghana and Malawi, which often led to temporal and geographic gaps in IMCI coverage or service duplication.

Key recommendation: Advocate and communicate with partners and donors to support *one* implementation plan based on country and district priorities, with partners and governments (at national and district levels) working in unison to ensure adequate training, supervision, monitoring, and health system strengthening to ensure successful IMCI activities.

REFERRAL NETWORKS

All three countries have clear structures for referral networks, and most facility providers described using appropriate referral slips and, when supplies were available, administering pre-referral treatments. However, the de jure referral networks were not matched by de facto resource availability, and participants in all countries described major challenges in referring severely ill children. In Sierra Leone, the National Emergency Medical Service vehicles were usually not functional; in Malawi, there was no official transport from village clinics to health centers at all, and transport was rarely available from health centers to district hospitals due to vehicle and fuel shortages; and in Ghana, the National Ambulance Services vehicles were usually not functional, leading to no referral transportation in two of the three surveyed districts.

Key finding: While referral network structures were designed logically, in all three countries the referral networks were rarely functioning as designed due to lack of resources and financing. As a result, caregivers were asked to pay for transport out-of-pocket, which led to frequent delays in care and sometimes lack of referral care altogether. These issues were compounded by stockouts at peripheral facilities that led to referrals of children who were not severely ill.

Key recommendations: (1) Identify options for improving referral functionality between frontline facilities and referral centers; (2) Include an assessment of the functionality of referral systems in monitoring and supervision programs to identify unexpected weaknesses.

HEALTH SYSTEM LEADERSHIP AND COORDINATION

While the national IMCI program in Malawi was well-established and quite mature, participants in Sierra Leone and Ghana described challenges with IMCI programming at the national level. In Sierra Leone, Child Health Technical Working Group meetings had not occurred since the start of the COVID-19 pandemic, leading to missed opportunities to coordinate IMCI activities with other stakeholders and other health priority programs in the Ministry of Health and Social Welfare such as malaria and nutrition (though participants did report that guideline revisions were well-coordinated between various programs). Some

participants in the Ghana Health Service expressed concern that a heavy focus on IMCI may lead to unnecessary "siloes" of resources, as if IMCI was a disease-specific program that had caused such problems in the past; as a result, they championed the more integrated approach that Ghana has taken by emphasizing "child health" more broadly, and felt it was appropriate that Ghana had not assigned IMCI focal people at the national, district, or facility levels. These participants felt that core IMCI monitoring and supervision tasks were still performed, despite no named IMCI coordinators. However, other participants felt this had led to a lack of focus on IMCI, and a missed opportunity to leverage the IMCI protocol, monitoring, supervision, and data management strategy to achieve child health outcomes. In all three countries, participants reported good political will for improving child health, and felt that coordination challenges were not insurmountable.

Key finding: National leadership and support for IMCI varied between the three countries. In Malawi, it was cited as key to the program's success, but coordination challenges in Sierra Leone and a broad child health (rather than IMCI-specific) focus in Ghana affected IMCI implementation at the service delivery level.

Key recommendations: (1) Reduce duplication of activities conducted by partner organizations by holding regular stakeholder meetings; (2) Support decentralization and bottom-up approaches including local budgetary management and empowerment of facility and community health management committees; (3) Ensure effective quality improvement processes, including robust supervision campaigns with timely follow-up and coordinated data management and reporting.

3.2.2 SERVICE DELIVERY LEVEL

SHORTAGE OF TRAINED PROVIDERS

In all three countries, participants described a lack of IMCI-trained providers at the facility level. The gap was most serious in Ghana, where, although IMCI is included in the curriculum of physician assistants, there has been no large-scale IMCI training of other cadres (who make up a much larger portion of providers seeing children under five) since 2006; only 11 of 261 districts were currently implementing IMCI because they had received partner support for provider trainings. In Sierra Leone, though most facilities had one trained provider, very few had more than one, and participants reported that this led to frequent gaps in service provision if IMCI-trained providers were absent or relocated. In Malawi, HSAs working at village clinics are typically trained in IMCI, and nearly all facilities had at least one trained provider; however, large facilities frequently require non-IMCI-trained providers to see sick children as well, so facility-level adherence to IMCI guidelines was of concern. In general, district-level participants felt that providers in their districts adhered well to IMCI guidelines, so long as they were trained; however, because many providers were not trained (or not trained recently), overall adherence to guidelines may be poor.

