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THE HUMANITARIAN-DEVELOPMENT-PEACE NEXUS (HDPN) AND APPLICATIONS TO FAMILY PLANNING, REPRODUCTIVE HEALTH, AND MATERNAL, NEWBORN, AND CHILD HEALTH INTERVENTIONS (FP/RH/MNCH) IN FRAGILE SETTINGS

A Case Study from Mali

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AFD	Agence Française de Développement
ANC	Antenatal Care
ARC-D	Analysis of the Resilience of Communities to Disasters
ASACO	Community Health Association
CANAM	National Medical Assistance Fund
CERC	Contingency Emergency Response Component
CHH	Johns Hopkins Center for Humanitarian Health
CHW	Community Health Worker
COVID-19	Coronavirus Disease 2019
CSCOM	Community Health Center
CSREF	Referral Health Center
DGS	Directorate General for Health
DHIS2	District Health Information System 2
DRS	Regional Health Directorate
DTC	Technical Director of Health Center
ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations
ECOWAS	Economic Community of West African States
EWARS	Early Warning and Response System
RBF	Results-Based Financing
FELASCOM	Local Federation of Community Health Associations
FENASCOM	National Association of Community Health Associations
FERASCOM	Regional Association of Community Health Associations
FP	Family Planning (voluntary)
GBV	Gender-Based Violence
HCW	Health Care Worker

Acronym	Definition
HDN	Humanitarian-Development Nexus
HDpN	Humanitarian-Development-peace Nexus
IDI	In-Depth Interview
IDP	Internally Displaced Person
INGO	International Non-Governmental Organization
IPC	Integrated Food Security Phase Classification
IRB	Institutional Review Board
KN	Keneya Nieta
KSW	Keneya Sinsi Wale
KII	Key Informant Interview
LARC	Long-Acting, Reversible Contraceptive
LMICs	Low- and Middle-Income Countries
LNGO	Local Non-Governmental Organization
MAP	Minimum Activities Package
MINUSMA	United Nations Multidimensional Integrated Stabilization Mission in Mali
MISP	Minimum Initial Service Package for Sexual and Reproductive Health in Crisis Situations
MNCH	Maternal, Newborn, and Child Health
MSDS	Ministry of Health and Social Development
MOMENTUM	Moving Integrated, Quality Maternal, Newborn, and Child Health and Family Planning and Reproductive Health Services to Scale
NGO	Non-Governmental Organization
NNGO	National Non-Governmental Organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
ONASR	National Office of Reproductive Health
RAMED	Medical Assistance Plan

Acronym	Definition
RH	Reproductive Health
SDG	Sustainable Development Goals
SGBV	Sexual and Gender-Based Violence
SRH	Sexual and Reproductive Health
UN	United Nations
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United National Children's Fund
USAID	United States Agency for International Development
WB	World Bank
WFP	World Food Program
WHO	World Health Organization

EXECUTIVE SUMMARY

MOMENTUM Integrated Health Resilience (MIHR), funded by USAID, explored the humanitarian-development-peace nexus (HDpN) for family planning, reproductive health, and maternal, newborn, and child health (FP/RH/MNCH) interventions in Mali. The HDpN refers to the intersection and integration of humanitarian, development, and peace activities, and is necessary for the planning, provision, and use of health services to those who are disproportionately affected by crises. The study involved document reviews along with key informant and group in-depth interviews with key stakeholders, revealing challenges within the HDpN including competing priorities among humanitarian/development actors.

Mali has a complex and violent political history with six government coups occurring in the region since the late 1960s. Additionally, insurgency groups continue to wreak havoc on the country. Recent years have witnessed significant shifts in Mali's international relations, with sanctions imposed by the UN Security Council alongside sanctions from ECOWAS following coups in 2020 and 2021, leading to Mali's withdrawal from ECOWAS in 2024. Additionally, Mali faces severe humanitarian challenges, ranking low on the Human Development Index with approximately 7.1 million people in need of assistance according to the 2024 Humanitarian Needs Overview. Recurrent climate shocks, exacerbated by the impacts of COVID-19 and the Ukraine war, along with internal conflict, have led to food insecurity, high rates of malnutrition, and significant internal and external displacement, making healthcare provision particularly challenging in a country where the majority of livelihoods depend on agriculture and herding. The Ministry of Health and Social Development of Mali leads national health policy development and oversees a decentralized health system consisting of five levels of health facilities and services.

The conceptual framework used in this case study examined several core pillars of the HDpN including leadership, finance, coordination, and health service provision. Findings from each thematic area were presented, in addition to recommendations which were then assigned to one or more target stakeholders.

The report explores Mali's history of humanitarian, development, and peace efforts, highlighting the challenges in coordinating these interventions effectively due to funding cycles and structural siloes. Despite some successful examples, concerns persist regarding the feasibility of integrating these interventions, with the operational environment in certain regions further complicating adoption of concrete nexus efforts. While coordination platforms exist, practical implementation of the nexus remains mostly conceptual, emphasizing the need for addressing structural barriers and pursuing complementarity in interventions. Implementation of humanitarian health interventions in Mali over the past decade demonstrates the need for greater alignment between humanitarian and development efforts, particularly in integrating RH and FP activities into all health packages. Efforts to transition from emergency programming to development-focused approaches have been piloted in health facilities, aiming to enhance autonomy and sustainability, while engagement between humanitarian and development actors is highlighted as crucial for addressing the dynamic operational landscape in Mali. The complexity of needs in Mali requires an integrated, multi-sectoral approach to address various challenges such as food security, nutrition, and economic development. Efforts to link health with economic recovery through income-generating activities and other interventions offer promising pathways for resilience and self-sufficiency, especially in relatively stable regions.

Development actors in Mali have increasingly invested in health systems strengthening and health systems resilience efforts at the national and community levels, with a focus on adapting to the needs of communities

and fostering resilience, while funding models such as regional humanitarian funds and tools such as ARC-D for health demonstrate efforts to enhance health resilience and address backsliding of development gains. Various health financing models have been implemented in Mali to support the government's goal of universal health coverage. These models transition from entirely free health services to targeted gratuity and eventually cost recovery models. However, challenges persist in achieving financial autonomy and sustainability due to limited government investment in the national health budget and the reliance on humanitarian and development actors to subsidize health initiatives. These challenges are exacerbated by shortages of qualified healthcare workers and difficulties in implementing handover and exit strategies for local and national health structures. In terms of FP/RH/MNCH, investment in Mali aligns with the Sustainable Development Goals, aiming to ensure universal access to sexual and reproductive healthcare services, particularly crucial given Mali's high maternal mortality rate and low contraceptive prevalence. Challenges to FP implementation in northern Mali include political instability impacting the sourcing of FP commodities, security issues affecting service delivery, resistance from religious leaders, and limitations in data collection and reporting due to poor connectivity and technology infrastructure. Despite these challenges, efforts to raise awareness, engage community leaders, and strengthen provider capacity demonstrate potential for navigating FP delivery in fragile contexts, though implementation of policies integrating FP within humanitarian interventions is still in its early stages. Lastly, investment in the Malian health workforce is crucial for health systems strengthening and sustainability, particularly in fragile settings like Mali's northern regions. Efforts include local recruitment, capacity strengthening, and task-shifting to address human resource shortages, although challenges such as insecurity and risk transfer remain significant obstacles to sustaining the health workforce.

The key recommendations entail addressing broader structural barriers, developing pragmatic applications of the nexus in coordination platforms, investing in the autonomy and financial capacity of community health associations and health centers, aligning humanitarian health interventions / planning with development interventions / planning, and expanding integrated, multi-sectoral approaches for maternal, newborn, and child health/reproductive health, among other strategies. Limitations include various forms of bias (selection, recall, and implicit), sampling issues, as well as the broad nature of the HDpN and its application to FP/RH/MNCH since there are many other critical issues currently faced by Mali. In summary, this case study highlights the complexity of operationalizing the HDpN in Mali, with efforts to align humanitarian assistance within development plans showing promise but facing challenges in implementation. Integrated, multi-sectoral approaches are seen as realistic and responsive to population needs, particularly in regions primed for early recovery. Challenges persist in delivering FP services in fragile areas, but recent policy shifts offer promise, while innovative practices and proxy indicators are essential for designing and evaluating services in sensitive regions. Efforts to address the health workforce shortage face obstacles like insecurity and risks to healthcare workers, requiring sustained investment and localization practices for meaningful impact.

I. INTRODUCTION

This report examines the humanitarian-development nexus (HDN) and its application to health interventions in Mali, specifically family planning, reproductive health, and maternal, newborn, and child health (FP/RH/MNCH). Humanitarian assistance is lifesaving and works to "alleviate suffering and maintain human dignity during and after man-made crises and disasters caused by natural hazards, as well as to prevent and strengthen preparedness for when such situations occur" (1). It is governed by the four key principles of humanity, impartiality, independence, and neutrality (2). Development assistance is defined as aid from foreign governments that "promotes and specifically targets the economic development and welfare of developing countries" (3). The Sustainable Development Goals (SDGs) highlight three key elements: economic growth, social inclusion, and environmental protection (4). **Table 1** below summarizes other key distinguishing features of humanitarian and development assistance (5). This report applies these definitions, specifically in health and FP/RH/MNCH interventions.

Numerous approaches have been developed to define the HDN, also referred to throughout this report as "the nexus," and more broadly, the humanitarian-development-peace nexus (HDpN). These concepts refer to the intersection and integration of humanitarian, development, and peace activities. In the landscape analysis and conceptual framework developed by the Johns Hopkins Center of Humanitarian Health (CHH) in 2021, the HDN has called for an "integrated and holistic focus [that] is necessary for the planning, provision, and use of health services to those who are disproportionately affected by crises" (6). **Figure 1** depicts an expanded conceptual framework from the landscape analysis that illustrates the intersection of these concepts as they relate to the nexus, health service delivery, and improved health outcomes in fragile settings. The framework includes core pillars of the nexus and vital considerations of contextualization, localization, quality, and other fundamental principles and norms (6). Efforts to operationalize the nexus remain elusive. A broader understanding and translation of these concepts to more concrete and feasible interventions that can be documented with measurable outcomes is needed. This is essential for the health sector, but more critically for FP/RH/MNCH services, given women and children are disproportionately affected by crises and conflicts.

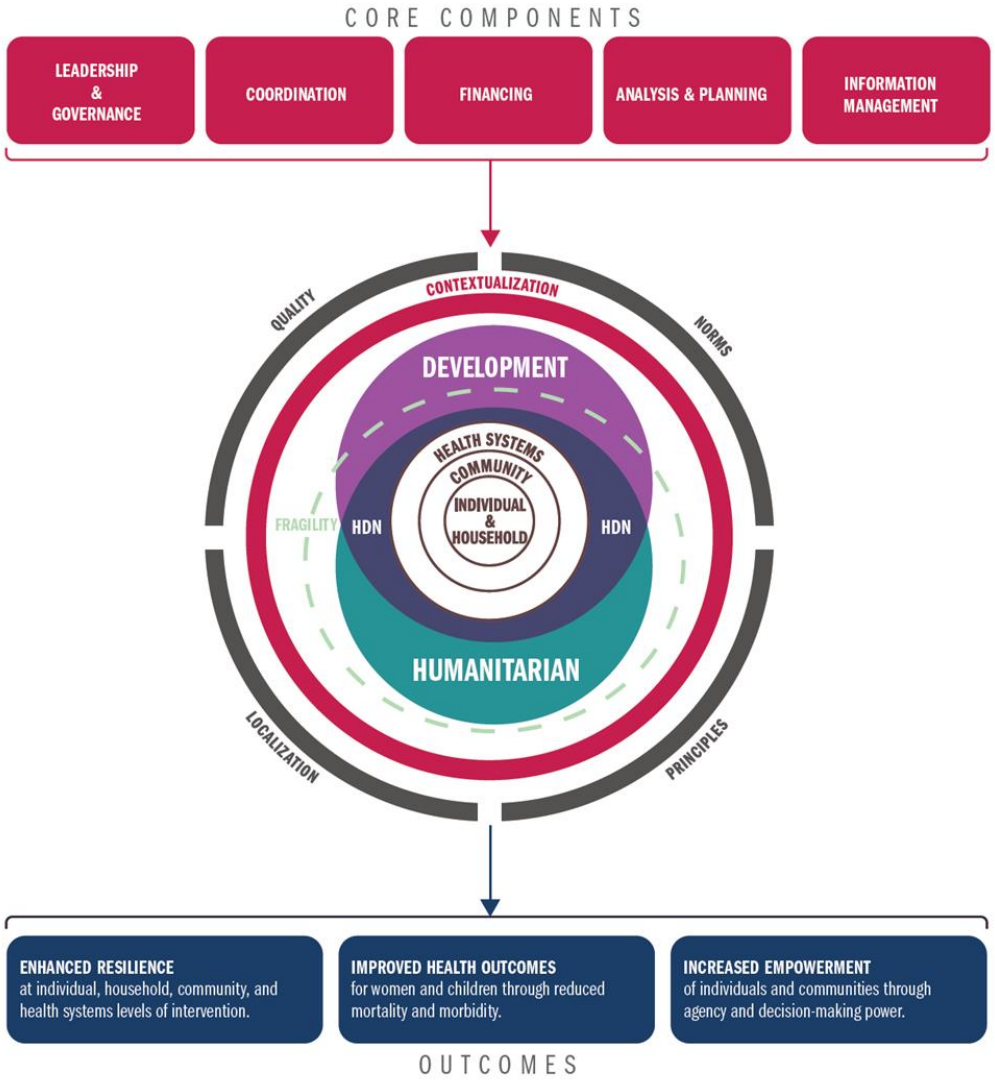
Table 1. Distinguishing Features of Humanitarian versus Development Assistance

