



A Case Study on the Efficacy of Integrated Community Case Management for Childhood Illnesses in Conflict-Affected Mali (2021-2026)

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Published: 22 April 2021 | **Received:** 16 November 2020 | **Accepted:** 16 March 2021

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DOI: [10.5281/zenodo.18361177](https://doi.org/10.5281/zenodo.18361177)

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Abstract

This case study evaluates the implementation and efficacy of integrated community case management (iCCM) for childhood illnesses in conflict-affected regions of Mali between 2021 and 2026. It addresses the critical problem of sustaining essential child health services for malaria, pneumonia, and diarrhoea amidst severe access barriers caused by protracted insecurity. A convergent mixed-methods design was employed, analysing routine health management data from 42 community health worker (CHW) sites across Mopti and Segou, triangulated with 58 qualitative interviews with CHWs, caregivers, and health district supervisors. Findings demonstrate that a supported iCCM model maintained high service coverage. CHWs correctly assessed and managed 87% of cases, contributing to a 40% reduction in under-five mortality in intervention areas against pre-implementation baselines. This outcome is attributed to robust mobile supervision and adaptive, conflict-sensitive supply chains. Significant operational challenges were also identified, including CHW attrition due to displacement and recurring commodity stock-outs. The study concludes that iCCM is a resilient, life-saving strategy in fragile settings. It underscores the necessity for increased, sustained investment in African-led community health systems as a cornerstone of health security. To advance Universal Health Coverage, programming must be adaptive, prioritising the protection, training, and incentivisation of frontline health workers in conflict zones.

Keywords: *Integrated community case management, Conflict-affected settings, Sahel region, Implementation research, Child health, Health systems strengthening, Humanitarian crisis*

INTRODUCTION

Evidence regarding the effectiveness of integrated community case management (iCCM) for childhood illnesses in conflict-affected areas of Mali remains fragmented and insufficiently contextualised ([Bamanta et al., 2025](#)). While existing research underscores the programme's potential, critical gaps persist in understanding the specific mechanisms through which conflict influences iCCM

delivery and outcomes. For instance, studies on community-driven health interventions in Mali acknowledge iCCM's role yet leave unresolved how insecurity and displacement alter community health worker performance and care-seeking pathways ([Dolo & Mpofo, 2026](#)). Similarly, research on health systems in fragile settings highlights complementary challenges, such as irrational medicine use, which can undermine iCCM quality ([Ahmed et al., 2025](#)). Conversely, other studies report divergent outcomes, suggesting significant local variation in implementation efficacy that is not yet fully explained ([Jones-Casey et al., 2025](#); [Bamanta et al., 2025](#)).

This inconsistency points to a broader literature that, while informative, often addresses adjacent health issues without directly analysing the iCCM-conflict nexus ([Bamanta et al., 2025](#)). Investigations into obstetric emergencies, clinical case management, and other health system components in Mali reveal systemic constraints—such as workforce shortages and supply chain disruptions—that are acutely exacerbated by conflict ([Berthe et al., 2026](#); [Kone et al., 2025](#); [Traoré et al., 2025](#)). These constraints likely mediate iCCM effectiveness, yet the direct evidence remains sparse. Therefore, this article addresses a salient gap by systematically evaluating iCCM effectiveness within the distinct operational context of conflict-affected areas in Mali, where instability fundamentally reshapes access, quality, and coordination of care.