Key finding: Lack of IMCI-trained providers led to gaps in IMCI service provision in all three countries. None of the three had fully transitioned to pre-service IMCI training, though each country was interested in doing so.

Key recommendations: (1) IMCI focal people should be included in district-level staffing decisions to reduce gaps in coverage at frontline facilities; (2) Develop a pool of national- and regional-level IMCI facilitators and supervisors to improve efficiency and reduce costs of in-service IMCI trainings (initial and refresher); (3) Integrate IMCI into pre-service curricula of medical and paramedical training institutions.

MOTIVATION AND PROVIDER PERFORMANCE

Participants in each of the three countries described unique issues with motivation and provider performance. In Sierra Leone, the central problem was related to salary: the majority of frontline providers are "not on pincode" (i.e., they receive no regular pay), leading to frequent absences as providers must find other paying work. In Ghana, CHPS providers are expected to focus on preventive care such as immunizations and are not authorized to administer certain curative treatments including antibiotics, preventing them from fully following IMCI guidelines—though participants at facility, district, and especially at the national level felt that they had appropriate core training to provide curative care, and indeed they are authorized to offer treatments for malaria and diarrhea. In Malawi, participants described tremendous workload, frequently seeing 50–100 clients per day; even the most motivated and hardest-working providers find it difficult to follow IMCI guidelines fully in the limited time available to evaluate so many sick children. In every country, facility-level participants noted that adhering to IMCI guidelines was especially difficult when supplies and equipment were unavailable.

Key finding: Though the underlying causes were different, even IMCI-trained providers met challenges in adhering to the protocol in all three countries, whether due to lack of pay, excessive workload, or restrictions on their activities. Coupled with a shortage of trained providers, frequent stockouts, and missing or broken equipment, this finding may help explain other analyses that find poor adherence to IMCI guidelines in peripheral facilities.

Key recommendations: (1) Analyze underlying reasons for poor adherence to IMCI guidelines in each setting (which may vary by facility level), and address system-level barriers to adherence such as weak supply chains, administrative restrictions, or non-payment of providers; (2) Include case observation during supervisory visits.

4. CONCLUSION

Across Ghana, Malawi, and Sierra Leone, participants in this qualitative study described several common challenges facing implementation of IMCI guidelines, highlighting barriers at both the health system and service delivery levels. As has been described in previous analyses and reports, participants agreed that weaknesses in the health system prevent full realization of IMCI's potential.

However, it became clear from this study that monitoring health system performance against IMCI targets could illuminate broader health system weaknesses. Stockouts of essential IMCI medicines or equipment, for example, are signals of broader supply chain failures; providers' challenges following guidelines because they are seeing 50–100 children per day (as in Malawi) or are not being paid for their work (as in Sierra Leone) are indicators of serious gaps in health workforce management; and the lack of referral transport for children usually signals that no critically ill patients are offered transport when referred. When these issues have been detected, investing resources in achieving IMCI goals could strengthen the system overall, so long as investments are made system-wide—for example, supporting procurement and distribution of all essential medicines (rather than only IMCI commodities), advocating for pay for all frontline providers (rather than only those that care for children), and ensuring transport availability for patients of all ages (rather than only children). Much as the IMCI protocol is designed for comprehensive care of the whole child, achieving programmatic IMCI outcomes presents an opportunity to strengthen the whole health system.

The recommendations contained in this report, primarily drawn from interview participants in each of the three countries with additional collation and summarization conducted at the global IMCI consultation in February 2023, can serve as a starting point for IMCI decision-makers across countries facing similar challenges to those described. Nearly all participants were in agreement on one particular point: the IMCI protocol is an effective tool for improving child health and saving children's lives, and efforts to more fully implement IMCI will pay dividends for the next generation.

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