	Humanitarian	**Development**
Culture/Approach	**Substitution and Parallel (Focused on Addressing Life-Saving Gaps)**	**Complementary**
Timeline (on average)	6-12 Months; 2 Years (multi-year emergency awards)	5-10 Years
Coordination/Leadership	System-led; clusters and sectors	Government-led; International Health Partnerships and related initiatives (IHP+); Universal Health Coverage (UHC)
Planning Frameworks & Tools	Humanitarian Response Plan (HRP); Refugee Response Plan (RRP)	United Nations Development Assistance Framework (UNDAF); Common Country Analysis (CCA);

		National Health Plan (NHP)
Legal Frameworks	Humanitarian Principles International Humanitarian Law	Sovereign law Aid effectiveness principles
Types of Settings	Fragile and insecure	Stable and willing

***Source**: Andre Griekspoor, World Health Organization* (5)

Figure 1. Conceptual Framework of HDN and Health Interventions in Fragile Settings



***Source:** Qaddour et al., Johns Hopkins Center for Humanitarian Health, 2021 (*6)

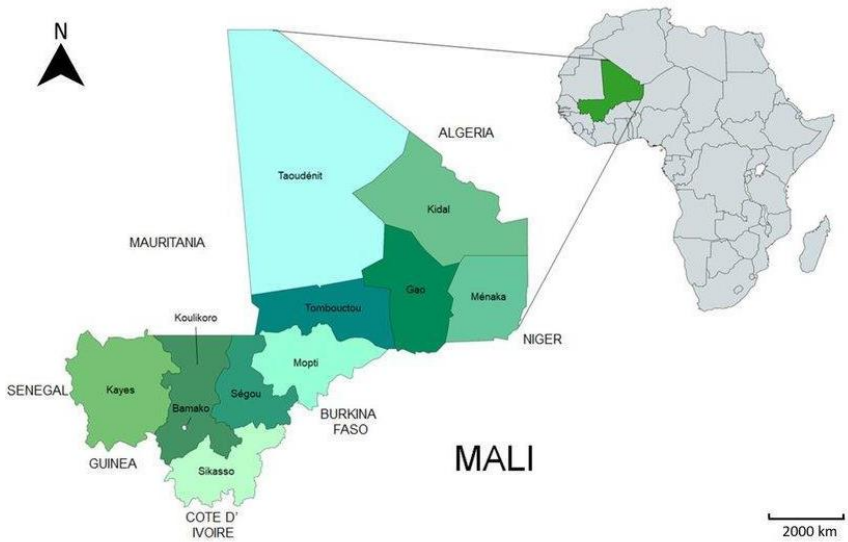
II. METHODS

Researchers from CHH conducted qualitative research for this case study, which included a document review along with key informant interviews (KIIs) and group in-depth interviews (IDIs) with select stakeholders. These included the Ministry of Health and Social Development (MSDS), other government officials, United Nations (UN) agencies, institutional donors, international/national/local non-governmental organizations (I/N/LNGOs), and private sector service providers. A total of 38 KII and IDIs were conducted in Bamako and the Gao region of Mali. **Annex A** provides a list of all stakeholders interviewed. The data was synthesized and analyzed to ensure a comprehensive, nuanced understanding of the HDpN and applications to FP/RH/MNCH interventions. The Johns Hopkins Bloomberg School of Public Health determined this project does not constitute human subjects research as defined by DHHS regulations 45 CFR 46.102 and, therefore, does not require institutional review board (IRB) oversight. In Mali, the study protocol was reviewed and approved by the JSI Mali country office and the Ministry of Health and Social Development (MSDS) in Bamako, prior to data collection.

III. BACKGROUND AND CONTEXT

Situated in West Africa and the Sahel region, Mali is home to a population of approximately 22.6 million people (7–9). Its governance is decentralized, with the country divided into 20 administrative regions and the district of Bamako **(Figure 2)** (7–9). The country gained independence from French colonial rule in 1960 (10). Since independence, the political situation in Mali has been dynamic with coups occurring in 1968, 1991, 2012, 2020, 2021 and the Tuareg rebellion in 2012, all of which have led to significant destabilization (10). Since the most recent coup in 2021, elections were planned for February 2024, though these have now been delayed (11).

Figure 2. Map of Mali



Source: *Cheo et al., 2022* (12)

Extremist insurgency groups, including Jama'ah Nusrat al-Islam wal-Muslimin and Islamic State Sahel Province, continue to spread throughout the region, capitalizing on recurrent changes in leadership, poor governance and rural inequality, increasing violence, and instability throughout the Sahel (13). The civilian population in Mali has been significantly impacted by such violence, and in 2023, there were approximately 1,358 civilians killed according to the International NGO Safety Organization (14). In terms of aid workers, there were over 130 security incidents that occurred, including the death of 5 staff and 46 abductions (15). The first month of 2024 has already seen 8 security incidents that have impacted aid workers (15).

In 2013, a UN peacekeeping mission was established in Mali (MINUSMA), which has been one of the deadliest blue helmet peacekeeping missions globally (16,17). In 2023, MINUSMA began its withdrawal by request of the government with the official closure at the end of 2023 (18,19). This departure has sparked fears of increasing violence throughout the region (20). In 2014, Mali joined the G5 Sahel, a cooperative framework alongside the countries of Niger, Burkina Faso, Chad, and Mauritania, to facilitate development and address regional instability and the threat of terrorism in the region (21). In 2022, Mali announced its departure from the G5, followed by the exit of other members leading to its recent dissolution (22). Recent years have seen a significant shift in Mali's international relations, impacting security and funding in the region. Sanctions were imposed on Mali by the UN Security Council in 2017 (23). In August 2023, these sanctions came to an end following the rejection of renewal by the permanent member state Russia (24). Other sanctions include those of the Economic Community of West African States (ECOWAS), which were implemented following the most recent coups of 2020 and 2021, limiting the trade of key exports within ECOWAS, particularly cotton, the second largest export after gold (25–28). Although these sanctions were lifted in 2022, Mali announced its withdrawal from ECOWAS in 2024 (29). In December 2021, military leaders in Mali aligned themselves with Russia, which caused a deterioration in the relationship with France and neighboring countries (30,31). This breakdown was in part due to France's condemnation of the second coup and a complicated colonial legacy, in addition to the frustration on the part of Malian leadership with the effectiveness of various security and stabilization missions present in Mali, including MINUSMA, G5 Sahel forces, and Operation Barkhane, the French counterinsurgency mission (30,32,33). In November 2022, France announced its suspension of all development assistance to Mali by the Agence Française de Développement (AFD) (30,34). The suspension created an interruption in different programming of all French NGOs operating in Mali who receive financial or material support from France (35). Successive coups in the country have also led to the invocation of Section 7008, a law in place by the United States government, which restricts all foreign aid that is not deemed humanitarian or lifesaving (36).

Mali ranks 186 of 191 countries on the Human Development Index, and humanitarian needs persist (37). According the 2024 Humanitarian Needs Overview, approximately 7.1 million people are in need of assistance. According to the most recent estimates in 2021 by the UN Development Program, approximately 68.3% of the population is estimated to be multidimensionally poor (measured across the dimensions of health, education, and standard of living) (38). Inflation rates from 2020 to 2022 also pushed 19.1% of the population into extreme poverty according to the World Bank (39). The impact of COVID-19, climate shocks, and implications of the Ukraine war on food security in Mali have contributed to poor health outcomes. Climate related shocks, particularly recurrent droughts and floods pose a significant threat to Mali (40,41). The farming and herding sectors make up about 80% of

livelihoods in Mali, so the country is uniquely vulnerable to climate change (and more recently, cattle raids) (42,43). Persistent floods and seasonal droughts also pose a threat to health, increasing rates and risk of endemic diseases with increasing outbreaks of malaria and yellow fever across the region (44). It is estimated that 1.4 million children (6-58 months) will suffer from acute malnutrition in 2023-2024 and approximately 21.8% of those under 5 have chronic malnutrition or stunting (45,46). These shocks and stresses, coupled with conflict in Mali, and more widely across the Sahel, have led to displacement inside and outside of Mali (47,48). As of 2023, more than 400,000 people were internally displaced in Mali and an estimated 180,000 sought refuge in neighboring countries (49,50). Mali is also a crossing point for migrants travelling across West and Central Africa to Europe (51). This highly transient population further adds to the challenges of providing healthcare and other services in Mali. Key demographic and health indicators across the population are summarized in **Table 1**. A more comprehensive list of indicators is provided in **Annex B**.

Table 2. Summary of Demographic Indicators in Mali and Global Averages

Indicator	**Mali**	**Global Average**
Population, Total (2022, estimate) (9)	22.59 million	---
Under 5 (U5) Mortality Rate (2021) *(# of deaths per 1,000 live births)* (9)	97.10	38.10
Neonatal Mortality Rate (2021) *(# of deaths per 1,000 live births)* (9)	33.40	17.60
Maternal Mortality Ratio (2020) *(# of deaths per 100,000 live births)* (9)	440	223
Access to Health Services (2018) *(physicians per 1,00 people)* (9)	0.12	1.70
Contraceptive Prevalence, *any methods* (2018, 2019) *(% of married women ages 15-49)* (9)	17.20	62.82
Child Acute Malnutrition Prevalence (2023) *(estimated # children under 5)* (52)	1.4million	45 million
Gender-Based Violence Risk (2022) *(estimated # of people)* (50)	2 million	1.3 billion

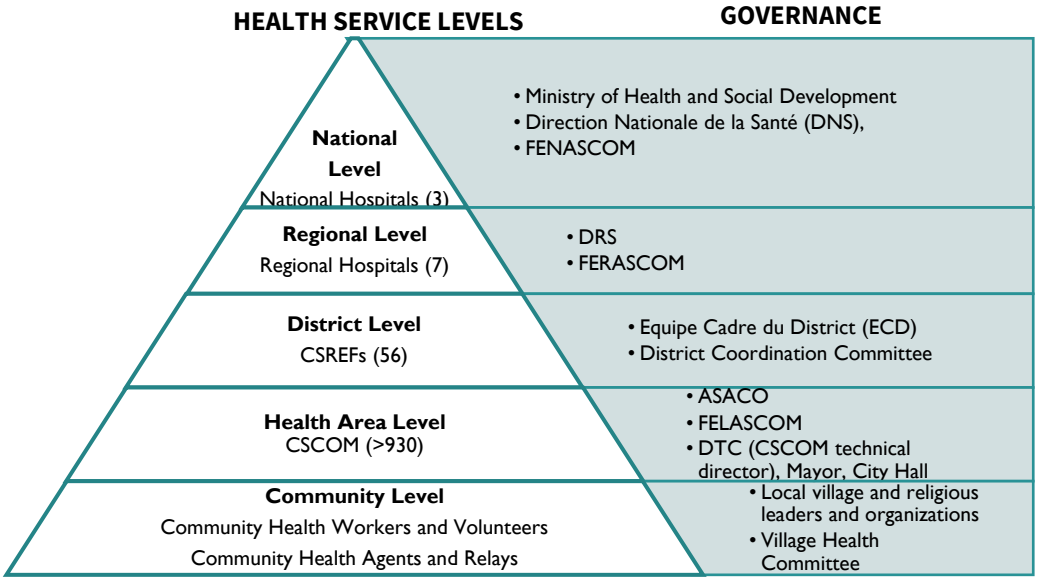
Sources: *World Bank; Integrated Food Security Phase Classification, Analysis Portal; Mali Humanitarian Response Plan* (9,50,53)

IV. HEALTH SYSTEM OVERVIEW

The MSDS leads all national health policy development. The health system is decentralized and made up of five distinct levels for health facilities and services, which include the national, regional, district,

health area, and community levels (**Figure 3**). At the national level, health services are guided by the MSDS and implemented through Direction Nationale de la Santé (DNS) (54,55). At the regional level, governance falls under the Regional Health Directorates (DRS), which are responsible for applying health policies regionally, coordinating and planning services, and offering technical support including providing training and supplies (56). At the district level, referral health facilities (CSREFs) are linked with each of the community health centers (CSCOMs) of each health area. At the community level, community health associations (ASACOs) are responsible for the daily management, governance, and cost recovery of CSCOMs (57–59). There advisory boards for community health at each level, including national (FENASCOM), regional (FERASCOM), and community (FELASCOM) (55).