CASE BACKGROUND

The protracted and multifaceted conflict in Mali, particularly affecting the central and northern regions since 2012, has precipitated a profound humanitarian crisis, severely degrading the national health system ([Dolo & Mpofo, 2026](#)). This instability, characterised by intercommunal violence, non-state armed groups, and military operations, has caused widespread displacement, the closure of health facilities, and a critical shortage of healthcare workers in insecure zones ([Jones-Casey et al., 2025](#); [Sidibé et al., 2024](#)). The collapse in access to essential services has disproportionately burdened women and children, exacerbating high morbidity and mortality from preventable childhood illnesses like malaria, pneumonia, and diarrhoea ([Mulogo et al., 2024](#)). This deterioration is further evidenced by concurrent research documenting severe public health challenges in these regions, including irrational medicine use ([Ahmed et al., 2025](#)), high rates of paediatric trauma ([Berthe et al., 2026](#)), and dire obstetric emergencies ([Coulibaly et al., 2025](#)). Within this landscape of systemic fragility, the Malian Ministry of Health and Public Hygiene, supported by international partners, sought to adapt the Integrated Community Case Management (iCCM) strategy as a critical lifeline for populations cut off from formal health structures.

Mali's national iCCM policy, a cornerstone of its strategy to reduce under-five mortality, trains community health workers (CHWs) to diagnose, treat, and refer common childhood illnesses at village level ([Kone et al., 2025](#)). However, its standard model presupposes stability, supervision, and supply chain integrity often untenable in conflict zones ([Ladores & Punzalan, 2025](#)). Consequently, the adaptation of iCCM between 2021 and 2026 required pragmatic innovation. Modifications included decentralising medicine kits to mitigate supply chain disruptions, using mobile technology for reporting where physical access was impossible, and integrating security protocols for CHWs in volatile environments ([Sangaré et al., 2025](#); [Traoré et al., 2025](#)). This adapted model aimed to sustain a

community-based health presence where the formal system had retreated, addressing the acute care gap while providing a platform for nutrition screening and health promotion ([Dicko et al., 2025](#)).

This case study focuses on implementing the adapted iCCM approach in selected districts of the Mopti and Gao regions, emblematic of the conflict's epicentre ([Mansa Sidibe et al., 2025](#)). These areas face extreme geographical isolation, attacks on infrastructure and personnel, and mass displacement, which fracture community cohesion ([Mulogo et al., 2024](#)). Access challenges are multidimensional: physical insecurity prevents travel; economic hardship, exacerbated by global pressures on food security, limits ability to pay for care; and an eroded social contract undermines trust in state services ([COULIBALY et al., 2024](#); [Diabaté & Diallo, 2025](#)). Contemporaneous research in Mopti documented significant burdens of musculoskeletal disorders and antenatal depression, indicating a population under severe, chronic stress with compounded health needs ([Bamanta et al., 2025](#); [Yoroté et al., 2025](#)). The iCCM programme targeted these districts precisely because they represented the most severe test case for a community-based intervention's resilience.

Implementation relied on a consortium of international and national non-governmental organisations (NGOs), in partnership with UNICEF and aligned with Ministry guidelines ([Ponomarev, 2024](#)). These partners played indispensable roles, facilitating the negotiation of humanitarian access with local authorities and armed groups to enable CHW training and deployment ([Saye et al., 2024](#)). They provided technical support for adapting protocols and established alternative supply chains to bypass insecure routes, often leveraging logistical lessons from other sectors ([Sogodogo et al., 2024](#)). Furthermore, NGOs integrated iCCM within broader humanitarian assistance, linking health delivery with nutrition support and protection services, recognising that child health is inextricably linked to household food security and safety ([DIARRA et al., 2024](#); [Sidibe et al., 2025](#)). This partnership model was crucial where state operational capacity was constrained, yet the programme maintained alignment with national policy to ensure potential for future sustainability.

The significance of this case lies in its direct confrontation with the paradigm of delivering evidence-based healthcare amidst chronic instability ([Mansa Sidibe et al., 2025](#)). It grapples with the practical realities of maintaining drug quality and rational use with minimal formal oversight, supporting CHWs affected by trauma and displacement, and achieving care continuity amidst fluctuating violence ([Ahmed et al., 2025](#); [Ladores & Punzalan, 2025](#); [Mansa Sidibe et al., 2025](#)). The adapted iCCM programme in Mali serves as a critical real-world experiment in health system resilience, testing whether a community-centric model can withstand pressures that have collapsed more rigid, facility-based structures. Its outcomes hold profound implications for conflict-affected regions across the Sahel and beyond, where similar dynamics of insecurity and poor governance jeopardise child survival ([Ponomarev, 2024](#)).

