

TECHNICAL REPORT

Comprehensive Formative Research on Health Beliefs, Practices, and Behaviors in Mali



JANUARY 2020



Acknowledgments

A number of individuals have contributed to the development of this formative research report and we appreciate their efforts.

We thank USAID Mali and USAID Washington, D.C. for their support of the Breakthrough RESEARCH project and this formative assessment in Mali.

We also sincerely thank Population Council colleagues and Breakthrough RESEARCH project staff members and consultants who contributed to designing the study methodology, protocol, and instruments and assisted in data analysis and the development and finalization of this report.

We have been fortunate to work with a talented team of Malian researchers at Le Center d'Études et de Recherche sur l'Information en Population et la Santé who contributed to the study design, secured study support among regional leaders, oversaw the data collection, and provided significant input to data analysis and the finalization of this study report. This study would not have been possible without their efforts, and we sincerely thank them for their dedication.

Finally, we are grateful for the research participants, in particular the adolescent girls and boys, mothers, fathers, grandmothers, and grandfathers who participated in focus group discussions; the community leaders, traditional healers, and traditional birth attendants, midwives, and matrones who participated in the in-depth interviews; and all of the exit interview clients. We thank them for their participation, without which this report would not be possible.



Breakthrough RESEARCH is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of cooperative agreement no. AID-OAA-A-17-00018. The contents of this document are the sole responsibility of the Breakthrough RESEARCH and Population Council and do not necessarily reflect the views of USAID or the United States Government.



The mission of CERIPS is to contribute to the improvement of the living conditions of the populations of the sub-region through the data collection and data analysis of relevant information and the development of skills in study and research and monitoring / evaluation of development program. CERIPS specializes in reproductive health, education and gender equality.



The Population Council confronts critical health and development issues—from stopping the spread of HIV to improving reproductive health and ensuring that young people lead full and productive lives. Through biomedical, social science and public health research in about 50 countries, the Council works with our partners to deliver solutions that lead to more effective policies, programs, and technologies to improve lives worldwide. Established in 1952 and headquartered in New York, the Council is a nongovernmental, nonprofit organization with an international board of trustees.



Breakthrough RESEARCH catalyzes social and behavior change (SBC) by conducting state-of-the-art research and evaluation and promoting evidence-based solutions to improve health and development programs around the world. Breakthrough RESEARCH is a consortium led by the Population Council in partnership with Avenir Health, ideas42, Institute for Reproductive Health at Georgetown University, Population Reference Bureau, and Tulane University.

©2020 The Population Council. All rights reserved.

Cover photo by ©2018, Souleymane Bathieno/HP+ Project (CC BY-NC-SA 2.0/No modifications)

Suggested Citation

Breakthrough RESEARCH. 2020. "Comprehensive formative research on health beliefs, practices, and behaviors in Mali." Breakthrough RESEARCH Final Report. Washington DC: Population Council.

Contact

4301 Connecticut Avenue NW, Suite 280 | Washington, DC 20008
+1 202 237 9400 | BreakthroughResearch@popcouncil.org
breakthroughactionandresearch.org

TECHNICAL REPORT JANUARY 2020

Comprehensive Formative Research on Health Beliefs, Practices, and Behaviors in Mali

Breakthrough RESEARCH

List of Acronyms

ANC	Antenatal Care
ASACO	Associations de santé communautaire (Community Health Associations)
ASC	Agent de Santé Communautaire (Community Health Worker)
ASRH	Adolescent Sexual and Reproductive Health
CERIPS	Le Centre d'Etudes et de Recherche sur l'Information en Population et la Santé
CHW	Community Health Worker
CREDOS	Center de Recherche et de Documentation pour la Survie de l'Enfant
CSCOM	Centre de Santé Communautaire (Community Health Center)
CSRef	Centre de Santé de Référence (First Referral Facilities)
DHS	Demographic and Health Survey
EDS	Enquête Démographique et de Santé (Demographic and Health Survey)
ENSAN	Enquête Nationale sur la Sécurité Alimentaire et Nutritionnelle
FGD	Focus Group Discussion
FP	Family Planning
IDI	In-Depth Interview
INSTAT	Institut National de la Statistique
ITN	Insecticide Treated Net
IDP	Internal Displaced Population
IPTp	Intermittent Protective Treatment during Pregnancy
IUD	Intrauterine Device
MSI	Marie Stopes International
MTBA	More Than Brides Alliance
NGO	Non-Governmental Organization
OE	Obstetric Emergency
PEV	Programme Elargi de Vaccination (National Vaccination Programme)
PNC	Postnatal Care
PMA	Paquet Minimum d'Activités (Minimum Package of Activities)
SD	Standard Deviation
SRH	Sexual and Reproductive Health
TBA	Traditional Birth Attendant
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Health
WHO	World Health Organization

Table of Contents

Executive Summary	1
1. Introduction	7
1.1. National context	7
1.2. Formative research goal and objectives	9
2. Summary Results of Topical Literature Review and Scoping Visit	10
2.1. Topical literature review	10
2.2. Scoping visit	12
3. Formative Research Methodology	13
3.1. Choice of sites	13
3.2. Qualitative data collection: exit interviews of women and child caregivers at CSCOMs	14
3.3. Qualitative data collection	14
3.4. Research ethics	16
RESULTS	17
4. Demographic Profile of Study Participants	18
5. Household Context	20
5.1. Hopes for newly married couples	20
5.2. Hopes for children	21
5.3. Social/power dynamics within the household	21
5.4. Savings for health emergencies	23
5.5. Women’s economic empowerment	24
6. Health Care-seeking by Women Including ANC	26
6.1. Health-seeking behaviors from exit interview results	26
6.2. Rationale for and timing of antenatal care-seeking: Qualitative results	27
6.3. Factors in decision-making about antenatal health-seeking behavior	27
7. Delivery	35
7.1. Knowledge of danger signs during delivery and related health-seeking behaviors	35
7.2. Factors in decision-making about delivery	35
8. Postnatal Care	39
8.1. Social support and mobility post-delivery	39
8.2. Motivations and health-seeking	40
8.3. Factors in decision-making about postnatal care	40
9. Family Planning	43
9.1. Family planning knowledge	43
9.2. Use of family planning	44
9.3. Factors influencing use and non-use of family planning	45

10. Water, Sanitation, and Hygiene	48
11. Malaria	49
11.1. Malaria knowledge	49
11.2. Factors affecting malaria-related services	49
12. Food security and nutrition	51
12.1. Key moments of food security throughout the year	51
12.2. Prioritizing need and coping mechanisms during food insecurity	51
12.3. Desired versus actual nutrition behaviors	53
12.4. Factors influencing nutrition	55
13. Health-seeking Behavior for Children Under 5	58
13.1. Community perceptions of traditional versus modern care	58
13.2. Immunizations	60
13.3. Other common reasons for seeking health services	61
13.4. Factors influencing children’s health seeking	61
14. Perspectives from Midwives and <i>Matrones</i>	64
14.1. Services and information provided	64
14.2. Factors affecting midwives’ ability to influence maternal and reproductive health	64
14.3. Household dynamics and sociocultural factors and beliefs	64
15. Perspectives from Traditional Birth Attendants and Traditional Healers	67
15.1. Services provided	67
15.2. Factors affecting TBAs’ and traditional healers’ ability to influence health	68
16. Collaboration among Different Types of Providers	70
16.1. TBAs, doctors, and health workers	70
16.2. TBAs and matrones	70
16.3. Traditional healers and matrones	71
16.4. Matrones and others	71
16.5. Traditional healers and modern providers	72
17. Community Leader Perspectives	73
17.1. Ability to influence service providers and community	73
18. Discussion	75
18.1. Key findings and possible entry points for interventions	75
18.2. Cross-cutting themes	76
18.3. Limitations	76
18.4. Contributions of this study and future research needed	76
19. Bibliography	78
Annexes	80
Annex 1 List of communities sampled for FGDs and KIIs with selected characteristics	81
Annex 2 Supplemental tables and figures	83