Figure 3. Mali Health System



Sources: *Frontline Health Project; Gautier et al.; Devlin et al.; Touré and Ridde; Givord and Romanello; Aboubacar* (56,58,65,77,78)

The Government of Mali has developed various guidance documents and plans for the health sector. These include the Health and Social Development Plan for (2020-2023) PRODESS IV and its 10-year Health and Social Development Plan for 2014-2023 (PDDSS) (60,61). Mali also has a UN Sustainable Development Cooperation Framework (UNSDCF) in place for 2020-2024 and Axis III covers universal health coverage and other health and development issues (62). Mali has a National Office of Reproductive Health (ONASR) that was established in 2020, which works to coordinate and improve reproductive health (63,64). Healthcare financing has primarily relied on cost recovery mechanisms following the Alma Ata Declaration (1978) and Bamako Initiative (1987) (65,66). In 2019, Mali announced free health care for children under 5, pregnant women, and people over the age of 70 shifting from total to targeted coverage (67). That same year, the government announced a new Universal Health Insurance Plan (RAMU) managed by the National Health Insurance fund (CANAM) which merges existing social protection systems (68,69). RAMU incorporates formal sector compulsory medical insurance (AMO), community based mutual health insurance funds, and RAMED a non-contributory system that covers the poorest 5% (65,70,71). Current Health expenditure lies at 4.31% GDP, with 35.58% of health expenditures from external sources and 28.66% out-of-pocket, as of 2020 (72–74). There is a major shortage of human resources for health in Mali, 0.42 Nurses and Midwives

and 0.1 physicians per 1,000 people as of 2018, lower than the regional average of 1.19 and 0.2 respectively (75,76).

V. FINDINGS

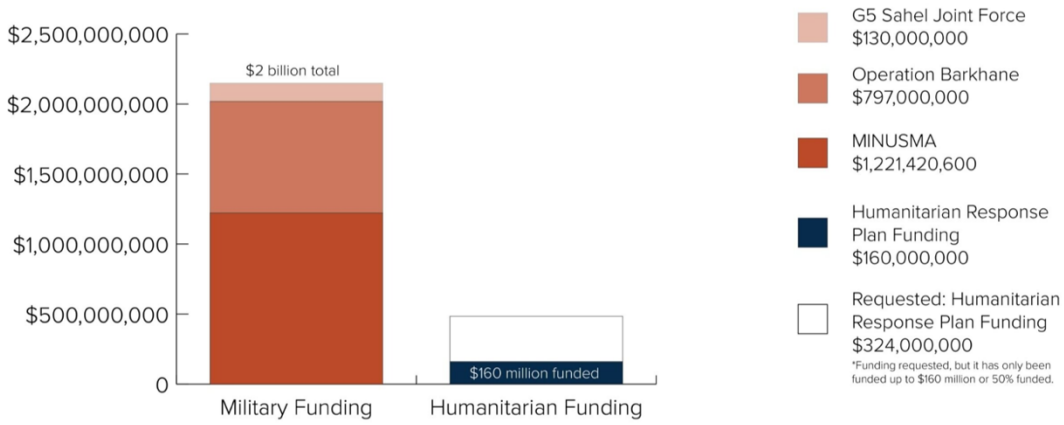
THE CONVERGENCE OF MANDATES IN MALI: HUMANITARIAN, DEVELOPMENT, PEACE, AND STABILIZATION

Mali has had a longstanding presence of humanitarian, development, peace, and stabilization actors (79–82). Although humanitarian funding has been in place for decades, this assistance was most pronounced following the 2012 coup (83). Since that time, the humanitarian needs continue to rise with 2023 representing the highest recorded to date at 8.8 million people in need and a funding requirement of $868.2 million (84). Since 1960 and prior to 2012, much of the assistance for Mali has been development-oriented, demonstrating a much longer history of development rather than humanitarian aid (81,82). In 2023, official development assistance (ODA) to Mali reached $1.4 billion, the second highest after the amount of $1.82 billion in 2019 (81). In 2014, the establishment of the Peacebuilding Fund in Mali introduced more pronounced peacebuilding efforts alongside MINUSMA, with over $62.2 million channeled to various UN agencies, NGOs, and other actors operating in the country (80,85). Projects funded in the past have encompassed education, governance, social cohesion, support to justice and security sectors, and the response to sexual violence (86).

Although humanitarian, development, and peace funds have simultaneously been injected into the country, there have been documented concerns around the complementarity, coordination, and coherence of such interventions (87,88). Despite some successful examples in areas recovering from crisis (illustrated in later sections), there are still limitations in the feasibility of such interventions. Programming funding cycles are one of the biggest hindrances in alignment between different forms of assistance in Mali, as most donors interviewed pointed to a one year funding cycle for humanitarian programs, with some instances of two-year funding (e.g., USAID Multi-Year Emergency awards) (88–93). Though not explicitly noted by key informants, BHA-funded Resilience Food Security Activities provide funding in five-year increments. Conversely, most development funding is channeled between three to five years, making the coherence integration of humanitarian and development efforts complicated, and difficult to allow for the transition between them. The discrepancy in these cycles and the effects they have on the implementation of the nexus has been documented by numerous agencies, including the Overseas Development Institute and the Organization for Economic Cooperation and Development (88,90). Beyond such timelines, much of the broader barriers to complementarity stem from structural siloes with larger, bilateral and multilateral agencies that simply do not allow these mandates to be merged, as different donors in Mali pointed out (91,92,94). One respondent emphasized a “fourth mandate” of counter-terrorism (stabilization) given the pronounced security element in the country and across West Africa (i.e. G5 Sahel Alliance), adding an additional level of complexity to the nexus, often times dwarfing other mandates (91,95,96). This securitization piece has been widely criticized and perceived to have “overshadowed and overmilitarized” the humanitarian crisis in Mali (96). **Figure 4** depicts the discrepancy between humanitarian assistance and stabilization operations in 2019, marking one of the highest

displacement records in the country following the initial crisis in 2012 and more recent surges in displacement from 2021-2023 (47,96–98).

Figure 4. Military vs. Humanitarian Funding in Mali



Source: Refugees International, 2019 (96)

What is clear is that the dynamism of the Malian context continues to influence the nature of humanitarian, development, and peacebuilding efforts, and often times blur these lines, as has been documented by various institutions, including the Center for Humanitarian Action, Harvard Humanitarian Initiative, and Refugees International (87,96,99). One development actor interviewed reflects on this phenomenon: "*We're in a context here where humanitarian and development, the boundary between the two is increasingly blurred. It's very difficult. There's no clear line in this context.*"[1]

In terms of the coordination of humanitarian and development health interventions in Mali, there are multiple platforms at the national and subnational level. Many of these were comprised of both humanitarian and development actors, and to a much lesser degree, peace actors (55,100–102). These include:

- GEC—Exécutif de Coordination: High-level coordination platform among government, donors, and UN agencies
- GDS—Health Dialogue Group: UN agencies, bilateral and multilateral donors
- National and Sub-National Clusters—including health, protection, nutrition, and food security
- Sub-National Bodies—Epidemics and Disasters; Monitoring Committee; Inter-Agency Coordination Group (GIAC)
- Thematic Groups (e.g., GTN: Groupes Thématiques Nutrition: Activated to transition from the cluster system)
- FONGIM—International NGO Forum: Includes a nexus thematic working group
- ASACOs—Community Health Committees

[1] I9—Quote from Development Actor

In summary, while the topic of the nexus was touched upon in many of these coordination platforms, it was often discussed from more of a conceptual standpoint than in in practical terms, according to different stakeholders interviewed. There is not currently a distinct nexus coordination body that exists in Mali. Adoption of concrete nexus efforts may still be unrealistic given the difficult operational environment, particularly in the central and northern parts of the country. Complementarity of interventions by humanitarian and development health actors while perhaps challenging to plan for and implement given both structural siloes and different programming cycles, including financing timelines, should be pursued.

BEYOND "SCORCHED-EARTH TACTICS"[2] —ALIGNING HUMANITARIAN ACTIVITIES WITH DEVELOPMENT PLANS

Humanitarian health interventions have been implemented in Mali for well over a decade given different parts of the country continue to vacillate between fragility and stability. During periods of crisis and fragility (2012 onwards), humanitarian actors have provided the bulk of primary health services, particularly in the northern regions of Gao and Timbuktu (103). Despite the long-term presence of humanitarian actors, and subsequently, humanitarian interventions, different respondents conveyed concern around how well these interventions accounted for the dynamic operational landscape in Mali, which has evolved past pure emergency programming (104,105). Beyond this, health services were often perceived by respondents to run in parallel with the existing health system since major periods of crisis in Mali pointed to a more distinct reliance on humanitarian actors (103,104,106,107). More recent legislation has worked to shift this parallel modality through requiring explicit permission by the government through "non-objection letters," as noted by different respondents, entailing a disclosure of relevant details around funding and implementation plans—sparking some concern that such disclosures may represent a form of interference, specifically in the independence and autonomy of humanitarian actors (2,104,108). However, these new requirements, if implemented carefully and transparently, may signal a transition from ad hoc implementation and a move towards more formal alignment of humanitarian assistance within the larger development framework in Mali, essentially the nexus.

One MSDS official interviewed outlined a three-pronged nexus approach that would be taken over the next few years (105). Given the recent establishment of the RH sub-ministry (ONASR) in 2020, efforts have been underway to streamline all activities and shift from a short-term outlook in humanitarian interventions to those that are more fit-for-purpose and incorporate health systems strengthening and resilience measures (63,105,109). Beyond these plans, the respondent highlights the need for integration of RH and FP within all health packages, including those implemented by humanitarian actors, thus aligning with national health plans already in place rather than creating a parallel set of services, as emphasized below:

> *"In fact, for us, over the next few years**,** all humanitarian intervention packages must contain reproductive health and family planning activities. The second thing is that humanitarian organizations must contribute to strengthening the system, so that it doesn't continue to use scorched-earth tactics. That's really important, and the third thing is that humanitarian*

[2] I2- Quote from Ministry of Health Official

> *organizations also need to start co-creating with the government and the communities, because they come with packages from I don't know Jordan or South Sudan and implement them here, but they don't work. They spend months and months and they realize that we've spent millions and millions of euros and nothing has worked, and that's no good. So the last thing is to have a strategic plan like that, a national strategic plan like that […] We need to think about making Mali more resilient."*—Key Informant, Ministry of Health (I2)

Highlighted above, the need for "co-creation" was also a recurrent theme in multiple interviews, particularly between implementing actors (humanitarian, development) and local stakeholders (government counterparts, communities) (105,110). Other more traditional humanitarian actors, such as Médecins du Monde (MDM) Belgium in Mali, have capitalized on distinct humanitarian and development funding and created a complementary approach (111). As an example, MDM utilized development funds from AFD to support the governance structures of 30 CSCOMs and 30 ASACOs in Gao, in addition to the reconstruction of various health facilities, given the restrictions of humanitarian assistance for activities beyond light rehabilitation (34,106,107,112,113). Alongside such funding, humanitarian assistance from the European Commission Humanitarian Aid (ECHO), among other donors, was used to provide free health coverage for northern regions, in line with the exemption to make payments for health services given the coup of 2012 "triggered a major health crisis" in the north (106,107,114). Although AFD funding to Mali was suspended in November 2022, as outlined in the background section, the approach taken to strengthen health structures and governance while also providing humanitarian assistance embodies the nexus (34). The gradual shift from primarily emergency programming to development was piloted in health facilities in urban centers given the feasibility relative to more rural areas (106,107). Much of this transitional approach has been to enhance the autonomy of health centers after an extended period of reliance on humanitarian assistance. One successful example of this transition was in Gao when 5 of the CSCOMs initially supported by MDM became autonomous and operated on their own through a shift from entirely free health coverage to a cost recovery model (106,107). More details of this transition from a financial standpoint will be covered in sections to follow. Other development actors have emphasized the need for engagement between humanitarian and development actors, particularly given the ability of humanitarians to rapidly mobilize in the face of sudden, but recurrent emergencies. One development actor reflects on this:

> "S*ometimes it's not just about money. It's also about infrastructures, the capacity of infrastructure, the capacity of personnel. Sometimes you need humanitarians to come because they know how to build, to put something very quickly in place*" (115).

This same effort has been taken by agencies with a dual humanitarian and development mandate. One UN agency highlighted its more recent effort to integrate humanitarian and development teams within the same unit and create annual work plans that capture all activities planned through an "area-based approach," taking both emergency and development funding streams into account in the same geographic zone (116,117). The existence of both types of funds in the same geographic areas, has required a cross-cutting approach of humanitarian assistance within a development framework, similar to other fragile contexts, such as Yemen (117,118). This integration and flexibility allow for more responsive transitions between minimum services, such as the Minimum Initial Service Package for RH in Crisis Settings (MISP) and more comprehensive sexual and reproductive health (SRH)

services, whenever feasible. One UN official describes this overlap and flexibility as taking an "accordion" approach to implementation:

> "*More things are happening at the same time [in certain regions in this country], so you want to have—an accordion kind of program where you have that capacity, you have a team that can be expanded or reduced depending on the needs, or even moved around so you have a team that understands the logic of the development because the country has been, for decades, working on development and you do have a lot of progress on that approach […] Then you bring that humanitarian—quick, fast, reactive—approach […] how do you program those lifesaving interventions with a systems-strengthened approach without scaring donors?*"—Key Informant, UN Agency (I8)

In summary, more recent efforts to align humanitarian assistance within development plans at the policy and programming levels have helped to address the fragmentation between these sectors. Although each of these response mechanisms mobilizes resources differently, and often in a siloed fashion, steps toward integration—albeit at a smaller scale at this time—are a promising way forward towards greater alignment. Similarly, the need for development assistance to integrate a cross-cutting, humanitarian component may enhance the ability to respond to emergencies more rapidly and efficiently, and also leverage the unique and flexible parameters that exist for each mandate.