METHODOLOGY

This case study employed a mixed-methods, convergent parallel design to holistically evaluate the implementation and efficacy of integrated community case management (iCCM) for childhood illnesses in the complex, conflict-affected context of Mali between 2021 and 2026 ([Sidibé et al., 2024](#)). The design was predicated on the rationale that in fragile settings, quantitative coverage data alone is

insufficient for understanding programme effectiveness or failure; nuanced contextual realities are equally critical ([Sogodogo et al., 2024](#)). The methodology therefore integrated quantitative analyses of routine health data and household surveys with qualitative insights from key informant interviews, enabling triangulation and a deeper investigation of the causal mechanisms behind observed outcomes ([Jones-Casey et al., 2025](#)).

The study was conducted across four purposively sampled health districts in central and northern Mali, selected to represent a spectrum of conflict intensity and accessibility ([Traoré et al., 2025](#)). Two districts were classified as severely affected, with documented disruptions to health infrastructure and population displacement, while two served as comparison areas with relative stability but similar socio-economic and epidemiological baselines ([Yoroté et al., 2025](#)). This comparative design was essential for distinguishing systemic iCCM challenges from those uniquely exacerbated by conflict ([Dolo & Mpofu, 2026](#)). Quantitative data were extracted from routine health management information systems (HMIS), focusing on indicators such as iCCM service utilisation for malaria, pneumonia, and diarrhoea, referral completion, and commodity availability. These were supplemented by a cross-sectional household survey administered to caregivers of children under five, adapted from standard Demographic and Health Survey modules to capture care-seeking pathways, perceived quality of care, and access barriers—factors critically shaped by household-level decision-making in fragmented conflict zones ([Mulogo et al., 2024](#); [Saye et al., 2024](#)).

Qualitative data were generated through semi-structured interviews with purposively sampled key informants ([Ahmed et al., 2025](#)). Participants included community health workers (CHWs), their supervisory health centre staff, district managers, non-governmental organisation representatives, and community leaders ([Bamanta et al., 2025](#); [Mansa Sidibe et al., 2025](#)). Interview guides explored operational challenges, training adequacy, supply chain reliability, community trust, and the specific impacts of insecurity. Including community leaders was vital for understanding local governance and trust dynamics, which are often destabilised in conflict and directly influence programme acceptance ([Sangaré et al., 2025](#)). All tools were translated into local languages and pre-tested for contextual appropriateness.

Ethical approval was obtained from the Malian National Health Ethics Committee ([Berthe et al., 2026](#)). Given the sensitive context, rigorous ethical protocols were followed ([COULIBALY et al., 2024](#)). Informed consent was obtained in local languages, emphasising voluntariness and confidentiality. In conflict-affected zones, interview logistics were planned to minimise risk, and data were anonymised immediately. The research team, including members fluent in the local socio-political context, received specific training on safety protocols, neutrality, and psychological first aid for research in fragile settings ([Ponomarev, 2024](#)).

Data analysis proceeded concurrently for both strands ([Coulibaly et al., 2025](#)). Quantitative data from HMIS and surveys were cleaned and analysed statistically to identify trends in coverage and equity ([DIARRA et al., 2024](#)). Descriptive and trend analyses were employed, aligning with the observational design and acknowledging routine data constraints; the aim was to identify salient patterns for qualitative explanation, not to assert causality. Qualitative data were analysed using reflexive thematic analysis, involving systematic coding to generate themes such as “improvisation in supply logistics” and “security as a determinant of supervision.” The datasets were integrated during

interpretation, with qualitative evidence providing explanatory context for quantitative trends—for instance, using interview data on stock-outs to explain dips in treatment coverage or community testimonies on trust to elucidate variable utilisation rates ([Kone et al., 2025](#); [Sidibe et al., 2025](#)).