Executive Summary

Mali has achieved considerable improvements in health over the last 10 years, especially with regard to child mortality, increases in the uptake of modern contraceptive methods, and an increase in the rate of facility-based births. The most recent Demographic and Health Survey (DHS) (EDS-Mali VI 2018) shows that maternal and child mortality rates remain high, despite the existence of a multi-layered system and recent advances. In 2018, there were 54 infant deaths per 1,000 live births and 101 child deaths per 1,000 live births. Research on child health in Mali and globally suggests that under age five, mortality is due to health system weaknesses to deliver evidence-based solutions equitably across the population (Johnson et al. 2014; Christopher et al. 2011). The maternal mortality ratio in Mali is high. There were 368 deaths per 100,000 live births in 2012–2013 and 373 per 100,000 live births in 2018 (EDS-Mali 2012–2013; EDS-Mali VI, 2018). Mali performs better than Nigeria (512/100,000) and Benin (391/100,000) but poorer than neighboring Senegal (236/100,000).

USAID Mali sought to understand potential behavior-change bottlenecks and facilitators across a range of health areas, including maternal and child health, malaria, nutrition, family planning, and water, sanitation, and hygiene (WASH). Breakthrough RESEARCH, in conjunction with the Centre d’Etudes et de Recherche sur l’Information en Population et Santé (CERIPS), designed and conducted a mixed-methods formative study to inform and tailor USAID Mali’s Health/Nutrition programming over the next five years. This project aims to: 1) increase demand for and use of health/nutrition and WASH services; 2) increase individual and household adoption of healthy behaviors; and 3) increase the ability of households and communities to plan, finance, and manage their own health and health systems.

Methods

This formative research consisted of three phases of data collection designed to shed light on the context of health behaviors and determinants, motivators, and opportunities for improving access to and use of health services in Mali. Primary data collection took place in rural communities and health facilities (Centres de Santé Communautaire, CSCOMs) in the regions of Sikasso, Segou, and Mopti:

1. A topical literature review of current health behaviors and a scoping visit consisting of 17 key informant interviews (KIIs) were conducted.
2. Thirty-nine in-depth interviews (IDIs) and 104 focus group discussions (FGDs) were conducted in rural communities across 36 districts in the three selected regions. FGDs took place with mothers of children under the age of five, fathers, grandmothers,

grandfathers, and married and unmarried adolescent girls and adolescent boys. IDIs were carried out with community leaders, traditional healers, and traditional birth attendants as well as with midwives and *matrones*. Focus groups included an innovative, vignette-based approach to elicit participant thinking on normative rather than personal experiences.

3. Quantitative exit interviews were conducted with both females seeking care and caregivers seeking care for children under age 5 at CSCOMs. A total of n=1,432 women attending for their own health needs (including antenatal care [ANC]) and n=1,463 women (or caregivers) 18 years and older seeking preventive or curative services for children under 5 years of age were interviewed. Interviewees were selected purposively as they left the health center. Interview topics included decision-making around seeking services, distance travelled, mode of transport,

permission or referrals given, perception of quality, and cost of care or treatment received.

Summary results of topical literature review and scoping visit

The topical literature review on health-seeking behaviors in Mali included peer-reviewed papers published in English and French. Findings on key topic areas included the following:

Maternal health: Women who seek care from traditional practitioners during pregnancy are treated with medicinal plants (Nordeng, Al-Zayadi, Diallo et al. 2013). Available information indicates that control of financial resources is a critical consideration that determines whether women deliver in a health facility and is often controlled by the male of the household. Living in remote rural areas was associated with the risk of extremely high spending. Many women lack knowledge about ANC, including vaccines (Sangho, Keïta, Diallo et al. 2016).

Family planning (FP) and sexual and reproductive health (SRH): Castle, Konate, and Ulin (1999) found that intra-household collaboration among women can facilitate covert contraceptive use, which can be necessary as spousal opposition and myths and personal preferences often lead to non-use of long-acting reversible contraceptives (LARCs).

Malaria: Graz et al. (2015) found that treatment-seeking behavior for malaria shifted from 2003 to 2013, with traditional treatment sought as first recourse in uncomplicated cases; for more severe malaria, treatment is more often sought from a modern health center. Bed net distribution via ANC was found to be effective, but poor understanding of intermittent protective treatment in pregnancy (IPTp) by health workers undermines prevention during pregnancy (Hill et al. 2014).

WASH: Bery, Traore, and Shafritz (2016) noted that facilitating community discussions using a participatory decision-making approach with local stakeholders helped develop sustainable local systems to finance operation and maintenance costs of water points.

Child health: Many mothers and grandmothers gave a variety of supplements (including gruel and traditional medicines) that were not considered “food” to infants

under six months of age (Castle, Yoder, and Konate 2001). Ellis, Traore, Doumbia, et al. (2012) found that most families used both traditional and modern treatments administered either inside the home by family members or by traditional healers and that the most commonly cited barrier to seeking care at health facilities was cost, especially during the rainy season.

Key informants for the scoping visit included individuals from 17 Malian organizations comprising local researchers, program implementers, and other stakeholders working in the field. KIIs discussed household-level barriers and facilitators across a number of key study health areas including service quality concerns, service availability, and costs. Results from the topical literature review and KIIs formed the basis for the primary qualitative and quantitative data collection.

Qualitative and quantitative findings

Household context: Young women were viewed as essential to showing respect and maintaining family harmony in their households. Demographic information collected during focus groups provides insight into a social structure where polygamous unions are the norm rather than the exception. In addition to having good relationships with in-laws and husbands, women were expected to get along with co-wives, who can provide health advice, negotiate with mothers-in-law about the need for health services, handle household tasks so new mothers can go to the health center, and influence family planning use.

ANC: Decisions about ANC health-seeking behaviors were influenced by a combination of household dynamics and sociocultural beliefs as well as logistical and practical matters. Both men and women showed support for ANC and perceived that its purpose was to help mothers have a healthy pregnancy and avoid complications later in the pregnancy or following delivery. However, respondents believed ANC was typically not sought until the second trimester. Exit interview data found that women who had not yet given birth (18.1%) and those who had an elementary education (53.4%) had the highest frequency of seeking ANC, though the percentage seeking ANC steadily decreased with increasing number of live births.

Delivery: Exit interview data showed the vast majority of women (82%) needed to seek permission to visit the clinic, primarily from their husband, with receiving care

ultimately predicated on the harmonious nature of the woman's relationship with her husband and his family. Both health facility and transport costs, along with distance to facilities, posed barriers to women seeking care for themselves and for their children, with women in Mopti reporting the longest-traveled distances. While many women understood and agreed with the advantages of delivering in a facility (e.g., safer, quicker, access to birth certificate), barriers to do so often included security concerns, perception of a complication, cost and distance to a facility, and lack of family support to do so.