INTEGRATED, MULTI-SECTORAL APPROACHES FOR HEALTH: MATCHING THE REALITY OF NEEDS IN FRAGILE REGIONS

The protracted nature of fragility in Mali has contributed to the complexity of needs of the population, both from a health standpoint and beyond (119). During the mission, multiple actors operating in Mali showcased multi-sectoral programming that integrated different health interventions, including MNCH, RH, and FP. Health services were also integrated with other interventions across the humanitarian, development, and peace sectors, including nutrition, food security, livelihoods, education, social cohesion, and conflict management (104,120–122). Numerous NGOs have also incorporated an animal health component through partnership with agencies like Vétérinaires Sans Frontières (Veterinarians Without Borders), given livestock farming contributes to approximately 15% of Mali's GDP and the agriculture sector as a whole accounts for over 67% of employment in Mali (123–127). The World Bank estimates the impact of climate change will shrink the GDP by 10.7% by 2050 if adaptive measures are not taken to mitigate the impact of rising temperatures and drought on the agriculture sector, thus impacting the food security of the population (126). Taking an integrated, multi-sectoral approach ultimately takes into account the needs of the population from a more comprehensive, intersectoral lens. Linking all of these aspects together takes not only a life-course model (which is an approach that takes into consideration all stages of an individual's life when designing health and well-being interventions), but also one that is much more responsive to the needs of populations in fragile settings, not simply considering if populations are in a "humanitarian" or "development" setting (128). As one humanitarian donor emphasized interventions should be driven and "defined by the context" rather than by "whom" is funding interventions (129). In terms of health interventions, this entails a shift from vertical program delivery (i.e., targeting one specific disease) to horizontal service delivery (i.e., addressing multiple health/public health issues), breaking some of the siloes in standalone health interventions (130). As a multi-mandate actor implementing

interventions across the humanitarian, development, and peace sectors, UNICEF and its partners have implemented a "pillar" approach that entails a comprehensive package targeting all children (0-18 years), encompassing interventions in health, nutrition, education, and protection, in close coordination with the governor of each region in Mali and other government counterparts (131).

Other health actors have established linkages among health and economic recovery and development, such as integrating income-generating activities (IGAs) within health programs for cost recovery (a mechanism to be discussed in sections to follow). IGAs and other forms of cash assistance have traditionally been linked with other programs, such as livelihoods or the response gender-based violence (132–134). However, the integration of IGAs or other forms of cash and voucher assistance that help generate income are becoming more common in fragile settings, including Mali, where major economic recovery is still a distant possibility, and more explicit "poverty reduction strategies" are needed, as outlined by the International Monetary Fund (135–138). One respondent interviewed from a health INGO emphasized an "end goal of resilience and self-sufficiency" through this integration (139). Examples of this have included the provision of seed funding for community members within a selected health district to allow them to procure or produce various products and sell them (e.g., soap, fish, oil, baked goods), with the two-fold goal of improving their socioeconomic conditions and creating a source of income that may offset health costs (139). This same type of intervention has been funded in other regions in Mali, including Sikasso, Kayes, and Koulikoro by agencies like the African Development Bank, International Monetary Fund, and others from the private sector (135–138,140). NGOs like Plan, Save the Children, and World Vision have implemented such programs in an effort to link health with economic recovery and development (138). One UN agency has linked health and IGA programs through the establishment of women's associations in different regions in order to promote financial independence through skills-based trainings (141). Support groups for IGAs called GSAGR groups have begun to emerge, which include different NGOs and more health actors, with one sub-national cluster lead citing over 100 GSAGR groups trained on incorporating more IGAs in different programs (142). The increase in interventions that incorporate IGAs epitomizes a nexus approach given such interventions must consider short-term needs (health, nutrition) with medium- and longer-term solutions for economic development. However, it is important to note that these IGA programs have been implemented in regions that are deemed relatively more stable (i.e., Kayes) than northern and central regions (i.e., Gao, Timbuktu, Menaka, Mopti, Segou) (143). This relative stability may facilitate the feasibility of such interventions given the operational environment is more conducive to success and less prone to disruption.

In summary, the complexity of the Malian context makes integrated, multi-sectoral approaches more realistic and responsive to the needs of the population. While food security and nutrition have often been prioritized relative to other sectors given recurrent shocks and stresses that impact these outcomes, there are different models in place that have integrated health, education, and livelihoods. Although the broader impact of IGA and health programs is still limited in terms of improving health outcomes and economic conditions overall for communities, these efforts may break down some of the siloes that exist between health and economic recovery. They may also offer a blueprint for piloting and implementing programs in regions that are more primed for early recovery and development given their stability. Engagement of the private sector also contributes to the diversity of actors in the health system, and expands opportunities for innovation.

A LONG-TERM OUTLOOK AMID FRAGILITY: THE CASE FOR HEALTH SYSTEMS STRENGTHENING AND RESILIENCE

A recurring theme in many of the interventions implemented by development actors was the investment in health systems strengthening (HSS) and the more nascent field of health systems resilience (HSR) (144,145). Although HSS has traditionally been deemed more of a development activity, more examples of HSS in SRH and MNCH have emerged in fragile settings, such as the Democratic Republic of the Congo (DRC), Myanmar, Somalia, and South Sudan (146–149). In 2022, the WHO developed an HSR toolkit that can be adapted for different contexts, including fragile settings (150). The resilience of the health system and communities embodies the essence of the nexus, and the ability for the system and communities to adapt in the face of shocks and stresses without losing development gains that have been made (6). In Mali, there have been different interventions implemented that incorporate HSS and HSR at multiple levels, starting at the national level all the way down to the community and household levels, recognizing that community health is a key component of the wider health system (104,106,107,151,152). Although challenging to deliver health services during COVID-19 in Mali, one respondent emphasized that the pandemic offered a window of opportunity for HSS activities and the wider development agenda "*The emergency is also an opportunity for each of us to strengthen the system as part of the development process."*[3] This reflection may translate to other emergencies, where HSS can be incorporated.

Examples of HSS include the complementary, "sister flagship projects" of Keneya Sinsi Wale (KSW) and Keneya Nieta (KN) funded by USAID, both implemented over a five-year period from 2020-2025 in the central and southern regions of Mopti, Ségou, and Sikasso (153,154). KSW is led by Palladium and implemented through local partners in each region. It is delivered in 26 districts and 327 municipalities by working within the existing health system rather than in parallel, and bears a focus on three core areas of HSS, financing, and governance (154). Support is provided at the regional, district, and health facility level, and entails quality assurance activities and support for the development and review of clinical guidelines, policies, and protocols for RH and FP interventions (151,154). Another key component of the project is coaching and supervision (on the job) of health care workers (HCWs), which will be outlined in the human resources section of this report (151).

The KN project, implemented by the University Research Co. (URC) and its partners (both local and international), targets communities in the aforementioned regions of Mali with a focus on social and behavioral change communication (SBCC) in communities, specifically for RH and the uptake of FP (153,155). In addition to these SBCC efforts, support is offered to communities to finance their health through a voluntary, solidarity-based fund, akin to a community health insurance scheme and bears similarities to village savings and lending associations (VSLAs) implemented in other fragile settings (153). As one URC representative noted, their approach is to "*boost demand, to get communities to change their behavior so that they can plan, manage health problems, and finance health problems"*[4] Beyond these project elements, there have also been humanitarian interventions incorporated (despite the project's primary development mandate) more recently in 2022 during the lean season when food insecurity was prevalent in Mali as a result of global food shortages, in part due to the war

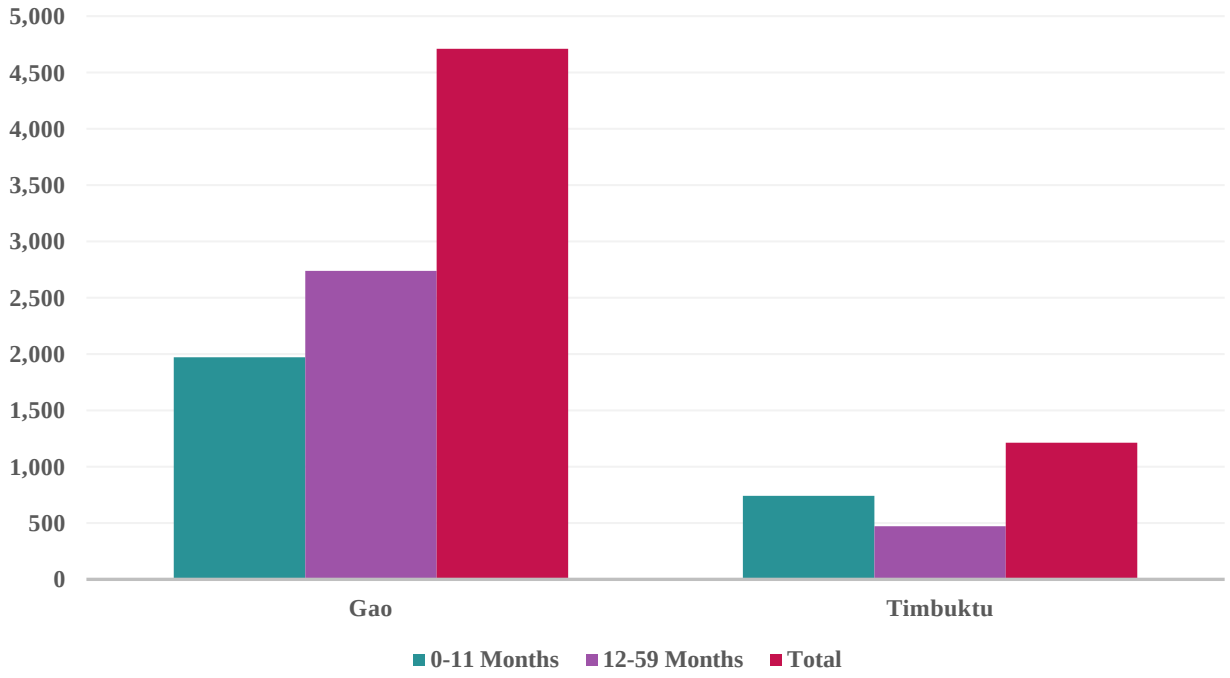
[3] Quote from UN Agency

[4] Quote from Development Actor

in Ukraine (156). Humanitarian activities included the provision of enriched flour to women and children affected by this insecurity in hard hit regions like Mopti (152).

Implemented in the regions of Gao and Timbuktu in northern Mali, MIHR has incorporated various HSS activities across multiple layers of the health system and in close coordination with government counterparts (MSDS, ONASR, DRS) and even the private sector (e.g., clinics) (157). These activities include the strengthening of immunization outcomes in health districts, particularly for "zero-dose children" (i.e., children who have never received any routine vaccinations) (158–161). To address this issue in northern Mali, MIHR has adapted the RED/REC approach, initially developed by the WHO, UNICEF, and partners of the GAVI Alliance (i.e., "reach every district, reach every child/community" in areas with low immunization coverage) (161–163). This has also entailed promotion of COVID-19 vaccines and the provision of support and logistics to CSREFs and CSCOMs during national immunization days (i.e., polio, etc.) (104,161). **Figure 5** shows the number of zero-dose children reached between 2022-2023.

Figure 5. Number of Zero-dose Children Reached with RED/REC Approach, 2022-2023



Source: *MIHR Program Year 3 Annual Report 2023* (161)

Other efforts have worked to strengthen capacities within the health system in the prevention of maternal and neonatal deaths, such as the active management of the third stage of labor (AMTSL) and focused antenatal care (FANC) (161). In addition, MIHR worked closely at the national level to gain buy-in for the implementation of the maternal and perinatal death surveillance and response (MPDSR) and integration with pediatric death audits (PDA) (revised to become MPPDSR) (161) given the significant rates of maternal and neonatal mortality in Mali at 440 per 100,000 live births and 33.4 per 1,000 live births, in comparison to the global average of 223 and 17.6, respectively (9,161). Evidence

from research in numerous fragile countries demonstrates that surveillance capacities of maternal and perinatal deaths are essential for improving MNCH interventions, and ultimately, reducing mortality rates (164,165). The revised MPPDSR demonstrates an effort to enhance national health policies, but also shows the importance of working within existing health structures of the system, even amidst fragility in different regions in Mali.

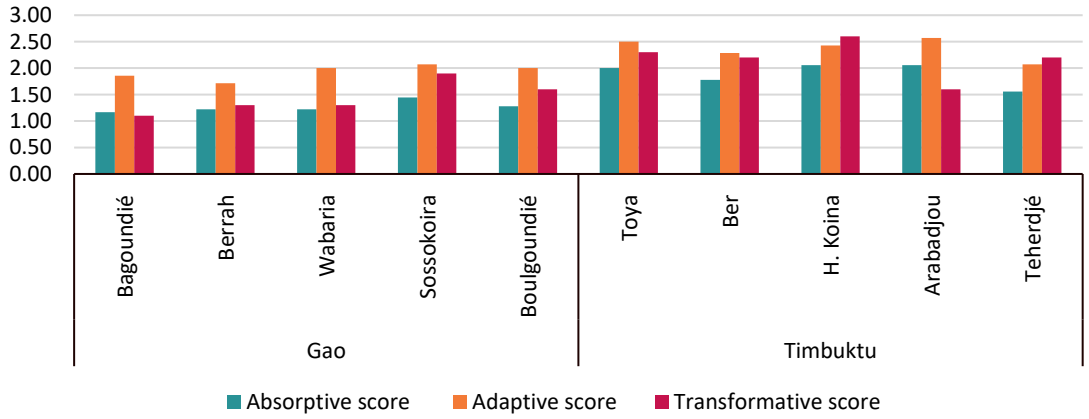
Table 2 provides an overview of the different plans and documents available (or not) as it pertains to disaster risk reduction, emergency plans, health emergency plans, and other key documents at the community level. **Figure 6** provides resilience scores by different communities assessed where the ARC-D tool for health has been implemented, ranked in terms of adaptive, absorptive, and transformative resilience scores (161). Whereas absorptive resilience is the capacity to take protective action and cope with known shocks and stress; adaptive resilience is the capacity to make incremental adjustments in response to shocks and stresses more flexibly; and transformative resilience is the capacity to intentionally reduce or eliminate the causes of vulnerability (166). Assessing resilience scores has been critical in the contexts of Gao and Timbuktu alongside "stress mapping" activities given these have helped identify floods, drought and armed conflict as the gravest in terms of impact on health, and in turn, how to increase resilience to the most common shocks and stresses (157,161,167).