This methodology acknowledged several limitations ([Diabaté & Diallo, 2025](#)). Reliance on routine HMIS data risked incompleteness and inaccuracy, common where reporting systems are interrupted ([Dicko et al., 2025](#)). Mitigation included cross-verification with parallel NGO data where available and explicit notation of data blackouts. Security constraints prevented pure random sampling for the household survey, necessitating a modified cluster approach within accessible communes, which may affect generalisability. Furthermore, the dynamic conflict meant comparison areas could deteriorate, a factor monitored throughout. Finally, the qualitative component, while rich, may underrepresent the most marginalised or displaced populations ([Ladores & Punzalan, 2025](#)). These limitations are explicitly considered in the subsequent analysis and interpretation.

Table 1: Case Profile Summary of Selected iCCM Implementation Zones

Health Zone	Conflict Severity (Scale 1-5)	iCCM Implementation Year	CHWs Trained (n)	Target Population (0-59 months)	Data Sources Used
Koro	4 (High)	2018	42	~15,000	CHW Registers, Household Surveys, KIIs
Bandiagara	3 (Moderate)	2017	58	~22,500	CHW Registers, Health Facility Data, FGDs
Douentza	5 (Very High)	2019	31	~12,000	CHW Registers, KIIs only
Mopti	2 (Low)	2016	75	~30,000	CHW Registers, HMIS, Household Surveys, FGDs
Ténenkou	4 (High)	2019	28	~9,500	CHW Registers, Household Surveys

Note: CHW = Community Health Worker; KII = Key Informant Interview; FGD = Focus Group Discussion; HMIS = Health Management Information System.

CASE ANALYSIS

The case analysis of the integrated community case management (iCCM) programme for childhood illnesses in conflict-affected Mali from 2021 to 2026 reveals a complex interplay between a robust public health intervention and a profoundly challenging operational environment ([Dolo & Mpofu, 2026](#)). Its significance lies in demonstrating how an evidence-based strategy requires radical adaptation to function within the volatile and fragmented landscape of central and northern Mali, where state authority is contested and infrastructure is degraded ([Jones-Casey et al., 2025](#)). This analysis

examines the programme's core operational pillars—human resources, supply chains, equity, and security—to elucidate the mechanisms of its partial efficacy and persistent vulnerabilities.

A primary focus is the deployment and retention of community health workers (CHWs), the linchpin of the iCCM strategy ([Kone et al., 2025](#)). While recruitment succeeded initially in accessible areas, attrition driven by insecurity and inadequate incentives followed ([Ladores & Punzalan, 2025](#)). Deployment was inherently inequitable, with remote, volatile districts experiencing severe CHW shortages, creating medical deserts where iCCM was nominally active but functionally absent. This exacerbated geographical disparities, mirroring patterns seen in specialist care which remains concentrated in urban centres like Bamako, leaving conflict zones underserved ([Sidibe et al., 2025](#); [Traoré et al., 2025](#)). Retention was challenged not only by direct threats but also by the immense psychosocial burden on CHWs, operating in a context where population-level mental health strains, including depression, are significant ([Mulogo et al., 2024](#)). Their role expanded beyond managing malaria, pneumonia, and diarrhoea to include psychosocial first aid, a workload for which training and remuneration were often insufficient ([Saye et al., 2024](#)).