Postnatal care (PNC): Respondents believed that women who sought ANC and delivered at a health center were more likely to make postnatal visits, though similar barriers to PNC-seeking applied, including cost, husband support, and stigma of severe post-delivery complications. Exit interview data found very high levels of perceived respect (average score of 4.2 out of 5) and satisfaction (98.5%) with the services women received. There was a consensus that a woman should remain secluded and indoors for 40 days after delivery for the sake of the child's health, with few exceptions.

FP: Use of modern FP methods seemed to be favored as long as they were used for a short period of time not immediately following marriage or to prevent pregnancy among unmarried women. Common myths about modern methods included that oral contraceptive pills make one sterile or that implants can disappear in a woman's body. There was a general consensus that spacing births would mean better distribution of family resources, although the final say on contraceptive use often rested with the husband. Commonly cited views against FP use included an inclination toward female promiscuity and not wanting to go against the will of God.

WASH: Handwashing emerged as a key strategy to improve child nutrition and growth, but lack of potable water and latrines with water and soap often caused women to drink dirty water, further exacerbating existing problems.

Malaria: In general, malaria treatment and prevention were seen as low priority in terms of health needs. Despite reported knowledge about malaria transmission and prevention, cost of purchasing an insecticide-treated bed net was an impediment to prevention, especially among mothers and young children. While many participants reported visiting a traditional healer to treat

suspected cases of malaria, health center referrals were frequently noted for particularly serious cases.

Food security and nutrition: Food shortages are common and particularly dire from the dry season until the start of the rainy season (*soudure*), which is often worsened due to lack of rainfall, child malnutrition, and malaria. During periods of food scarcity, the head of household, elders, or the husband decides how food is prioritized. Most respondents agreed that the needs of children, pregnant women, and the elderly should be prioritized during periods of food insecurity. Food insecurity coping mechanisms were gendered; women were able to draw on their social networks while men relied on alternate employment, livestock, or migration to borrow or acquire food. It was reported that health needs, such as a facility-based delivery, are often compromised during times of high food insecurity. Respondents noted that pregnant women should prioritize vitamin-rich food including meat, fish, fruits, and vegetables for a healthy pregnancy and in preparation for delivery. However, cost and access were cited as common barriers to acquisition, along with certain sociocultural beliefs that pregnant women should not grow too large and that greater portions of food should be reserved for other working members of the family. Participants reported accurate knowledge of infant feeding practices, citing the value of newborns receiving colostrum to protect them from illness along with the benefit of exclusive breastfeeding for 6 months following birth. However, some women and grandmothers reported supplementing breast milk with water, citing its protectiveness for the child. A husband's advice or permission was necessary to determine when and how a child receives supplementary food, given associated costs. Mothers-in-law typically initiated the weaning process to help integrate the child into the extended family.

Health-seeking behavior for children under age 5: Preferences for modern versus traditional health care were often determined by perception of quality of care, cost, distance, access to a facility, opinions of family elders (especially mothers-in-law), and perceived confidentiality of modern caregivers as compared with traditional ones. Among caregivers who visited the clinic for preventive care, all indicated that they attended the facility for infant immunizations. Yet DHS data indicate that a significant minority of children received no vaccinations (10.5% in Sikasso, 11.2% in Segou, and 19.3% in Mopti). While there was a general belief that immunizations are obligatory for children, use was

often discouraged due to perceived side effects, inconvenient provider scheduling, parents' conflicting work obligations, distance to a health facility, and a need for accompaniment amidst safety concerns.

Matrones and midwives: Matrones were seen as the first source of information for women during delivery and for women and infants immediately postpartum. In IDIs, matrones and midwives echoed many of the same sociocultural beliefs about influences on maternal and reproductive health that were raised by focus group participants: shame of pregnancy inhibiting antenatal consultations, fear of certain FP methods, and spousal refusal of FP. Importantly, they also touted the benefit of involving men in health care decision-making for their wives and children and advocated for ambulance transport paid for by community contributions and financial support from the local authorities for women with obstetric complications.

Traditional healers and traditional birth attendants (TBAs): Traditional healers reported being called upon to provide curative health services for malaria and fever, traditional methods of FP, and certain psychosocial problems, with their selected treatment often informed by one's dream. However, traditional healers indicated that pregnancy and childbirth were beyond their scope and required modern medicine. They also reported close collaboration with matrones to promote breastfeeding and good nutrition. TBAs and matrones also reported a collaborative relationship, though indicated that there was an implicit hierarchy, with matrones having greater knowledge but engaging TBAs in sensitizations or in referrals or postnatal follow-up. However, matrones and midwives reported limited collaboration with providers in the traditional sector beyond TBAs, and mostly restricted to referrals for very serious cases.

Community leader perspectives: The community leaders reported doing a significant amount of grassroots work on behalf of the formal health services. They reported following up with those who did not show up for immunization, assisting at sensitization sessions, encouraging good hygiene, and checking up on patient flow and quality of care at the local facility. They also acted as intermediaries in cases of health worker/client disputes.

Potential intervention points

Women present late for ANC for a variety of sociocultural and logistical reasons, rendering it hard to achieve the recommended eight ANC visits over the course of the pregnancy. Qualitative findings suggest that presenting earlier for ANC visits is possible given the confidence that some women have in providers, the knowledge that ANC visits can decrease the likelihood of subsequent pregnancy and delivery complications, and the communal savings behaviors among women to fund SRH needs including ANC. Possible entry points to further motivate ANC visits earlier in the pregnancy are use of multiple media channels to support the importance of ANC and community sensitizations and outreach to heads of household on the importance of ANC visits.

PNC was low, with less than 5% of women in exit interviews at CSCOMs reporting it as the reason for their visit and only 1.2% of women in Mopti doing so. Poor uptake of PNC is due, to some extent, to a religious belief among Muslims about women needing to stay secluded for 40 days postpartum, and to the perception that health center visits are necessary and worth the cost only if the mother or baby are sick and require curative care. A potential approach to address postpartum seclusion is to bring PNC services to women through existing structures such as community health workers (CHWs). Another next step to address seclusion would be to engage women's groups, delivery care providers, and community leaders to address the social norms around seclusion.

Use of FP among women at CSCOMs was low, with less than 10% of women reporting it as the reason for their visit. Possible entry points for increasing use of modern FP include use of multiple media channels to address myths about FP and inclusion of husbands as appropriate in FP promotion campaigns, ensuring providers are counseling on voluntary FP options, and considering missed opportunities for FP such as antenatal, postnatal, and well-baby/child health visits.

Qualitative data indicate that immunizations are hampered by concerns about side effects from vaccinations, distance to health facility where vaccinations are provided, parents' work obligations, unpredictable and inflexible provider schedules, and need for accompaniment to the health center amidst safety concerns. However, immunizations were encouraged by social norms that vaccinations are obligatory and a belief that

immunizations are effective in building children's resistance to disease. Furthermore, exit indicator data suggest that costs of vaccinations are either low or free. Possible strategies to increase vaccination use could include diving deeper into barriers for caregivers, allowing for variation by region and ethnic group, addressing myths around vaccination that may be specific to some communities, addressing supply-side barriers to vaccination, and, once barriers are more clearly outlined, developing interventions such as mobile outreach or digital interventions.