Table 2. Status of Existing Documents or Plans at the Community Level in Gao

Plans and Documents	Boulgoundie	Sossokoira	Wabaria	Berrah	Bagoundié
Local Development Plan	Exists & Active	Exists & Active	Not Available	Not Available	Not Available
Disaster Risk Reduction Plan	Not Available	Not Available	Not Available	Not Available	Not Available
Health Plan or Micro-plan	Exists & Active	Exists & Active	Exists & Active	Not Available	Not Available
Emergency Plan	Not Available	Not Available	Exists & Active	Not Available	Not Available
Recovery Plan	Not Available	Not Available	Not Available	Not Available	Not Available
Health Emergency Plan	Exists & Active	Exists & Active	Exists & Active	Exists & Active	Exists & Active
Educational Services Security/Continuity Plan	Not Available	Exists & Active	Not Available	Exists & Active	Exists & Active

Source: *MIHR Program Year 3 Annual Report 2023* (161)

Figure 6. Resilience Capacity Scores, by Community in Gao and Timbuktu



Source: *MIHR Program Year 3 Annual Report 2023* (161)

Table 3 provides a sample score card across multiple communities following stress mapping and the gaps identified within each in terms of resilience. MIHR has also established a community-based surveillance and early warning and emergency response (CSEWR) in Gao, similar to the early warning and alert response system for disease outbreaks response, but tailored for communities themselves and for different shocks and stresses beyond disease outbreaks (161,168,169). CSEWR is intended to track and monitor the capacities of communities in preparedness, while also focusing on continuity of health services for women and children in the areas of intervention (161,169). These resilience efforts link to the global shift to incorporating health resilience activities in fragile settings by both development and humanitarian actors. Barriers to incorporating resilience within humanitarian interventions has been the shortage of funding of humanitarian interventions, with most funding channeled to the delivery of basic services, as Tran et al. have documented (148,170). The need for enhanced resilience efforts was also emphasized in the most recent strategic plan of the UN Office for the Coordination of Humanitarian Affairs (OCHA) for 2023-2026, noting that "humanitarian assistance should contribute to community resilience, including climate risks and threats," particularly in protracted settings and in advance of shocks and stresses that are more predictable in nature (171). Similarly, *humanitarian investment in HSS activities is still limited given resource shortages in the humanitarian sector, and inadequate earmarking of funds for HSS (170).*

Table 3. Sample ARC-D Health Score Card

Community	**Toya**		**Ber**		**Hondoubomo-koina**		**Arabadjou**		**Teherdjé**	
Risk scenario	**Flood**		**Armed Conflict/ Outbreak of Violence**		**Armed Conflict/ Outbreak of Violence**		**Flood**		**Armed Conflict/ Outbreak of Violence**	
Gender	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Risk Assessment	1	1	2	1	1	1	2	2	1	1
Dissemination of information relating to health preparedness/resilience	3	3	2	1	2	3	3	2	1	2
Decision making	3	3	3	3	3	4	1	2	3	3
Group inclusions vulnerable	3	3	3	3	3	3	1	2	2	2
Participation of women	3	2	2	3	3	3	1	3	2	3
Partnerships around health resilience	1	3	2	1	1	2	1	1	1	3
Awareness of health issues, behaviors and practices in this area	3	3	3	3	3	3	3	3	3	3
Access to health services in “normal” times	3	3	3	3	3	3	3	3	3	3
Quality of care during quiet times	3	3	3	3	3	3	3	3	3	3
Secure food, nutrition and water supply	2	3	2	2	3	2	1	2	2	2
Access to financial services	1	3	1	3	2	2	3	3	1	1
Critical infrastructure	1	1	1	1	2	2	2	2	2	1
Emergency response planning and health preparedness and response capacities	1	1	1	1	1	1	1	1	1	1
Monitoring and systems alert	2	2	1	1	1	2	2	2	1	2
Health service during emergency	3	2	3	3	3	3	3	3	3	2
Leadership and volunteerism during response and recovery	3	3	3	3	3	3	1	2	2	2
Aggregated Score by Community (16-80)	36	39	35	35	37	40	31	36	31	34
ARC-D Health Score (1-5)	2.3	2.4	2.2	2.2	2.3	2.5	1.9	2.3	1.9	2.1

More broadly, humanitarian funding for shocks and stresses that impact public health outcomes in communities have been implemented in Mali and the Sahel region, creating linkages with preparedness and resilience efforts (172). One such example is the establishment of the OCHA-managed Humanitarian Fund implemented in Mali and multiple countries of the Sahel, rather than a country-based pooled fund (172). Originally piloted in Burkina Faso and Niger, the fund is currently being set up in Mali with upcoming plans for Cameroon and Chad (172–174). Launched in an effort to address shocks and stresses (e.g., drought and famine), the fund is the first of its kind applied regionally across different countries facing similar relapses in fragility, primarily due to climate and public health emergencies (172). Although the Mali office of the Humanitarian Fund is still in its infancy, the fund presents an opportunity to take a holistic approach to emergencies with regional implications. The activation of regional funding envelopes also enables a more equitable approach to humanitarian support and a more proportional distribution through the prioritization of needs, while also strengthening collaboration within and between countries in the region. Similar efforts taken include the Resilience in the Sahel-Enhanced (RISE) program involving development actors, which included a resilience focus across Burkina Faso and Niger for food insecurity and poverty (175). Given global funding shortages and the continued increase in needs, most recently highlighted in the Global Humanitarian Overview for 2024, implementation and funding models by region may allow for a more efficient and effective use of resources, along with the incorporation of a cross-cutting resilience component (176).

In summary, although HSS and HSR activities have traditionally been deemed more feasible in development settings, more recent evidence demonstrates that these can implemented within fragile contexts to prevent backsliding of development gains. A more pronounced investment in these efforts is needed. Enhancing health resilience for communities is an essential feature, and the expansion of efforts like the ARC-D-Health Toolkit may help affected communities prepare and respond to disasters. Funding for these efforts within Mali and across the Sahel region may also help offset some of the backsliding of health outcomes due to such shocks and stresses, particularly climate and public health emergencies.

THE TRANSITION TO TARGETED COVERAGE AND COST RECOVERY FOR MATERNAL, NEWBORN, AND CHILD HEALTH

Given the government's goal of universal health coverage and planned transition to integrated humanitarian interventions within its national health strategies, various health financing models have been applied in Mali. As one respondent from an NGO implementing a health financing project puts it, financial autonomy of the health system is a cornerstone of the nexus:

> *"The nexus—so it's all that is financial management—is very, very important because the money that comes in with the targeted gratuity with what [we] give, so this money must be well managed so that ASACOs can be autonomous and that the bonuses that we give gradually withdraw and that they can pay their own staff and give contracts to the staff move towards the legality of things."*—Key Informant, INGO (I16)

Although an estimated 68.3% of the population is estimated to be poor, efforts have been taken to transition from entirely free health services in northern Mali where costs were offset by humanitarian

actors (38,104,106,107). While many areas are still deemed "free health zones" due to the vulnerability of the population, especially those with a high number of internally displaced persons (IDPs), there are other actors that have worked to gradually transition from total (i.e., free health) to targeted gratuity (i.e., free healthcare to the most vulnerable including pregnant and lactating women, children under 5 years), and eventually, to a cost recovery model where the CSCOM is able to sustain itself, including staff coverage via user health fees collected (106,107,139). The feasibility of this transition is contingent upon the ability of ASACOs to help offset these healthcare costs for communities given their role as outlined within the national health plan (57–59). **Table 4** provides a summary of utilization rates for antenatal care (ANC) in districts depending on whether total or targeted coverage was implemented by the INGO International Medical Corps. While there are differences in rates, and ANC coverage is low particularly for 4 or more appointments, there is some demonstrated success to cost recovery in certain geographic locations, though in others these are not as feasible.

Table 4. Number and Proportion of Those Attending First Antenatal Appointment (ANC1) and Those Attending at least 4 (ANC4) Out of All Births by District and Payment Modality (2016-2021)

Payment Modality	District	Number attending ANC1	Proportion of ANC 1	Number with at least ANC4	Proportion with at least ANC4
Free	Ansongo	4,526	76%	1,563	26%
	Djenné	5,411	65%	1,883	23%
	Gourma-Rharous	13,939	83%	3,289	20%
	Mopti	2,121	77%	134	5%
	Niafunké	9,377	89%	1,786	17%
	Tenenkou	16,775	83%	3,257	16%
	Timbuktu	2,459	92%	460	17%
Total		**54,608**	**81**%	**12,372**	18%
Cost Recovery	Diré	11,708	100%	2,519	25%
	Goundam	9,402	67%	2,091	15%
	Macina	6,244	91%	1,242	18%
	Timbuktu	1,477	64%	347	15%
Total		**28,831**	**87**%	**6,199**	19%

Source: DHIS2; adapted from Monkoro et al (177)

Other interventions that address health financing are the World Bank's Accelerating Progress Towards Universal Health Coverage project, which includes a results-based financing (RBF) component (178). Implemented over a five-year period, the RBF component entails the provision of payments to health

facilities in northern Mali based on performance metrics in the delivery of health services (115,178). But given the precarity of the north, multiple challenges exist in the implementation and effectiveness of RBF. One challenge has been monitoring by external actors due to major security issues and access to these regions, thus relying on different third-party monitors to carry out these activities (115). Enhanced monitoring mechanisms require great investment, as one respondent frames both the advantages and disadvantages of more autonomous health systems:

> *"People are becoming aware, they're taking ownership of the interventions and they're going to go for the right indicators, but that requires a lot of money—it's as if we were buying the service, and then it requires a major control mechanism behind it, so people can cheat."*—Key Informant, INGO (I16)

Other challenges stem from the mandated engagement between development actors and the government, as all World Bank agreements must be with the formal government, and in the event of a coup (e.g., 2020, 2021) this programming must stop, creating serious interruptions to the continuity of care (115,179). For this reason, a great deal of pre-positioning and contingency planning has gone into ensuring health facilities are still able to operate during these interruptions, such as the transfer of payments to health facilities or the pre-positioning of medical stock on a 6-month basis (115). There is also a cross-cutting emergency envelope that may be activated in the case of major events (e.g., pandemics, climate shocks) through the Bank's Contingency Emergency Response Component (CERC) (180). Although this has not been activated in Mali to date given the launch of COVID-19 emergency and pandemic preparedness project, it was most recently utilized in neighboring Niger (181).

As touched upon in the previous section, different health actors have integrated IGAs with their health interventions for cost recovery to allow for the coverage of health services by community members. Similarly, the coverage of staff salaries is also a seminal component of cost recovery. MIHR has implemented a transitional coverage model for staff costs over its 4-year implementation period with the objectives of enhanced planning and less reliance on external aid (161). An example of this are agreements established with ASACOs that entail salary coverage at CSCOMs by years 1, 2, 3, and 4 at 100%, 75%, 50%, 25%, respectively, with the plan to conclude coverage following year 4 (161). This mechanism is beneficial in different ways, being that it creates a clear, transparent period of transition to move toward a more sustainable model and it also attempts to manage expectations of partner entities (e.g., ASACOs, CSCOMs).

While these various models address sustainability, major challenges still exist. The overarching gap is the limited investment in the national health budget by the government at 4.31%, which is significantly less than the 15% target of the Abuja Declaration of 2001 where heads of state within the African Union made commitments to invest more in their national health budgets (182). Without sustainable financial support to these health initiatives, particularly for vulnerable groups, such programs are unsustainable. With limited financial means of the population and significant economic turmoil, vulnerable communities simply cannot afford health services, and in many cases do not prioritize FP/RH/MNCH in the face of other critical needs (e.g., food, water, safe housing), as was the case during COVID-19 for many fragile contexts (183–187). Given these initiatives are currently subsidized, either partially or in full, by humanitarian and development actors not the state, ASACOs and CSCOMS may not be able to cover costs (including staffing) after planned transition periods

(104,106,107,139). Additionally, the shortage of qualified HCWs in more insecure regions has a critical impact on health service delivery (9,188,189). The HR section will discuss challenges in this regard. Handover and exit strategies for local and national health structures to take over have been difficult to implement in other fragile contexts, like the Health Service Delivery Exit Tool ("spider tool") implemented in the DRC by the NGO Medair, with a "partial exit" rather than complete exit ("successful"), deemed more feasible (190,191). However, decentralization of the health system may play both a positive and negative part in this given it instills the critical element of "community ownership" as one respondent puts it, despite the very limited financial means in some areas of implementation (106,107,110).