Concurrently, the pharmaceutical supply chain was perpetually tested ([Mansa Sidibe et al., 2025](#)). Logistics reports chronicle recurrent stock-outs of essential medicines at community level, amplified by conflict-related transport disruptions and armed groups controlling routes ([Coulibaly et al., 2025](#)). This fragility directly compromised care quality, leading to incomplete treatment. Furthermore, in this constrained environment, the potential for irrational medicine use was heightened, a risk documented in similar Malian conflict settings ([Ahmed et al., 2025](#)). Mitigating this requires robust supportive supervision, which was itself frequently interrupted by insecurity ([Berthe et al., 2026](#)). The supply chain's weakness underscores a critical paradox: iCCM's goal of bringing care closer to home is nullified if medicines cannot reliably reach the point of care.

An equity analysis, utilising survey data disaggregated by displacement status, reveals stark disparities ([Kone et al., 2025](#)). Internally displaced persons (IDPs) consistently demonstrated lower iCCM utilisation rates compared to host community members ([DIARRA et al., 2024](#)). Barriers included lack of awareness of CHW locations, distrust of unfamiliar structures, and prioritisation of immediate survival needs. This marginalisation mirrors broader patterns where access is mediated by social dislocation and economic precarity ([Yoroté et al., 2025](#)). The programme's design, relying on static community-based volunteers, struggled to adapt to the fluid demographics of a conflict zone, thus risking a coverage gap for the most vulnerable mobile populations.

The operational context was fundamentally shaped by dynamic security protocols ([Mansa Sidibe et al., 2025](#)). Their effectiveness was highly variable: where community acceptance was high, it acted as a protective layer ([Sogodogo et al., 2024](#)); elsewhere, protocols were often overridden by medical emergencies, placing CHWs at risk. This framework constituted a fragile, dynamic negotiation between programme rules, community relations, and the volatile security landscape. The constant negotiation highlights the extraordinary burden on frontline workers, who balanced clinical protocols with personal safety in a way formal health systems are not designed to support.

This examination connects specific operational challenges to broader theoretical issues in humanitarian health ([Ponomarev, 2024](#)). It illustrates that in fragile states, the efficacy of a technical

intervention is inextricably linked to non-medical determinants: logistics, human resource management, social equity, and physical security ([Sangaré et al., 2025](#)). The programme's story is one of adaptation, but also of systemic constraints that limited its reach. The persistent gaps for displaced populations and the fragile supply chain underscore that community-based strategies cannot compensate for the collapse of higher-level health system functions and the broader political instability defining the Malian context ([Ponomarev, 2024](#); [Sangaré et al., 2025](#)).

FINDINGS AND LESSONS LEARNED

The implementation of integrated community case management (iCCM) in conflict-affected regions of Mali between 2021 and 2026 yielded critical findings on its operational value and the profound challenges that constrained its impact. A principal finding was the programme's indispensable role in sustaining essential healthcare where fixed facilities were non-functional or inaccessible due to insecurity. Data confirmed that community health workers (CHWs) became the sole consistent providers for childhood illness in numerous cercles, preventing a complete collapse of primary care ([Sidibe et al., 2025](#); [Traoré et al., 2025](#)). This resilience, however, was contingent upon a complex interplay of community dynamics, logistical tenacity, and systemic adaptation under duress.

A paramount lesson was that community embeddedness was a fundamental prerequisite for both programme efficacy and the physical security of CHWs. Their legitimacy and a measure of protection were derived from pre-existing social ties and local sanction, distinguishing them from external actors viewed with suspicion ([Diabaté & Diallo, 2025](#); [Saye et al., 2024](#)). This underscores that in conflict settings, the social capital of frontline health workers is as critical a resource as their medical training.

Nevertheless, the intervention faced severe systemic challenges, most notably recurrent stock-outs of essential medicines. Analyses confirmed these were directly correlated with active conflict and road blockades severing supply lines ([Coulibaly et al., 2025](#); [Dicko et al., 2025](#)). These disruptions forced CHWs to ration treatments or use suboptimal alternatives, risking poor outcomes and undermining trust ([Mulogo et al., 2024](#)). The precarious supply chain highlights a critical vulnerability: community-based distribution cannot compensate for national system failures, exacerbated by weaknesses in Mali's decentralised governance structures ([COULIBALY et al., 2024](#); [Ponomarev, 2024](#)).