Food shortages are common and particularly dire from the dry season until the start of the rainy season, when malaria is also rife. Promoting gender-specific coping strategies for food insecurity holds promise. Interventions that build women's social networks will allow them to turn to people in times of need. Possible strategies for men include promoting alternative livelihoods or setting up formal migrant networks to promote transfer of remittances from those living away from home.

Malaria treatment and prevention were seen as low priority in terms of health needs. A potential approach to change preventive care attitudes and behaviors would be to provide insecticide-treated nets when women are seeking other services. Community sensitization is needed on the importance of preventing and treating malaria, especially for children and pregnant women. Finally, given traditional healers' prominence in the communities, it would be worthwhile to partner more deliberately with them to refer cases of malaria for modern medicine treatment.

Cross-cutting themes

Cost was nearly unanimously cited as a barrier to seeking health services. Findings from this mixed-methods formative assessment suggest that delivery costs in a high-fertility country, curative care costs, and interruptions to one's livelihood through food shortages result in significant economic constraints. Strategies to offset these constraints often relied on women's economic activities, such as communal savings to cover their SRH needs or other health needs of their children. However, this economic empowerment was considered beneficial to the family only when the woman prioritized family harmony above all else. The multi-member household structures in Mali mean that women have to navigate several key relationships in their conjugal home to have

a successful marriage and have support—financial and social—when their children require health services.

Limitations

Limitations to the study include the following:

- The **topical literature review** was primarily focused on Mali, and it would be worthwhile to *expand the geographic scope* to the Sahel and the rest of sub-Saharan Africa. The scoping mission did *not include views of those living outside of Bamako*.
- The **exit interviews** are by nature *selective*. Only those who visit health facilities are included, and they may be different than those not seeking services in terms of socioeconomic status, social networks, attitudes toward health-seeking, or morbidity and behavioral profiles. To gain a better understanding of health-seeking behaviors across the general population, DHS data could be disaggregated by region to fill some of the data gaps. These data *were not powered to look at regional differences or differences at a lower geographic level*.
- The **qualitative research** relied on *purposive sampling*, which may induce some inherent biases including a risk of homogeneity of respondents. Moreover, in a few communities in Mopti (Borondougou commune) and Segou (Mafoune commune), FGDs were held in Bamanan, so a few participants who spoke only Bobo or Bozo *had trouble comprehending the questions posed* as native-speaker interviewers were not available. In these few cases, other focus group participants translated for them. In addition, the tight timeline for analysis limited the ability to observe differences by communities, age, or gender groups. Finally, experience and skills of qualitative facilitators may have limited probing on some of the responses.

Future research directions

- There are a number of future research directions suggested by our findings. Given the sheer volume of the data collected and the subgroups included in the data collection, there is an opportunity to provide deeper regional and subgroup analysis to understand how Sikasso, Segou, and Mopti differ in each of the themes and to delve deeper into each of the participant subgroups included in the qualitative data collection.



©2018, Anastasia Sogodogo/USAID

- For regional analyses, we suggest regional behavioral diagnostic work, which may be useful for elucidating differences at the regional level that are often overlooked in analysis that considers Mali as a whole. Regional behavioral diagnostic work is particularly important given differences in health care availability and quality in the three regions of the study. Additional regionally focused analyses would be useful for tailoring interventions to regional and sub-regional settings for optimal effect.
- As others have noted, the 40 days postpartum are a crucial period of importance to the mother and child and are also highly influenced by religious and cultural norms about what is considered acceptable behavior during this time.
- Another example is understanding the effectiveness of interventions that have engaged co-wives in settings with polygamous unions.
- In terms of use of health care, in our exit interviews we found that only a small number of respondents

would not recommend the facility and that the vast majority of respondents were satisfied with the care they received. We suspect that responses about satisfaction and respect may have been influenced by social desirability bias and the location of the exit interviews. Given the small number of respondents who were dissatisfied, it may be important to conduct data-collection activities outside of the other health facilities or not immediately following the visit to try to reduce bias. Among the small number dissatisfied, it appeared that age and education may be associated with this dissatisfaction. Future research may examine how education and age influence health care experiences and whether providers treat patients differently based on age and education.

1 Introduction

1.1. National context

Mali is a landlocked country in West Africa, home to 18 million people of diverse ethnic groups. Its capital city, Bamako, is among the fastest-growing cities in Africa, and the population of Mali is growing due in part to a high total fertility rate of 6.3 births per woman (World Bank 2019; UN population projections 2019).

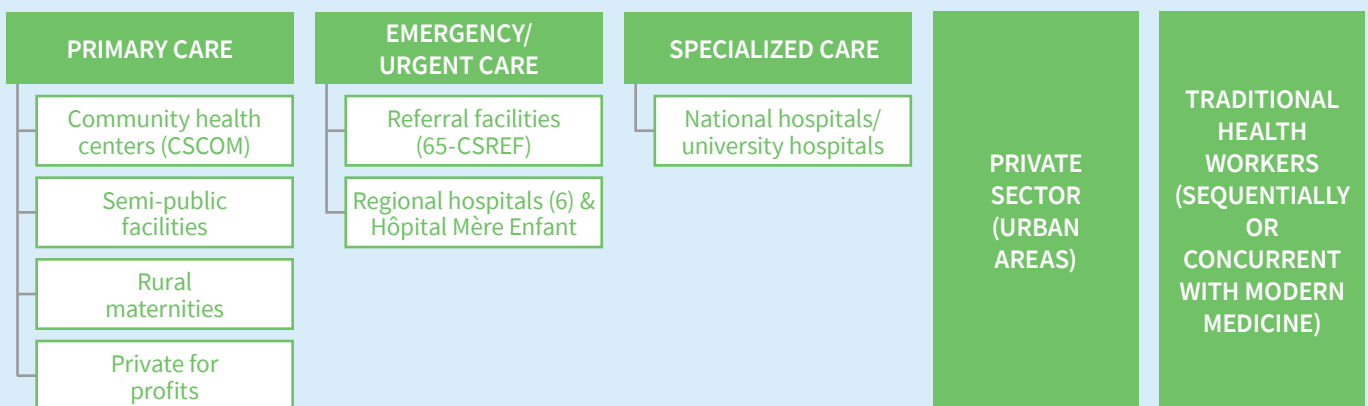
Health care in Mali is organized at three levels (see Figure 1). First, primary care is provided by the 1,294 community health centers (Centres de Santé Communautaire, CSCOMs), which are private non-profit entities contracted by the communes to provide basic health care via management structures known as Associations de Santé Communautaire (ASACOs) (Thiera et al. 2015). The basic health package known as the Paquet Minimum d'Activités (PMA) is also provided by semi-public facilities, rural maternities, and private for-profit facilities. A second layer of care is covered by first-referral facilities known as Centres de Santé de Référence (CSRefs), which deal with urgent care (e.g., obstetric emergencies) referred from CSCOMs, and regional hospitals. Third, specialized care is provided by Etablissement Public Hospitalier (EPH) in major cities. Mali also has a burgeoning private sector, but this is mainly confined to urban areas. Individuals in Mali may also often rely on traditional practitioners, who they may use sequentially or concurrently with modern medicine (Diarra et al. 2016).