In summary, *transition planning may be challenging due to fragility of certain parts of the country, as the data shows clear differences in accessing healthcare depending on coverage scenarios.* The differences in health coverage scenarios may also be rooted in other factors that influence health outcomes in communities, given these interventions have not been implemented across comparable districts in Mali. *Lastly, RBF and other forms of performance-based financing may not be realistic without adequate monitoring and control mechanisms in place due to security issues and other access barriers.*

ROOTING FAMILY PLANNING IN HEALTH INTERVENTIONS: A DIFFICULT, BUT NOT IMPOSSIBLE, TERRAIN TO NAVIGATE

Investment in FP has been linked to the Sustainable Development Goals, including Target 3.7 which states, "By 2030, ensure universal access to sexual and reproductive healthcare services, including for FP, information and education, and the integration of RH into national strategies and programs" (192–194). The linkage between FP and maternal health outcomes has shown convincingly that FP is a lifesaving intervention, particularly for communities affected by conflict, natural disasters, and displacement who may have limited access to quality maternity services (195,196). This is particularly the case in Mali given its maternal mortality rate (440/100,000 live births) is nearly double the global average (223/100,000) (9). Furthermore, the fertility rate is among the highest globally (5.8 in Mali, 2.3 globally), and the contraceptive prevalence rate is approximately 19%, relative to the global average of 63% (9,197). Contraceptive prevalence is estimated to be even lower in Gao (15.1%) and Timbuktu (11%) given significant challenges of implementing FP interventions, which will be outlined below (157). These efforts illustrate how humanitarian and development actors may link the lifesaving imperative of FP within other RH/MNCH programs, and how to navigate service delivery in more fragile regions given the impact such fragility has on the continuity of services.

In 2022, the Government of Mali made a series of political, programmatic, and financial commitments to FP (198,199). These include integrating FP/RH within all policies and strategic frameworks, including PRODESS, the country's health and social development plan and other humanitarian intervention packages (105). Other targets include increasing the contraceptive prevalence rate in Mali from 17% to 40% by 2030, ensuring access to contraceptive products for all by 2030 (including those in crisis situations), and ensuring 20% purchasing needs for FP commodities are financed by the state budget by 2025 (200). Given the high adolescent fertility rates at 164 per 1,000 live births (42 globally) and the child marriage rate (under 18 years) at 53.7% in Mali, the commitments also aim to

reduce the unmet need for contraceptives from 20% to 13% for adolescents (15-19 years) and 22% to 15% for young people (19-24 years) (9,197,200,201).

In northern Mali, different interruptions to service delivery were identified by stakeholders in their efforts to ensure continuity of care for communities. At the macro level in Mali, FP has been impacted by the political situation, specifically the different coups that have occurred which impact the sourcing of FP commodities from outside of the country, including the United States. Multiple respondents cited Law 7008 of the US government which dictates that only lifesaving humanitarian assistance be permitted during a coup in a country, thus impacting FP interventions. Mali has been no exception to this, and to date, FP has not been included within life-saving humanitarian assistance that is exempt from these regulations (i.e., deemed a development program). At the field level in the north, security was the most significant challenge mentioned by respondents to the delivery of FP services (104,141,202–204). These security incidents have been well documented by the Safeguarding Health in Conflict Coalition, and include the targeting of health facilities and HCWs, with record of doctors, nurses, ambulance drivers, pharmacists, and vaccination teams directly affected by violence (205). In 2022, there were 46 incidents of violence or obstruction to health care, more than doubling from the year prior; these include the reported abduction of at least 26 health workers (205).

Often going hand in hand with security issues, geographic barriers to accessing populations were cited by multiple respondents, with some actors adapting their programs to deliver resources like commodities and cash on a less frequent basis, but in larger amounts, to account for expected or unforeseen access issues that often lasted for months at a time. These geographic restrictions have also created bottlenecks in referral pathways and the evacuation system for RH services according to health actors interviewed (105,152,202,206). Measures to overcome access barriers have included reducing the frequency of distributions and pre-positioning stock for longer periods (i.e., up to six months at a time) (207,208). However, this is not always feasible given factors such as a greater risk of theft and the time-bound nature of some commodities in terms of expiration (207,208).

Resistance to FP programming has also been a significant barrier to implementation in the northern regions, particularly from a religious standpoint. One implementing actor noted FP was often perceived to be “at odds with religious preaching,” contributing to major and recurrent setbacks in terms of acceptance by women, families, and communities, at large (107). With implants and injections often cited as the most preferred long-acting reversible contraceptive (LARC) methods, there have been cases of women returning to health facilities to have implants removed following religious sermons, according to some respondents (206,209). These practices have also contributed to major gaps in data and information, as some providers indicated that there were women who seek family planning in secret, without the documentation of services provided in order to ensure safety, privacy, and confidentiality for users (210). One respondent describes this phenomenon and the impact on data, planning, and the overall strategy for FP:

> *“With the arrival of the IDPs, planning here in Gao is based on religion. In most cases, women plan in secret, and some don't even register. I come in secret next to the midwife or I go to a pharmacy in secret or to a health agent in secret, all this is in disadvantage with the planning data. People do it anyway, but the numbers are still shy of the planning data […] In this predominantly religious country, there are barriers, but one of the main problems is data*

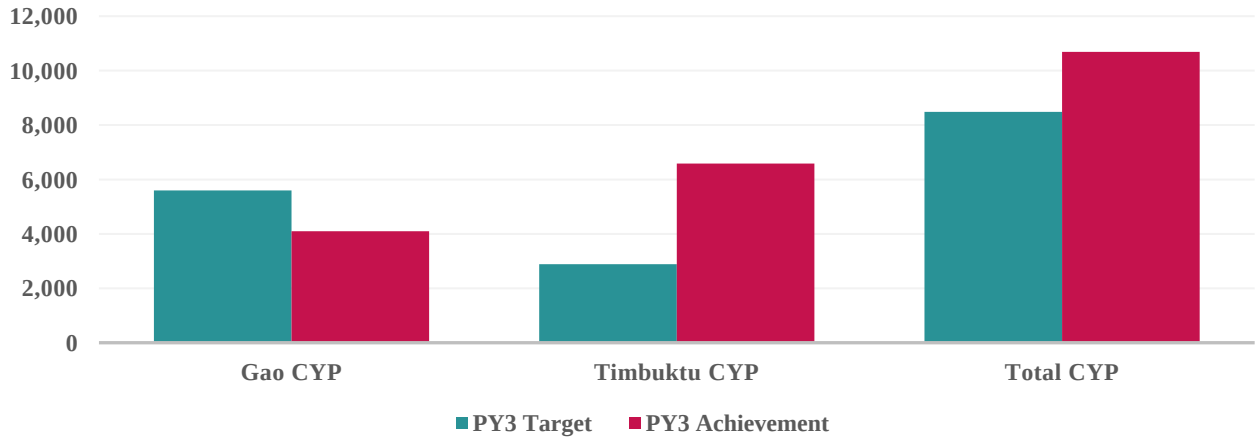
recording. And if perhaps you've talked about strategy, then that's the big question and a big problem."—Key Informant, INGO in Gao (I33)

The respondent makes a comparison in challenges of FP with other interventions that are sensitive in nature, such as female genital mutilation, of which there is an overall rate of 90% of women and girls in Mali who have undergone this practice, noting some areas (Gao, Kidal) have a 1% rate while others (Sikasso, Koulikori, Kayes) have over a 90% rate (211,212). The respondent continued by highlighting awareness as a strategy, but the delays in seeing measurable progress with FP:

> *"The strategy we've put in place is to raise awareness. There are people in the structures we support, they go out to the population and advertise on the radio. It's a delicate question. Faced with a problem, you can carry out qualitative surveys, the results are there and the NGOs will take care of raising awareness, but it will be years before they see any results. When we talk about awareness-raising, the results are not immediate. I'll give you an example from the south of the country on excision [female genital mutilation], it took so long of course that awareness-raising has now started to bear fruit, but it took so long."—MDM Gao*

In 2023, MIHR carried out awareness raising campaigns to create demand for FP and increase couple-years of protection (CYP) (161). With a targeted approach in Gao and Timbuktu, MIHR collaborated with local partners and different organizations to promote SRH and FP, including through the regional coordination of women's associations and organizations (CAFO) (targeting women leaders) and the College and Association of Midwives (targeting young people) (161). **Figure 7** provides an overview of the number of targets achieved in 2022-2023 through MIHR's network of CHWs who provided these services:

Figure 7. Achievement in Family Planning in Terms of Couple-Years of Protection, 2022-2023



Source: *MIHR Program Year 3 Annual Report 2023* (161)

Engagement of men has also been deemed necessary to raise awareness and increase acceptance rates (105). This aligns with different studies conducted in Mali and other countries in the region with one such study finding that "discussing FP with one's husband being the strongest predictor of contraceptive use" (209). However, one respondent highlights the approach taken directly with

women leaders to provide comprehensive health packages that incorporate FP, including the use of LARCs:

> *"In Kidal, it's difficult to work openly on family planning, for example, but we use what we call community relay women leaders. The women leaders who always have the packets with them, who talk with the women—with the women's needs, they can give out the pills. We're currently promoting this, and there's even a self-injection program. So all that, we're making women available to these associations so that they can really work and reach out. And even in the mobile team, the mobile team goes into religious, jihadist zones, but they bring the family planning package in the woman's package overall, prenatal consultation, postnatal consultation, sexually transmitted infections. When they're in the consultation room, there's no religious talk. At the same time, they tell the woman there's also this to avoid pregnancy."*—Key Informant, Ministry of Health (I2)

This approach aligns with the multi-sector family planning group in place in certain regions, which has prioritized safe childbirth, sick childcare, vaccinations, and prenatal consultations (105). In line with the RH sub-ministry's efforts to draw explicit and concrete linkage between FP and lifesaving health, other efforts have targeted religious leaders given their influence and impact on the adoption and acceptance of FP interventions in communities. These have included different awareness campaigns (e.g., radio) and the development of a tailored advocacy plan titled "Islamic Arguments in Favor of Family Planning" (105). This curriculum has been tailored for Imams and other religious leaders, including Muslim (approximately 95% of the population) and Christian (slightly less than 5% of the population alongside other denominations) (105,213). These programs have used health as the entry point to demonstrate that FP is not in direct contradiction with religion, but rather that FP further enhances the health of women (105). One respondent provides an overview of this effort rooted in a religious rationale, including the emphasis on birth spacing and the use of different FP methods:

> *"Of course, there are Imams who have agreed to speak in the Khutba [Friday religious sermon] to help people understand that birth spacing is not forbidden by Islam—on the contrary, there are three Koranic verses that clearly state that births must be spaced for the health of the mother and the newborn child […] When God talks about birth spacing, He leaves it up to human intelligence to find the methods. In the time of the Prophet Mohamed, peace be upon him, people used condoms made from the intestines of camels and truffles to really prevent pregnancy. But technology led us to introduce latex, and today we're evolving towards other methods. Science is God; God tells man to seek science."*—Key Informant, Ministry of Health (I2)

Other respondents have taken a pragmatic approach within these restrictive areas of operation and focused on FP inputs and the strengthening the capacity of providers:

> *"For family planning, well we talk about it having decreased but it's practically the same if I take my data in 2021 it was at 3% last year it was at 2.5% rate of use of services [in Gao] it's as if we've regressed a little […] in some areas it's the security situation, the jihadist groups are hostile to family planning. We can't talk too much about that, but in any case, what's important for us is that we continue to provide planning inputs, and we've strengthened the capacity of many providers in this area."*—Key Informant, UN Agency in Gao (I37)

Issues of poor internet connectivity (e.g., lack of VSATs) and limited technology (e.g., tablets, computers) in health facilities in the north have also exacerbated regular and timely reporting, making it difficult to assess and evaluate the effectiveness of FP interventions and allow for more tailored services responsive to the needs of women (161). MIHR has supported projects in Gao and Timbuktu through the provision of VSATs, tablets, and computers, but also worked closely at the district level to train providers on data entry for health information (e.g., DHIS2) (161). While these reports encompass broader health information, efforts to improve reporting through coaching may be translated to the reporting of FP and other pertinent health information.

In summary, although the challenges with delivering FP services in more fragile parts of the country are immense, the practices of different development and humanitarian actors demonstrate there are different ways to navigate these. While fragility continues to be a major hindrance, there is promise in the shifting policy environment in more recent years, including the integration of RH and FP within all humanitarian interventions, defying the notion of FP as a non-lifesaving, development activity. Though the roll-out of these policies is still in its early phases and may be more on paper than in practice at this point, there are strides taken in implementation, particularly from actors working in more fluid, nexus-like regions of the country. Parallels drawn between other sensitive interventions that also link health and other response efforts (e.g., sexual violence) may be used as a useful springboard for further innovation and allow actors to capitalize on the notion of health a critical entry point. Finally, proxy indicators for FP, such as the rates of early marriage, adolescent pregnancy, maternal mortality, and median birth intervals between each pregnancy for women may be used in the absence of FP data (214,215). These may be used as key data for the design, implementation, and evaluation of FP services given the difficulty of data collection in regions where FP service delivery is deemed more sensitive.