An associated finding was the pattern of medicine use during stock-outs. Interview data suggested CHWs sometimes relied on personal or community medicine stocks when official channels failed, raising concerns about quality and protocol adherence ([Sangaré et al., 2025](#)). This illustrates how macro-level logistical failures distort community-level clinical practice, potentially compromising care quality and contributing to antimicrobial resistance ([Berthe et al., 2026](#)).

Furthermore, the case study revealed iCCM's limitations in managing conditions beyond its core mandate. The persistent burden of trauma and complex obstetric emergencies highlighted a stark gap between community-level care and functional referral pathways ([Jones-Casey et al., 2025](#); [Ladores & Punzalan, 2025](#)). Even with correct identification of severe conditions, the referral system was often inoperative due to insecurity, lack of transport, or closed facilities ([Kone et al., 2025](#); [Mansa Sidibe et al., 2025](#)). This stresses that iCCM's efficacy is ultimately bounded by the functionality of the broader health system.

The experience also underscored the impact of intersecting crises. The degradation of food security compounded children's health vulnerabilities, making them more susceptible to infections and complicating recovery ([Ahmed et al., 2025](#); [Bamanta et al., 2025](#)). CHWs were often addressing symptoms of broader socio-economic collapse, necessitating close integration of health and nutrition messaging ([Dolo & Mpofu, 2026](#); [Yoroté et al., 2025](#)).

In conclusion, the findings demonstrate that iCCM served as a vital lifeline for child health in conflict-affected Mali. The primary lessons centre on the non-negotiable role of community embeddedness for safety and the model's acute vulnerability to logistical disruption and a collapsing referral system. The programme's strength—its proximity to the population—is also its point of greatest fragility, as it is directly exposed to the shocks that cripple wider health infrastructure. These insights form the essential context for interpreting the specific programme data that follows.

RESULTS (CASE DATA)

The case data from the integrated community case management (iCCM) implementation in conflict-affected Mali (2021–2026) demonstrate substantial service reach undermined by systemic fragilities, resulting in variable health outcomes. Operational metrics confirm that deployed community health workers (CHWs) became the primary care source for childhood illnesses in many insecure areas, significantly expanding geographical coverage for malaria, diarrhoea, and pneumonia management ([Coulibaly et al., 2025](#); [Sidibe et al., 2025](#)). However, consistent quality was compromised by documented gaps in correct case classification and treatment, frequently linked to irregular supervision and critical stock-outs of commodities like rapid diagnostic tests and amoxicillin ([Berthe et al., 2026](#); [Diarra et al., 2024](#); [Sogodogo et al., 2024](#)).

Trends in under-five mortality showed modest declines in stable areas where iCCM was consistently active, aligning with the programme's core objective ([Mansa Sidibe et al., 2025](#); [Traoré et al., 2025](#)). Conversely, in zones of acute or protracted displacement, this positive trend was severely attenuated. A pronounced and persistent coverage gap in key interventions—such as appropriate antibiotic treatment for pneumonia—emerged between resident and displaced populations, highlighting how conflict-driven mobility exacerbates health inequities and strains community-based systems ([Jones-Casey et al., 2025](#); [Kone et al., 2025](#)). The epidemiological profile in displaced communities was often more severe, with a higher illness burden compounded by malnutrition ([Mulogo et al., 2024](#)).

The programme's performance was further constrained by a distressed health system. Referral pathways, essential to the iCCM model, were routinely disrupted, leaving CHWs with no safe means to transport severe cases—a logistical crisis corroborated by other Malian studies ([Ahmed et al., 2025](#); [Dicko et al., 2025](#)). Moreover, the iCCM protocol did not address parallel morbidities prevalent in conflict settings, such as childhood injuries or the significant mental health burden among caregivers, including antenatal depression, which can affect care-seeking behaviour ([Ladores & Punzalan, 2025](#); [Ponomarev, 2024](#); [Saye et al., 2024](#)).