Mali has achieved considerable improvements in health over the last 10 years, especially with regard to child

mortality, increase in the uptake of modern contraceptive methods, and an increase in facility-based births. The most recent Demographic and Health Survey (DHS) (EDS-Mali VI 2018) shows that, despite the existence of a multi-layered system and recent advances, mortality and morbidity rates among women and children remain high. Recent DHS data show that infant mortality remains a significant issue with 54 deaths per 1,000 live births, as does child mortality (under age 5) with 101 deaths per 1,000 live births. Child health indicators on stunting (26.9% of children) and wasting (8.8%) also suggest the health system, while reaching many, still has room for improvement. The maternal mortality ratio remains high: It was 368 deaths per 100,000 live births in 2012–2013 and 325 per 100,000 live births in 2018 (EDS-Mali 2012–2013; EDS-Mali VI 2018). Mali performs better than Benin (391/100,000) and Nigeria (512/100,000) but poorer than neighboring Senegal (236/100,000) (DHS Stat Compiler; Gunawardena et al. 2018). Additionally, research on child health in Mali and globally suggests that under age 5, mortality is due to health system weaknesses to deliver evidence-based solutions equitably across the population. CHWs are an essential link that needs to be expanded in Mali (Johnson et al. 2014; Christopher et al. 2011).

Table 1 shows selected health indicators from the most recent DHS (EDS-Mali VI 2018) for the country as a whole and for the three study regions. We focus on health indicators related to reproductive health (total fertility and contraceptive use), maternal health (ANC, delivery, and PNC), child health (growth and vaccinations), and malaria. These statistics are helpful for understanding broadly

FIGURE 1 OVERVIEW OF HEALTH CARE IN MALI



the health of women and children in Mali and for noting areas for improvement.

In Table 1 we see considerable variation across regions on indicators related to maternal health, child health and nutrition, and malaria. The table indicates notable regional differences in selected health outcomes such as total fertility rate, ranging from a low of 3.6 in Kidal to a high of 7.3 in Tombouctou, and ANC by a skilled provider (a low of 25% in Kidal to nearly universal ANC in Bamako [96.6%]). Here and throughout the report, we use the World Health Organization (WHO) definitions of ANC and PNC (Box 1).

In Table 1, we highlight the regions included in the formative research. While these areas are not necessarily the worst-performing regions in Mali on key indicators, they are regions with significant need for maternal and child health improvements. For example, Mopti (7.2%) and Sikasso (6.9%) have high total fertility rates coupled with relatively low proportions of women receiving delivery care by a skilled provider (56.1% in Mopti and 72.5% in Sikasso). Segou also has a low proportion of women receiving delivery care by a skilled provider (56.8%). Percentage of children stunted is also high in these three regions, with only one other region (Gao) having a higher proportion of children stunted than the selected regions.

It is well established that poverty is associated with poor health outcomes across populations (WHO 2001 & 2004). Evidence from 26 countries in Africa suggests

BOX 1 DEFINITIONS OF ANC AND PNC

Antenatal care is defined as the care provided by skilled health care professionals to pregnant women and adolescent girls to ensure the best health conditions for both mother and baby during pregnancy. The components of ANC include risk identification; prevention and management of pregnancy-related or concurrent diseases; and health education and promotion.

The **postnatal period** is defined by WHO as the first six weeks after delivery. **Postnatal care** focuses on the mother (e.g., identifying and managing hemorrhage, sepsis and infection as well as offering post-partum FP) and the child (e.g., managing low birth weight, supporting exclusive breastfeeding, and preventing infection). It is recommended that the first visit (which could be a home visit) is within 1 week of delivery (preferably on day 3), the second 7–14 days after the birth, and the third 4–6 weeks after birth.

that maternal education is associated with effective use of preventive and curative health services and with child health and nutritional outcomes (Heaton et al. 2016); however, a causal link between maternal education and improved child health outcomes has not yet been established (Mensch et al. 2019). At the population level, increases in public health spending have been associated

TABLE 1 HEALTH INDICATORS BY REGION, MALI DHS 2018

	BAMA KO	GAO	KAYES	KIDAL	KOULIKORO	MOPTI	SEGOU	SIKASSO	TOMBOUCTOU
	%	%	%	%	%	%	%	%	%
Total fertility rate (n per thousand)	4.8	6.5	6.7	3.6	5.8	7.2	6.4	6.9	7.3
Married women currently using any modern method of contraception	22.3	3.3	10.5	2.6	19.2	8.7	20.3	19.2	5.6
Antenatal care from a skilled provider	96.6	60.6	73.7	25.0	82.8	80.6	75.3	76.4	66.7
Skilled provider assistance during delivery	97.7	54.0	60.7	29.6	80.3	56.1	56.8	72.5	30.7
Mother's first postnatal check-up in the first two days after birth	78.9	51.6	51.1	21.0	59.4	60.3	59.3	41.1	28.7
Children aged 12–23 months who received no vaccinations	2.6	33.1	22.7	78.4	16.9	19.3	11.2	10.5	18.4
Advice or treatment for fever sought from a health facility or provider	65.6	44.6	35.5	35.9	51.3	54.5	67.8	45.2	19.5
Children stunted	15.4	33.4	26.1	27.3	25.2	30.4	28.6	32.3	29.5
Children under 5 who slept under an insecticide treated bed net	63.6	65.0	85.1	20.0	83.4	86.0	83.4	76.1	75.5
Malaria prevalence (overall) according to rapid diagnostic test	0.9	15.3	12.6	1.6	21.7	24.9	25.9	29.7	2.9
Delivery in health facility (3 years preceding survey)	96.8	57.1	59.2	29.1	79.0	56.3	56.0	72.1	29.8

with better overall health (Makuta 2015); at the individual level, household wealth and maternal education are important predictors of many health outcomes, including child health (Boyle et al. 2015). In 2018, Mali ranked 182nd out of 188 countries on the United Nations Human Development Index (UNDP 2018). Per capita gross national income in Mali was 830 USD in 2018 (World Bank 2019). In Mali, poverty is much higher in rural areas (90% of poor reside in rural areas) and concentrated in the south, where population density is highest. Recent research found that drought and conflict have increased the incidence of poverty in Mali (Tranchant et al. 2019). It should also be noted that both health and poverty outcomes are contingent upon and exacerbated by very low rates of education, particularly amongst women. In the 2018 DHS, nearly two-thirds (65.5%) of women reported having had no education, compared to just over half of men (53.2%) (EDS-Mali VI 2018).

1.2. Formative research goal and objectives

Goal: This formative research was designed to generate comprehensive evidence on beliefs, knowledge, motivations, and barriers affecting health behaviors across health areas to inform and tailor USAID/Mali Health/Nutrition programming over the next five years in Segou, Mopti, and Sikasso regions in order to increase:

- Demand for and use of health/nutrition and WASH services;
- Individual and household adoption of healthy behaviors; and
- Ability of households and communities to plan, finance, and manage their own health and health services.

Objectives: Specific objectives include to:

- Understand beliefs, knowledge, motivators, and barriers to desired behaviors related to maternal and child health and nutrition, FP, and WASH, including financial and socioeconomic behaviors related to health.
- Understand the decision-making processes related to the adoption of health behaviors and those associated with seeking and paying for health services.
- Identify demand barriers and motivators that affect access to health and nutrition services and to identify opportunities for improving maternal and child health, nutrition, FP, and WASH.