INVESTMENT IN HUMAN RESOURCES: AT THE CORE OF HEALTH SYSTEMS STRENGTHENING AND LOCALIZATION

Investment in the Malian health workforce is a seminal aspect of HSS, localization, and sustainability. Both systems strengthening and sustainability are at the heart of taking a nexus approach given the need for short- and long-term considerations for human resources in fragile settings. This includes capacity strengthening for the local workforce and support to deliver health services across the nexus and amidst a fluid operational landscape. Fragility in Mali has been a key disruptor to the ability to recruit, train, and retain HCWs, particularly in the northern regions of Mali that are most prone to shocks and stresses (104,152). The presence of humanitarian, development, and peace assistance in the country has necessitated a more grassroots approach with an emphasis at the community level, leveraging the decentralized health system.

During the interviews conducted, multiple respondents highlighted major periods of instability from 2012 onwards and the reliance on humanitarian actors (both international and from other parts of the country) to deliver health services in different regions. Over time, and with the return to relative stability in some of these regions, the weaknesses in this modality of service delivery have been made apparent. This includes major gaps in HCWs in northern regions given many humanitarian actors departed once such crisis periods stabilize and major turnover since many HCWs are recruited outside of affected regions (104,106,107,152). Among nearly all respondents, one of the most frequently cited

issues was the retention of human resources in the north given the heightened security risks and escalations in violence. The combination of these factors has had a crippling effect on the retention of health staff in the long-term, and ultimately, on the ability to maintain the continuity of health services. To overcome barriers of recruitment and retention of HCWs, different organizations have shifted to a model capacity strengthening at the facility and community levels by recruiting staff from the communities themselves (104,107,152). Prior efforts of recruitment outside of affected regions have simply been unsustainable (152). The placement of HCWs in their own communities has been vital for the establishment of trust with such communities. A key component of the KSW project (discussed previously) is the coaching and supervision of HCWs who are from each region of implementation, rather than deployed from Bamako. This includes the APEJ clinical internship program, which recruits trainees from each region to increase the likelihood that they will stay in these regions following completion of training (151).

Local recruitment is critical for trust between HCWs, local communities, and local authorities given that health facilities and HCWs have been both directly targeted and indirectly impacted during periods of violence and instability (e.g., theft, closures of facilities, abduction of staff) (205,216). The necessity of local recruitment may also offer a paradoxical effect in that it may curb security incidents to HCWs and health facilities given the trust established with local actors, relative to INGOs, though evidence of this has not been documented to date. This may also contribute to the desire of individuals to work for local actors in these regions given greater acceptance of their presence, relative to international staff. Additionally, there were respondents that emphasized that there was a preference to work for the government rather than NGOs given the stability of working for the government in comparison with intermittent and less stable employment with humanitarian and development actors (i.e., the NGO sector) (106,107). While this is not always the case in other contexts, this comparative advantage may enhance localization measures as they relate to recruitment (i.e., Commitment 4 in the Charter4Change) and even work to prevent or recruitment or “poaching” of local and government staff by international actors, often times causing a loss of capacity in local actors when qualified staff leave (217). However, the reliance on local staff may create the potential of risk transfer to local actors by their international partners and donors, rather than ensuring there are safeguards in place for risk sharing between these counterparts, as risk has been addressed in the Grand Bargain and by the Inter-Agency Standing Committee (218). Much of this ties into the broader localization agenda, and more equal partnership between local and international stakeholders (218,219).

In terms of formal education for the health workforce, there is only one medical school in Mali (similar to 17 other countries in Africa), raising concerns of inadequate medical training for a population of its size (220). For this reason, there is a critical need to invest in other health cadres in Mali. This is even more imperative for SRH given approximately 33.2% of deliveries in Mali occur outside of health facilities, and only 67.3% are attended by a skilled birth attendant (76,221). For this reason, an investment in midwives, particularly in rural parts of Mali, is critical for the delivery of SRH/MNCH services given these HCWs are often the first point of contact at the community level in most fragile settings and frontline responders in times of crisis (222). This is especially the case in northern Mali given geographic access is often cut during periods of instability. An enhanced midwifery workforce in Mali is also linked with economic development given the longer-term sustainability of employment opportunities. A flagship program of the World Bank and UNFPA, The Sahel Women’s Empowerment

and Demographic Dividend (SWEDD) has been one initiative implemented to enhance the midwifery workforce in Mali and across other countries in the region, including in Burkina Faso, Cameroon, Côte d'Ivoire, and Mauritania (223,224). As a program with considerations for short-term response and long-term development and sustainability, SWEDD is taking a nexus approach that merges emergency interventions with more viable, sustainable solutions, ultimately ensuring that long-term development gains are not compromised in the face of short-term disruptors of stability. Support to the "human capital" in Mali through clinical mentorship for midwives, notably in rural areas, is a central piece of the SWEDD initiative, along with a wider focus on the "strengthening of legal frameworks" ensuring the rights to health and education for women. The legal framework is particularly relevant, as this looks beyond the realm of service delivery for midwives, and addresses root causes (e.g., harmful practices such as female excision) and the policy landscape (e.g., legislation for such practices) (223). One other critical feature of the program is its targeting of youth and focus on the "demographic dividend," defined as the "economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger; 65 and older)" (225). As a country with approximately 67% of the population under the age of 25, investment in youth in terms of education and livelihood opportunities is essential (76).

One respondent reflects on the need for more integrated programs that address human resource shortages for HCWs along with other root factors of fragility:

> *"What you want to have is a health professional that is at the local level, that is able to have a conversation and to have a relationship with the natural birth helpers in an area as part of the solution. So you have to get these natural birth helpers that are economically linked to that like the ones that do excision. You have to find an economic alternative also for this as the backbone of their families in these villages, because they're not just giving birth, they're like a whole little pharmacy shop and everybody's doctor kind of a thing. So to bring them out – but you will not be able to be in all these difficult-to-access villages to ensure that women have a right to access to professional or institutional birthing because you have 70% of women that are still giving birth outside institutions. It's not something that you change tomorrow. Do you want to really change it or do you want to make sure that women won't die and kids are being born healthily and it will be iteratively improving through economic development?"*— Key Informant, UN Agency (I8)

MIHR has included support to other HCWs, including community health agents (CHA) and community relays (CR). CHAs are able to carry out curative health activities and FP, while CRs are able to carry out preventive and promotional activities (161). Both CHAs and CRs are recruited directly from the communities and are assigned to different zones in each geographic area of coverage along with receiving training (e.g., three-week training module and a qualifying exam including for literacy for CRs). Between 2022-2023, MIHR trained over 116 community workers (both CHWs and CRs) in the Timbuktu health district as part of its RED/REC initiative to find zero-dose children and those who were lost to follow-up (161). While MIHR currently provides financial compensation for these HCWs that are hired within the health system, there is a transition plan in place with the ASACOs to gradually shift to 100% of payment coverage by these committees, as noted previously. Like other actors using this graduated approach in Mali (i.e., MDM), the impetus has been to better integrate services within the health system, along with developing more concrete plans for phase-out. While it is still too early

to capture the progress of this transition, the plan is conceptually aligned with a nexus approach to navigating more fragile environments with sustainability for human resources in mind. However, the ability for local actors (i.e., ASACOs) to fully subsidize these costs for human resources is still unclear given economic conditions in many regions of Mali are still a major hindrance.

The absence of CHWs in certain areas has also forced actors to use measures implemented in other countries. One such approach by MIHR through its local partner AMSS, is the piloting of the "community family model" (CFM) originally adopted from Ethiopia in its implementation of universal health coverage (226,227). Implemented in 2022, the program recruits women based on the eligibility criteria of those who use modern FP methods with the knowledge of their husband and whose children have received all required vaccinations. To date, 120 families have been selected in 3 different parts of Timbuktu (6 villages) in areas where there were no designated CHW site to raise health awareness in communities (161). Although those selected do not function as CHWs, the CFM takes on a "task-shifting" element, defined by the WHO as the "rational redistribution of tasks among health workforce teams" (228).

In summary, the measures taken by different actors in the most fragile regions of Mali may help reinstate and/or increase HCWs in these areas. Practices of local recruitment, regular capacity strengthening, task-shifting, and creating linkages to economic recovery are all efforts that may address the human resource shortage. However, there remain challenges, including the insecurity of different areas of operation, the risks to HCWs, and the potential of risk transfer from international to local actors in the field. While the coverage of salaries is also an essential element, there must be greater strides taken to sustain the health workforce.

VI. RECOMMENDATIONS

Recommendations	Target Stakeholder
HEALTH GOVERNANCE, FINANCING, AND COORDINATION	
Recommendation: Address Broader Structural Barriers to the Nexus With the convergence of three mandates in Mali (oftentimes four, in the case of an additional stabilization/counter-terrorism mandate according to some respondents interviewed, see page 12), structural barriers within and across institutions continue to hinder the feasibility of the nexus in such a complex environment. However, there have been some successful examples of complementarity between humanitarian and development health actors. The integration of different H-D units within organizations, such as the "accordion" approach mentioned above, has demonstrated the potential for some siloes to be broken. However, there are still tremendous challenges with structural change in such large organizations, and despite the appetite to break these siloes, such change may take years, if not decades, and requires an incredible amount of political will. However, a longer history of development assistance in Mali (relative to humanitarian assistance) has created a more conducive environment for leveraging a development	● Donors ● UN Agencies ● International NGOs

mandate and working to integrate humanitarian interventions within this overarching framework.	
Recommendation: Develop Pragmatic Applications of the Nexus in Coordination Platforms While the nexus topic has been widely discussed in many of the coordination platforms in Mali by both humanitarian and development actors, much of this has been conceptual. There are limited examples of its pragmatic application within these bodies. One practical measure may include more explicit mapping efforts from an implementation and financial standpoint by all humanitarian and development actors. A resistance to share these details was cited by some, thus preventing a comprehensive picture of the programming and funding landscape. In a context with shrinking resources, this mapping may allow for more efficiency in the resources that exist (human, financial) and promote a more coordinated, area-based approach, as noted above. While coordination is often mandated for humanitarian actors but only recommended for development actors, there should be a greater effort on the part of both to align these efforts given assistance by both is often delivered in the same area. The transition from pure humanitarian programming in many parts of the country has also meant the transition from traditional humanitarian coordination (i.e., the cluster system). As some sub-national clusters transition to thematic groups (i.e., health, nutrition), there should be efforts to ensure this is actually happening, given the challenges in doing so in other countries that have undergone this same shift, including ensuring SRH and FP are still prioritized.	● Coordination Bodies ● UN Agencies ● Donors ● Development Actors ● Humanitarian Actors
Recommendation: Invest in the Autonomy and Financial Capacity of ASACOs and CSCOMs Investment in the autonomy and financial capacity of some of the community health associations (ASACOs) and community health centers (CSCOMs) in Mali has shifted from a model of reliance on humanitarian and development actors to greater sustainability. With examples of transitional coverage by the MIHR project or the success in urban facilities by MDM, there is clear promise that these gradual handover/exit strategies may decrease the reliance on external actors and funding. Similarly, the implementation of targeted coverage and cost recovery models (i.e., results-based financing) are becoming more common in Mali and represent the shift to more viable health financing. Although there are still concerns with adequate monitoring and surveillance of these programs, actors involved in health financing may work to incorporate more impartial, independent forms of third-party monitoring, similar to other contexts with access barriers.	● ASACOs ● CSCOMs ● Development Actors ● Humanitarian Actors ● Development Donors
HEALTH SERVICE PROVISION	
Recommendation: Align Humanitarian Health Interventions and Plans with Development Interventions and Plans	● MSDS and ONASR ● Humanitarian Actors