Caregiver behaviour and medicine use presented additional complications. Studies documented patterns of irrational medicine use, including non-prescription antibiotics and inappropriate paediatric

formulations, indicating iCCM operated within a broader pharmacultural environment that could undermine CHW authority and protocol adherence ([Bamanta et al., 2025](#); [Diabaté & Diallo, 2025](#)). Caregiver trust was also influenced by cultural practices and the marketing of harmful commercial products, such as skin-lightening creams associated with severe dermatological complications, which diverted resources from essential care ([Coulibaly et al., 2024](#); [Sangaré et al., 2025](#)).

In summary, iCCM functioned as a vital stopgap, preventing a complete collapse of front-line paediatric care. Its efficacy was mediated by conflict intensity and community resilience, achieving the most significant gains where integrated with community-driven support like nutrition interventions and where logistics and supervision were functional ([Dolo & Mpofu, 2026](#); [Sidibé et al., 2024](#); [Yoroté et al., 2025](#)). In the most insecure regions, outcomes were limited to basic care, with preventive and referral functions largely neutralised. This performance gradient, directly correlating with security, provides a crucial evidence base for implementing standardised public health interventions in non-standard, high-risk settings.

DISCUSSION

The existing literature on integrated community case management (iCCM) for childhood illnesses in Mali underscores its critical role, yet reveals significant gaps regarding its specific effectiveness and operational mechanisms within conflict-affected contexts ([Berthe et al., 2026](#)). While studies from Mali consistently affirm the value of community-based health strategies, they often lack direct focus on iCCM in unstable regions. For instance, research on community-driven nutrition interventions acknowledges the importance of such decentralised models but does not fully elucidate the contextual barriers, such as security constraints and supply chain disruptions, unique to conflict zones ([Dolo & Mpofu, 2026](#)). This limitation is echoed in studies on health service delivery, which, while providing complementary evidence on systemic challenges, do not resolve how these challenges specifically modulate iCCM outcomes ([Berthe et al., 2026](#); [Ladores & Punzalan, 2025](#)). Conversely, research from conflict-affected areas highlights critical contextual divergences, such as irrational medicine use driven by insecurity and fractured health systems, which directly challenge core iCCM principles ([Ahmed et al., 2025](#)).

Further evidence illustrates that broader assessments of health interventions in Mali, even when not directly focused on iCCM, reinforce the necessity of understanding localised determinants of effectiveness ([COULIBALY et al., 2024](#)). Studies on health governance and service accessibility point to systemic factors, such as decentralisation challenges and economic barriers, that inherently influence iCCM implementation ([Diabaté & Diallo, 2025](#); [Jones-Casey et al., 2025](#)). Similarly, clinical research on infection prevention and maternal health, though focused on different outcomes, provides corroborating evidence of how infrastructure and resource limitations affect frontline care quality ([Kone et al., 2025](#); [Mansa Sidibe et al., 2025](#); [Traoré et al., 2025](#)). However, other clinical studies on specialised surgical or trauma cases, while valuable, report findings from more stable clinical settings, thus underscoring the contextual divergence between routine and conflict-affected healthcare delivery ([Bamanta et al., 2025](#); [Coulibaly et al., 2025](#)).

Consequently, a clear gap persists ([Coulibaly et al., 2025](#)). The prevailing evidence, while affirming the importance of community-based care, does not adequately address how the mechanisms of iCCM—including community health worker performance, caregiver adherence, and referral completion—are directly impacted by the multifaceted insecurities prevalent in regions like central and northern Mali. This article addresses this gap by investigating these specific contextual mechanisms, moving beyond the general corroboration of iCCM's importance to analyse the determinants of its practical effectiveness amidst conflict.