- Understand more about community/household perceptions of and engagement with and sense of ownership of locally provided health services.
- Understand more about community/household perceptions on maternal and infant/child nutrition, feeding practices, and specific information about food choices, as well as on availability and access to food.
- Elicudate the gender roles and power dynamics related to household and individual decision-making in relation to health behaviors and service utilization.

Deisgn: Consisted of three phases of data collection:

1. Identification and utilization of available data and expertise. A **topical literature review** was conducted, and **KIIs with local subject-matter experts** were held to document existing evidence and facilitate a deeper understanding of priority behaviors in selected areas/regions and to learn more about successful interventions that increased community engagement and sense of ownership of the health system.
2. A **qualitative study** was conducted consisting of FGDs and IDIs to identify behaviors and belief systems related to maternal and child health, health-seeking behaviors, nutrition, WASH, malaria, and FP, as well as provider and leader roles in providing services or serving as role models or loci of community norms.
3. A **quantitative study** with women at CSCOMs and caregivers of children under age 5 at health centers to collect key information on:
 - a. Knowledge, beliefs, attitudes, and social norms related to breastfeeding, complementary feeding, maternal nutrition, household food allocation and food-sharing, malnourished children, management of ill children, and sources of advice on child health and nutrition.
 - b. Motivators and barriers of seeking health care.
 - c. Processes and determinants of financial decision-making at the household level as it relates to seeking health care.

Collectively, these three phases were designed to shed light on the context of health behaviors and determinants, motivators, and opportunities for improving access to and use of health services in Mali, and to provide insights that will help inform USAID Mali's Community Health and Health Systems Strengthening interventions.

2 Summary Results of Topical Literature Review and Scoping Visit

Goals and methods of the topical literature review and scoping visit are detailed below.

2.1. Topical literature review

In addition to taking an overall look at the health indicators and a few related poverty indicators from the DHS, we conducted a topical literature review with local research partner Centre d'Études et de Recherche sur l'Information en Population et Santé (CERIPS) to document existing evidence and identify evidence gaps in health behaviors and health-seeking behaviors in Mali on key topics of interest. Inclusive of peer-reviewed papers published in English and French, the topical literature review set out to shed light on specific topics to aid in the development of study instruments, help interpret findings on household and community determinants of specific health behaviors, and identify barriers, motivators, and opportunities for improving access to and use of these health services in Mali. Below we present some key findings by topic area.

Maternal health

Research by Nordeng et al. (2013) on traditional healers and maternal health care in Mali found that non-complex problems in pregnancy may benefit from collaboration with traditional healers. This research notes that there is relatively high consensus among traditional practitioners for the treatment of pregnant women with common diseases and ailments including nausea and the treatment of malaria during pregnancy. They suggest that collaborating with traditional practitioners on the safe use of medicinal plants in pregnancy may promote safer pregnancies and better health for mothers and their unborn infants in Mali.

It is well established that distance to a health facility is a significant barrier to health service usage (Buor 2003; Tanser et al. 2006; Simkhada et al. 2008; Gage 2007). Transportation options are a significant barrier to women completing the recommended antenatal visits in Mali (Gage 2007). Decisions about care are also related to perceived quality of care in West

Africa; gender and socioeconomic status are important contributors (Thaddeus and Maine 1994). According to Thaddeus and Maine (1994), the three delays affecting maternal health utilization and outcomes are 1) delay in seeking care; 2) delayed arrival; and 3) delayed provision of adequate care.

A growing body of research has shown that power and personal control are important factors in seeking maternal health care (White et al. 2013). Control of financial resources is an additional important consideration. Research in Nigeria found that financial considerations and husbands' denial were both cited as reasons why women did not seek PNC in a health facility (Adamu & Salihi 2002). The cost itself can also be catastrophic for households, regardless of who controls financial resources. Arsenault et al. (2013) found that high expenditure for emergency obstetric care forced 44.6% of the households to reduce their food consumption, and 23.2% were still indebted 10 months to 2.5 years later. Living in remote rural areas was associated with the risk of catastrophic spending. This shows the referral system's inability to eliminate financial obstacles for remote households. Women who underwent caesareans continued to incur catastrophic expenses, especially when prescribed drugs not included in the government-provided caesarean kits.

Previous research has examined the importance of respect for patients during ANC visits and the damaging effect of provider disrespect and abuse (Freedman et al. 2014; Abuya et al. 2015a and 2015b). Both direct experience with disrespect as well as a provider's and facility's reputation for how they treat patients can influence whether women choose to deliver in health facilities. Warren et al. (2015) found that abuse and aggression by providers is frequent during delivery and also noted that study participants reported abusive and disrespectful behavior toward women in labor—particularly yelling, insulting, and displaying a hostile or aggressive attitude.

Regarding ANC including vaccines, research by Sangho et al. (2016) on maternal use of neonatal tetanus found that lack of maternal knowledge, time constraints, and

vaccine stock-outs prevent vaccine uptake. The researchers found that among women of reproductive age, 27.4% did not know the tetanus vaccination is used to prevent maternal and neonatal tetanus. Most (61.8%) thought that a single dose of Tetanus Toxoid was enough to protect them. The main reasons given by women who had not received vaccination were lack of knowledge (47.6%), lack of time (14.3%), and neglect (23.8%).

FP and SRH

This report focuses on specific issues in Mali related to health-seeking behavior. Generally, FP in Mali is oriented around messages of “spacing” rather than “stopping,” as the latter is not socially acceptable to many including religious leaders (Le Ministre de la Santé et de l’Hygiène Publique 2014).

Previous research by Castle, Konate, and Ulin (1999) found that intra-household collaboration among women can facilitate covert contraceptive use: Sisters-in-law may assist each other to gain and hide methods of FP and to keep their use secret from their spouses and older married relatives. This may be necessary as spousal opposition and myths and rumors leads to non-use of LARCs. Burke et al. (2018) documented that providers reported that the most common reasons for non-use of the postpartum intrauterine device (PPIUD) were husband opposition to FP, women changing their minds post-delivery because of fear of pain or wanting to discuss it with their husbands first, women preferring to wait 40 days to resume sexual activity and consider all FP methods, and myths and negative perceptions about intrauterine devices (IUDs).

Regarding adolescent SRH, gender inequality, pronatalist norms, and poor provider attitudes are impediments to adolescent reproductive rights in Mali. Prevailing social norms, deeply entrenched in patriarchy and gender inequalities, act as barriers to the rights and SRH outcomes of adolescent girls in Mali. Taboos about pre- and extra-marital sexual activity, together with pronatalist attitudes of in-laws when a young woman gets married, mean that many young women hesitate to use FP. In addition, negative provider attitudes also discourage adolescents’ use of reproductive health services (UNFPA 2017).

Malaria

Graz et al. (2015) found that treatment-seeking behavior for malaria shifted from 2003 to 2013, with traditional treatment sought as first recourse in uncomplicated

cases; for more severe malaria, treatment is more often sought from a modern health center. They found that for severe malaria, first treatment was sought less often from a traditional healer compared with 10 years earlier (4% vs. 32%) and more often from a modern health center (29% vs. 17%). They also note that there is greater use of modern health facilities for treatment of severe malaria and a greater use of traditional medicine alone for treatment of uncomplicated malaria. In terms of malaria prevention, net distribution via ANC is effective, but poor understanding of IPTp by health workers undermines prevention during pregnancy (Hill et al. 2014). The authors note that insecticide-treated bed net (ITN) use among women was substantially higher than for other household members, largely due to distribution during ANC at CSCOMs. A high household-person-to-long-lasting-insecticidal-nets (LLIN) ratio predicted low ITN use in pregnant women.