There is a need to incorporate and align humanitarian interventions within existing health development plans and vice versa. This effort will align with the RH sub-ministry's (ONASR) three-pronged nexus approach to be rolled out in the next few years, which includes the requirement to integrate RH and FP within all humanitarian health packages. In addition, this will support the shift from siloed interventions by humanitarian and development actors that do not provide the same set of services or standard of care. More sustainable approaches may also entail a cross-cutting humanitarian/emergency component to development programs to allow for rapid mobilization and response, as has been included by a select few donors.	● Development Actors ● Donors
Recommendation: Invest More in Health Systems Strengthening and Resilience HSS and HSR activities have been traditionally incorporated within development interventions. There should be a greater effort by humanitarian actors to plan and coordinate with development actors to ensure that there is HSS and HSR incorporated and that all actors are moving toward that goal. The humanitarian response should also avoid hindering efforts for this by hiring outside of the health system and setting up parallel systems. Although funding for HSS and HSR within humanitarian interventions is limited or often non-existent, funding for these efforts should become more formalized to ensure there are no backslides in health with regions that experience recurrent shocks and stresses.	● Donors ● Humanitarian Actors ● Development Actors
Recommendation: Mainstream ARC-D for Health Tool to Enhance Resilience Measures Closely linked to the recommendation above, the ARC-D-Health Toolkit (implemented in Gao and Timbuktu) should be mainstreamed and used by other humanitarian and development actors. The adaptations to the original ARC-D tool have incorporated broader emergency preparedness and contingency plans with specific measures to maintain health resilience. Involvement of communities with community surveillance (CSEWR), stress mapping of potential shocks and stresses, and the development of mitigation measures are all vital and demonstrate the importance of bottom-up programming.	● Donors ● Humanitarian Actors ● Development Actors ● Local Authorities ● Communities
Recommendation: Expand Integrated, Multi-sectoral Approaches for MNCH/RH Given the complexity of needs in fragile regions, taking an integrated, multi-sectoral approach (within and across health) allows for more comprehensive services, whenever feasible. The shift from minimal services (e.g., the MISP), which are more appropriate during emergencies to those that are more comprehensive takes into consideration the life-course model for women and children, and requires commitment from both humanitarian and development actors. Programs that have integrated income generating activities within health interventions (especially for women) have created	● Coordination Bodies ● UN Agencies ● Humanitarian Actors ● Development Actors ● Non-Health Actors ● Communities ● Women's Associations

linkages between health and recovery, which is vital for communities working to improve economic conditions. Other examples like the "pillar" approach address child health in the immediate term, but include a focus on education, livelihoods, and food security, to encompass more long-term well-being.	
Recommendation: Enhance FP/RH Service Provision and Surveillance in Fragile Regions In response to resistance of FP interventions, the development of tailored advocacy messages/campaigns/curricula, co-developed with religious/community leaders, may help enhance acceptance and boost demand of these services. Using health as an entry point and rooting compelling evidence between FP and positive health outcomes for women, children, and families, is crucial. Given the challenges highlighted in the implementation of FP interventions in more fragile regions, different approaches taken may provide a blueprint to navigate these barriers in areas with similar restrictions. Gaps in surveillance FP interventions have limited the ability to monitor and assess the effectiveness of these services. These gaps are due to several factors, including geographic barriers to access, poor connectivity, and the inability to record FP data at health facilities due to concerns around privacy, safety, and confidentiality. There are still avenues for enhancing surveillance capabilities in terms of timely and complete reporting. This can include the provision of technology and training, as different actors had done (VSATs, tablets). In terms of obtaining more accurate FP data, a starting point may be to rely on proxy indicators, including rates of maternal mortality, early marriage, adolescent pregnancy, and median birth intervals between each pregnancy. Additionally, the "pull system" of supply chain management for FP commodities in Mali may provide data that demonstrates preferences by method and utilization rates.	● Humanitarian Actors ● Development Actors ● Local Authorities ● Communities ● Religious Leaders ● Women's Associations ● Men
Recommendation: Leverage Complementarity in Area-based Approaches The implementation of different programs in the same geographic area (i.e., health zone), particularly those complementary in nature at the health facility level (KSW) and community level (KN), has demonstrated the advantages of area-based approaches. While it is often difficult to implement "sister" projects if these are not funded by the same donor and within the same programming cycle, there is some benefit to creating more synergies between health actors operating in each geographic zone. This is also imperative in regions where there is already a shortage of human resources (and funding) and the need to be more efficient in this regard.	● Coordination Bodies ● UN Agencies ● Donors ● Development Actors ● Humanitarian Actors
Recommendation: Pilot and Expand Targeted Programs in More Stable Regions	● Implementing Agencies ● Donors

In line with the two previous recommendations, there were different, smaller scale programs implemented in more stable regions that had a tremendous impact. Programs that included income generation, an early recovery element, or those that were complementary in nature at the community and HF level may be expanded to other more stable regions. Although some regions in Mali continue to experience significant fragility, there are others that are more stable in nature and these may be primed for more "nexus" programming given there is a greater chance of complementary and sustainability.	
Recommendation: Invest in Sustainable Approaches for Human Resources for Health Fragility in different regions of the country have contributed to a major shortage of human resources. The risks HCWs face in more volatile parts of the country have led to the inability to retain staff in the long-term. More sustainable practices include recruitment from the same regions where health services will be provided. While health education is still challenging, "task-shifting" is essential in the absence of qualified HCWs. Programs such as SWEDD, which trains midwives, offer a medium-term solution given traditional birth attendants and are often the first point of contact for communities. Similarly, the Community Family Model (adopted from Ethiopia) which trains community members in the absence of CHWs may help bridge the gap in these more underserved areas. Creation of financial incentives for volunteer staff may also increase commitment and motivation. Investment in the local workforce is also critical for meaningful localization. Efforts are still needed to ensure there is adequate risk sharing between local and international counterparts given the dangers of operating in less permissive regions of the country. To ensure there are more equitable approaches taken to partnership and risk mitigation, international actors should formalize risk sharing measures and invest in local actors to eventually fully taken on health service delivery in the long-term.	• MSDS and ONASR • Communities • Donors • International NGOs • UN Agencies • Humanitarian Actors • Development Actors

VII. LIMITATIONS

This study has several limitations. This includes different forms of bias given the nature of the research, including selection bias, recall bias, and implicit bias (229–231). Closely tied to addressing these biases, reflexivity was an important consideration for the researchers of this study (231). Ongoing reflexivity was a necessary exercise and included locating the positionality of the research team and that of respondents relative to the research focus given there may have been a degree of familiarity between researchers and interviewees who were both practitioners in the sectors of focus (232). While different were measures taken beforehand to limit convenience sampling through a purposeful sampling approach, there were respondents added during the data collection period on-site during the visit (i.e., snowball sampling) (231). The sensitive nature of the topics explored may have also contributed to a degree of censorship for what was deemed appropriate to discuss in the confines of the Malian context along with potential self-censorship by respondents. Discussion of the

HDN may have also been deemed too broad of a topic and its application to FP/RH/MNCH was often considered less of a priority given there were so many critical, overlapping issues in Mali at present. Lastly, there were logistical, financial, security, and time constraints that impacted the ability of the research team to examine the application of the HDpN in different geographic regions in Mali. Due to security restrictions for travel, the research team from JHU was only permitted to conduct interviews on-site in Bamako and used the support of a research consultant to conduct interviews in Gao. It is important to note that the findings of this of this case study may not be representative of all areas visited or those geographic locations beyond where the research was conducted.

VIII. CONCLUSION

This case study demonstrates the complexity of how to operationalize the humanitarian-development nexus and its application to FP/RH/MNCH interventions in Mali. Although there has been a long-standing presence of humanitarian, development, and peace assistance in the country, the coherence of these forms of assistance remains complicated. Adoption of concrete nexus efforts may still be unrealistic given the difficult operational environment, particularly in the central and northern parts of the country. More recent efforts to align humanitarian assistance within development plans at the policy and programming levels have helped to address the fragmentation between these sectors. Although each of these response mechanisms mobilizes resources differently, and often in a siloed fashion, steps toward integration are a promising way forward towards greater alignment. Similarly, the need for development assistance to integrate a cross-cutting, humanitarian component may enhance the ability to respond to emergencies more rapidly and efficiently, and also leverage the unique and flexible parameters that exist for each mandate. The complexity of the Malian context also makes integrated, multi-sectoral approaches more realistic and responsive to the needs of the population. While food security and nutrition have often been prioritized relative to other sectors given recurrent shocks and stresses that impact these outcomes, there are different models in place that have integrated health, education, and livelihoods. These programs may offer a blueprint for piloting and implementing programs in regions that are more primed for early recovery and development given their stability. Engagement of the private sector also contributes to the diversity of actors in the health system, and expands opportunities for innovation.

While HSS and HSR activities have traditionally been deemed more feasible in development settings, more recent evidence demonstrates that these can be implemented within fragile contexts to prevent backsliding of development gains. Enhancing health resilience for communities is an essential feature, and the expansion of efforts like the ARC-D for health toolkit may help affected communities prepare and respond to disasters. Funding for these efforts within Mali and across the Sahel region may also help offset some of the backsliding of health outcomes due to such shocks and stresses, particularly climate and public health emergencies. *Transition planning and health sector reforms in Mali may be challenging due to fragility of certain parts of the country, but efforts are still underway to shift to more sustainable cost recovery models for health. However, these may not be realistic without adequate monitoring and control mechanisms in place.*

In terms of the delivery of FP services in more fragile parts of the country, the challenges are immense. However, the practices of different development and humanitarian actors demonstrate there are ways to navigate these hurdles. While fragility continues to be a major hindrance, there is promise in

the shifting policy environment in more recent years, including the integration of RH and FP within all humanitarian interventions, defying the notion of FP as a non-lifesaving, development activity. Though the roll-out of these policies is still in its early phases, there are strides taken in implementation, particularly from actors working in more fluid, nexus-like regions of the country. Parallels drawn between other sensitive interventions that also link health and other response efforts (e.g., sexual violence) may be used as a useful springboard for further innovation and allow actors to capitalize on the notion of health a critical entry point. Finally, the use of proxy indicators for FP, such as the rates of early marriage, adolescent pregnancy, maternal mortality, and median birth intervals between each pregnancy for women are essential for the design, implementation, and evaluation of FP services in the absence of such data in regions where these services are deemed more sensitive. As it pertains to the health workforce, practices of local recruitment, regular capacity strengthening, task-shifting, and creating linkages to economic recovery are all efforts that may address the human resource shortage. However, there remain challenges, including the insecurity in different areas of operation, the risks to HCWs, and the potential of risk transfer from international to local actors in the field. While the coverage of salaries is also an essential element, there must be greater strides taken to sustain the health workforce and work towards more meaningful localization practices in this regard.

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X. ANNEXES

ANNEX A. KEY INFORMANT CHARACTERISTICS

No.	Geographic Location	Organization Type
1	Bamako	UN Agency
2	Bamako	Government/Ministry
3	Bamako	Donor Agency
4	Bamako	Donor Agency
5	Bamako	National NGO
6	Bamako	UN Agency
7	Bamako	UN Agency
8	Bamako	UN Agency
9	Bamako	Private Sector, International
10	Bamako	International NGO
11	Bamako	Private Sector, International
12	Bamako	Health Facility, Service Provider
13	Bamako	Donor
14	Bamako	Government/Ministry
15	Bamako	Government/Ministry
16	Bamako	International NGO
17	Bamako	Donor
18	Bamako	Public-Private Sector, National
19	Bamako	Private Sector, International
20	Bamako	Donor
21	Bamako	International NGO
22	Bamako	National NGO
23	Bamako	International NGO
24	Bamako	Donor
25	Bamako	UN Agency, Cluster Lead

No.	Geographic Location	Organization Type
26	Gao	Community Health Facility
27	Gao	Private Health Facility
28	Gao	Government/Ministry
29	Gao	Government/Ministry
30	Gao	National NGO
31	Gao	National NGO
32	Gao	National NGO
33	Gao	International NGO
34	Gao	UN Agency, sub-cluster lead
35	Gao	UN Agency, sub-office
36	Gao	International NGO
37	Gao	UN Agency, sub-office
38	Gao	International NGO

ANNEX B. KEY DEMOGRAPHIC INDICATORS IN MALI AND GLOBAL AVERAGES

Indicator	**Mali**	**Global Average**
Population, Total (2022, estimate)	22.59 million	---
Under 5 (U5) Mortality Rate (2021) *(# of deaths per 1,000 live births)*	97.10	38.10
Neonatal Mortality Rate (2021) *(# of deaths per 1,000 live births)*	33.40	17.60
Stillbirth Rates (2021) *(# of deaths per 1,000 total births)* (233)	23.4	13.9
Maternal Mortality Ratio (2020, modelled estimate) *(# of deaths per 100,000 live births)*	440	223
Child Immunization Rates, *examples* (2022) *(% of children ages 12-23 months);* Measles, DTP	70.00, 77.00	83.54, 84.58
Women (age 20-24) Married/In Union before the Age of 18 (2018) (%)	53.70	---
Fertility Rate, Total (2021) *(births per woman)*	5.96	2.27

Indicator	Mali	Global Average
Contraceptive Prevalence, *any methods* (2018, 2019) *(% of married women ages 15-49)*	17.20	62.82
Literacy Rate, Adult Total (2020) *(% of people ages 15+)*	30.76	86.71
Unemployment Rate, Total* (2022) *(% of total labor force, ILO); *Does not account for informal economy*	2.76	5.77
Human Development Index (2022) (37) *(global ranking out of 191 countries)*	186	----
Population below International Poverty Line ($2.15 a day, 2017 PPP) *(%)* (2018)	15.2	9.1
Life Expectancy (2021) *(years)*	58.94	71.33
Youth Population (15-24 years) (2021)(76) *(% of total population)*	19.7	16
Gross Domestic Product per Capita (2022) *(current US$)*	$833.30	$12,743.85
Access to Health Services (2018) *(physicians per 1,000 people)*	0.12	1.70
Safe Water and Sanitation (2019)(76) *(Mortality rate attributed to unsafe water/ unsafe sanitation/ lack of hygiene, per 100,000)*	66.1	18.4
Access to Education (2018) *(estimated # of children out of school)*	1.5 million	258 million
Food Insecurity (2023) *(# of people in IPC phases 3+, crisis, emergency & catastrophic levels)* (234)	715,410	157.41 million
Child Acute Malnutrition Prevalence (2023) *(estimated # children under 5)* (52)	1.4 million	45 million
Gender-Based Violence Risk (2022) *(estimated # of people)* (50)	2 million	1.3 billion
Births attended by skilled health staff (2018) *(% of births)*(76)	67.3	82.6

Source: *World Bank; Integrated Food Security Phase Classification; and United Nations Office for the Coordination of Humanitarian Affairs* (9) *(unless otherwise indicated)* (37,50,52,76,233,234)