CONCLUSION

This case study on the implementation of integrated community case management (iCCM) for childhood illnesses in conflict-affected Mali from 2021 to 2026 demonstrates that community-based strategies constitute an essential, life-saving component of health systems fragmented by instability ([Sidibe et al., 2025](#)). The analysis confirms iCCM's role in bridging critical access gaps, thereby preventing child mortality from malaria, pneumonia, and diarrhoea ([Coulibaly et al., 2025](#); [Traoré et al., 2025](#)). However, its efficacy is neither automatic nor assured; it is contingent upon a fragile ecosystem of sustained supply chains, community health worker (CHW) motivation, and a volatile political economy ([Berthe et al., 2026](#); [Ponomarev, 2024](#)). While reliant on community resilience, this resilience is itself undermined by intersecting pressures, including acute food insecurity and governance challenges ([Dolo & Mpofu, 2026](#); [Jones-Casey et al., 2025](#)).

The research elucidates the systemic interdependencies that determine iCCM outcomes, moving beyond service delivery metrics to analyse underlying mechanisms. For instance, recurrent medicine stock-outs are exacerbated by documented patterns of irrational medicine use, which inefficiently deplete scarce resources ([Mulogo et al., 2024](#); [Sogodogo et al., 2024](#)). Furthermore, the substantial mental and physical burden on CHWs, including risks of depression and musculoskeletal disorders, necessitates a holistic approach to their wellbeing ([Kone et al., 2025](#); [Ladores & Punzalan, 2025](#)). The programme also operates within a broader epidemiological context where trauma and complex obstetric emergencies present dire, coexisting threats, highlighting iCCM as part of an incomplete continuum of care ([DIARRA et al., 2024](#); [Saye et al., 2024](#)).

Policy must therefore transition from ad-hoc project support to investing in adaptive systems designed for instability. This requires developing resilient, multi-modal supply chains informed by logistical optimisation in other sectors ([Ahmed et al., 2025](#)). A formalised, incentive-based support system for CHWs is critical, encompassing remuneration, supervision, psychosocial support, and clear referral pathways for severe surgical and obstetric complications ([Bamanta et al., 2025](#); [Dicko et al., 2025](#)). Integrative policy must also address foundational determinants like nutrition security, drawing from evidence on community-driven interventions ([Mansa Sidibe et al., 2025](#); [Sangaré et al., 2025](#)).

Future research must prioritise context-specific, agile methodologies. Investment is needed in pragmatic data systems functional during conflict to monitor disease trends, stock levels, and security ([Diabaté & Diallo, 2025](#); [Yoroté et al., 2025](#)). Operational research should test innovative models, such as telemedicine support for CHWs or secure referral mechanisms ([COULIBALY et al., 2024](#)). Crucially, inquiry must examine the political economy of health in conflict zones, analysing how power

dynamics and informal governance affect resource allocation and access—a dimension vital for sustainable implementation (Sidibé et al., 2024).

In conclusion, the Malian experience confirms iCCM as an indispensable yet vulnerable component of the health response in conflict. Its sustainability hinges on a paradigm shift: from a temporary humanitarian project to a core, adequately resourced, and intelligently adapted element of the long-term health system, integrated with broader efforts to ensure community resilience. The alternative—allowing this lifeline to collapse—would constitute a profound failure, reversing gains and condemning a generation to preventable suffering.

ACKNOWLEDGEMENTS

The authors wish to express their sincere gratitude to Dr Aminata Diallo for her invaluable guidance and insightful critique throughout this research. We are also indebted to our colleague, Mr Boubacar Traoré, for his steadfast support during the field assessment. Our thanks are extended to the University of Bamako for providing access to essential library resources and facilities. Finally, we are grateful to the anonymous peer reviewers whose constructive comments greatly strengthened this case study. The views expressed herein are solely those of the authors.

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