Like maternal health, financial barriers are also important factors in understanding malaria care and prevention. Klein et al. (2016) note that both actual and perceived costs are currently barriers to IPTp uptake. Some men provide financial support by accompanying their wives to the health facility and handling financial transactions directly. Although ITNs are provided for free at ANC locations, some clinics charge a single fee for ANC, including both services that are free and cost-bearing, which leads to provider and patient confusion about precisely what is and what is not free. Many pregnant women therefore forego IPTp as a result.

BOX 2 BREASTFEEDING IN MALI

Although breastfeeding is common in Mali (96.7% of infants were ever breastfed, according to the 2018 DHS), previous research in Mali has found that exclusive breastfeeding may be overestimated, as traditional medicines are not considered food and are thus often missed in survey questions about infant supplementation (Castle, Yoder, and Konate 2001).

Breastfeeding has an important social role in kinship ties in Mali and breastfeeding consolidates kinship ties in peri-urban Bamako (Dettwyler 1987).

WASH

For adolescents, a lack of facilities for managing menstrual hygiene at school leads to girls' drop-out/absenteeism. Research from Trinies et al. (2015) found that girls had few discussions with mothers, sisters, or friends about how to practically manage menstruation. Only half of the girls reported having knowledge of menstruation before menarche. Aside from telling girls of the existence of menstruation, these early conversations did little to prepare them and rarely covered management practices. Despite having latrines and water facilities, girls generally found school environments insufficient to support their management practices and preferred to leave school to manage menstruation at home. Research from Pickering, Djebbari and Lopez (2015) suggests that school-based WASH interventions can have a significant socioeconomic impact. Fewer infections in school-age children may lead to a decrease in illness-related absenteeism, which may in turn alter time allocation of older children and mothers as time spent caring for sick community members is freed up. Labor supply and school participation may increase as a result. Other research has noted the importance of community participation and buy-in with regard to WASH interventions. Community participation improves the sustainability of WASH interventions and health behaviors: Bery, Traore, and Shafritz (2016) noted that facilitating community discussions using a participatory decision-making approach with local stakeholders helped develop sustainable local systems to finance operation and maintenance costs of water points and triggered income-generating activities that also improve health behaviors.

Child health

In our review of child health in Mali, we focused on understanding the family and social dynamics that contribute to child health to understand barriers and facilitating factors to care. Research by Baxter et al. (2016) found that older, female household members are often the ones to introduce traditional medicines early on. They note that traditional beliefs, knowledge, and practices regarding infant feeding and gender and age role-related expectations were found to be important challenges for exclusive breastfeeding behavior change, particularly with regard to the giving of traditional medicines. Previous qualitative research from Mali suggests that many mothers and grandmothers gave a variety of supplements (including gruel and traditional medicines) to infants under 6 months of age that are not considered food (Castle, Yoder, & Konate 2001). Ellis et al. (2012) found that most families used both traditional

and modern treatments administered either inside the home by family members or by traditional healers. The most commonly cited barrier to seeking care at health facilities was cost, especially during the rainy season. Financial constraints often led families to use traditional treatments.

In addition to providing children with alternative forms of medicine, other research has found that household competition for scarce food resources is associated with malnutrition for children. This research by Sobgui et al. (2018) found that factors significantly associated with acute malnutrition among children were male sex, preterm birth, lower child age, a high number of siblings, and living in a household with more months of inadequate food provisioning.

Research on child deaths found that, like maternal mortality, delays in seeking care and poor quality of care precede child deaths. Research by Willcox et al. (2018) examining factors contributing to child deaths found that 84% of families had consulted a health care provider for the fatal illness, but that the quality of care was often inadequate. Even in official primary care clinics, danger signs were often missed (43%), essential treatment was not given (39%), and over half (51%) of children who were seriously ill were not referred to a hospital in time.

2.2. Scoping visit

In addition to the literature review, a scoping mission took place in Bamako from 6 to 15 May 2019, to inform the overall assessment and, in particular, the development of instruments for the formative research. KIIs were held with individuals representing 17 distinct organizations and were identified from: 1) individuals who had authored papers identified in the topical literature review; 2) suggestions from USAID as to important Bamako-based actors in the relevant domains; and 3) CERIPS' and consultants' knowledge of the health landscape in Mali and the key players within it. Key informants, who included local researchers, program implementers, and other stakeholders working in the field, were interviewed about household-level barriers and facilitators across a number of health areas (including maternal, newborn, and child health, malaria, WASH, FP, and nutrition). These included service-quality concerns, service availability, and costs, but primarily focused on the way in which household-level factors determine behavior with regard to the use of preventive and curative care.

3 Formative Research Methodology

The mixed-methods formative research aimed to generate comprehensive evidence on potential behavior-change bottlenecks and facilitators across health areas to increase 1) demand for and use of health and WASH services; 2) individual and household adoption of healthy behaviors; and 3) the ability of households and communities to plan, finance, and manage their own health.

3.1. Choice of sites

Data were collected from areas that were deemed to represent the 27 health districts (*districts sanitaires*) in Mopti, Segou, and Sikasso regions (Figure 2). These regions were chosen as high-need areas based on specific indicators in the 2018 DHS (Table 2), for the relative stability and safety of research teams, and because they had enough infrastructure to support proposed data collection. Within each study area, locations that provided maximum representation of diversity and those that tend to be marginalized due to inaccessibility were selected for data collection. Due to ongoing security concerns in the study areas, study team members only went to districts/areas that were deemed safe to access. When/if security became an issue in a selected area, the area was substituted with another area that was considered to be similar.

Quantitative and qualitative methods, further described below, were employed across specified zones within the regions of Segou, Sikasso, and Mopti. Communities were selected to allow for diversity in production systems,

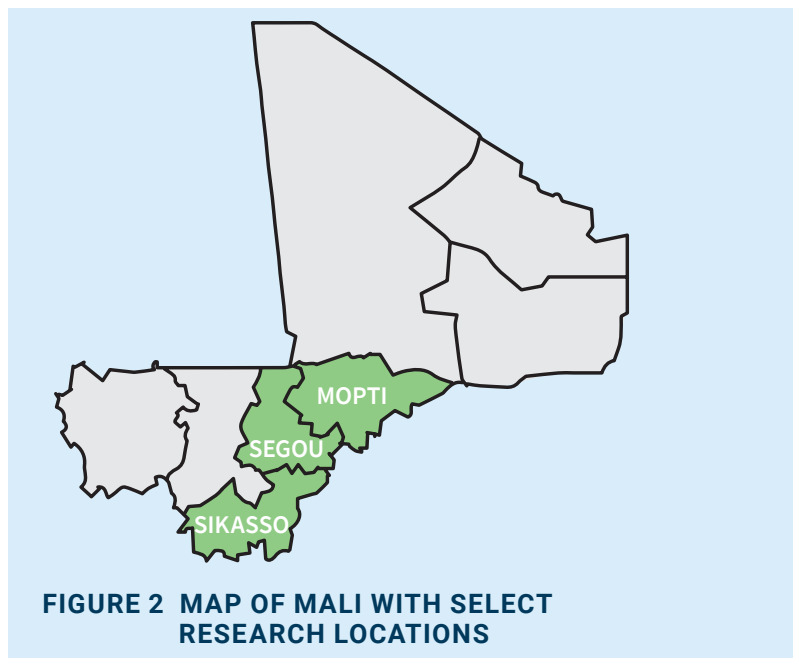


FIGURE 2 MAP OF MALI WITH SELECT RESEARCH LOCATIONS

linguistic groups, and sociocultural belief systems. From these communities, three villages were chosen randomly. However, seven communities in the Mopti and Segou regions that were in the initial sample for the qualitative research and one of the health centers in the Segou region had to be replaced due to security concerns or for reasons of inaccessibility. Thirty-six villages were visited for the qualitative research and 40 health facilities (CSCOMs) were enrolled in the quantitative research.

Table 2 shows the characteristics of communities sampled for the qualitative research; a more detailed table is available in Annex 1.

TABLE 2 CHARACTERISTICS OF STUDY COMMUNITIES

	CERCLES	VILLAGES	ETHNIC GROUPS REPRESENTED	PREDOMINANT ECONOMIC ACTIVITY	MEAN DISTANCE TO CSCOM (KM)	MEAN % HOUSEHOLDS IN POOREST QUINTILE (CERCLE LEVEL)
Mopti	Mopti, Youwarou, Badiagara	12	Peulh, Marka, Bozo, Songhai, Dogon	Herding, fishing, agriculture	11.1	23.0
Segou	Macina, Tominian, Baroueli, Bla	12	Peulh, Bobo, Soninke, Minianka	Herding, agriculture	10.7	10.8
Sikasso	Kolondieba, Yorosso, Yanfolila, Sikasso	12	Bamanan, Minianka, Peulh (Wassalou), Ganandougou	Agriculture	9.9	5.2

3.2. Qualitative data collection: Exit interviews of women and child caregivers at CSCOMs

Quantitative exit interviews were conducted with both females seeking care and caregivers seeking care for children under age 5 at CSCOMs. A team of 20 interviewers (8 men and 12 women) interviewed 1,342 women attending for their own health needs (including ANC) as well as 1,310 women and 153 men 18 years and older seeking preventive or curative services for children under 5 years of age. Interviewees were selected purposively as they left the health center and interviewed about issues that included their decision to seek services, distance travelled and mode of transport, permission or referrals given, perception of quality, and cost of care or treatment received. Data were entered in real time using tablets and Survey CTO software and later analyzed with Stata 15.0. The analysis focused on descriptive statistics of key indicators by category (women at CSCOMs; caregivers of children under 5 years), geographic region, age, and sex. Results are presented alongside qualitative findings to broaden understanding of specific factors

associated with health-seeking behaviors. Additional tables and figures based on the exit interviews are provided as annexes.

3.3. Qualitative data collection

Table 3 shows the number and type of qualitative research activities by region. Qualitative activities sought to examine health-seeking behavior among women of reproductive age and for children under 5 years of age. Topics of interest included pregnancy, ANC, delivery (including obstetric emergencies), breastfeeding, PNC, immunization, childhood illness management, nutrition, and household food security. FGDs took place with mothers of children under 5 (ages 20–29 and 30–44), fathers, grandmothers, grandfathers, and married and unmarried adolescent girls and adolescent boys. Participants who met our inclusion criteria were identified with the help of village chiefs.

IDIs were carried out with community leaders, traditional healers, and TBAs as well as with midwives and

TABLE 3 NUMBER AND TYPE OF FGDS AND IDIS BY REGION

	SEGOU n	SIKASSO n	MOPTI n	TOTAL n
FGD				
Unmarried adolescent girls aged 15–19	3	4	4	11
Married adolescent girls (aged 15–19)	4	5	4	13
Adolescent boys (aged 15–19)	5	6	4	15
Grandmothers with co-resident grandchildren under 5 years of age	4	5	4	13
Grandfathers with co-resident grandchildren under 5 years of age	4	5	4	13
Mothers (aged 20–29) of children under 5 years of age	4	5	4	13
Mothers (aged 30–44) of children under 5 years of age	4	5	4	13
Fathers of children under 5 years	4	5	4	13
<i>Total FGDs</i>	32	40	32	104
IDI				
Community leaders	4	5	4	13
Traditional healers and traditional birth attendants	4	5	4	13
Midwives and <i>matrones</i>	4	5	4	13
<i>Total IDIs</i>	12	15	12	39
Total transcripts	44	55	44	143

matrones.* Study participants were selected using convenience sampling with the help of community gatekeepers such as village chiefs and elders.

3.3.1. Instrument development

The methodological approach as well as the FGD guides were informed by previous work carried out by USAID in Nepal, which successfully used a storytelling technique to elicit norms and behaviors (Save the Children/USAID Nepal 2016). The qualitative data were subsequently used to inform Nepali health programming based on locally meaningful insights on how household dynamics influence health. Emulating this interviewing approach, the discussions in Mali were based around fictitious characters—for example, mothers aged 20–29 were asked to react to a vignette about a fictional character (Djénéba) in the early months of pregnancy. Informants were asked to imagine the experiences of this character and the decisions she made in relation to childbearing, her own and her children’s health, nutrition, and FP. Instruments also included more standard FGD techniques to elicit conversations and input on a variety of themes related to health-seeking behaviors. Other respondent groups were introduced to other fictional characters; for example, married women 30–44 were introduced to Fatoumata, who lives with her husband, in-laws, and co-wives. The individual interviews used a more direct approach to elicit the views of respondents given their roles in providing services or serving as role models or loci of community norms.

3.3.2. Data collection training

The qualitative research instruments were translated into French and six local languages: Bamanan, Dogon, Peulh, Songhai, Senoufo, and Minianka. A 2-week training of 18 interviewers (7 men and 11 women) took place in Bamako, during which the instruments were pre-tested in and around the capital and subsequently refined and finalized. A screening tool that recorded the participants’ eligibility for the study and collected basic information about their age, marital status, educational level, and occupation was also developed.

*A matrone is a woman with a DEF level (basic education diploma) who has completed 6 months of theoretical and practical training in the field of obstetrics. They are at the lowest level of care providers, followed by the obstetrician nurse, who receives 3 years of training in obstetrics after the DEF, and the midwife, who has 3 years of training after the baccalaureate.

3.3.3. Data collection

The discussions were led by a moderator who was assisted by a note-taker in the native, preferred language of the participant. FGDs lasted approximately 1 hour; the individual interviews lasted 1.5 hours. Written informed consent was obtained from all participants prior to study enrollment. All discussions were recorded and later transcribed word for word into French by the notetaker or moderator. The transcriptions were checked for quality by the study supervisors at CERIPS.

3.3.4. Data analysis

The transcriptions were uploaded into Dedoose v. 8.3.10, an online qualitative analysis program. Qualitative analysis followed a thematic approach, first using themes from the instruments and the interviewer debriefs and then adding more detailed sub-codes and new codes that emerged from the transcripts. The codebook was first developed by CERIPS, expanded after review by a study consultant and Breakthrough RESEARCH to encompass all desired topics, and then collapsed into larger parent themes with sub-codes as needed. These pertained to selected health norms, practices, and decision-making together with barriers and facilitating factors associated with care and treatment-seeking. After a second revision of the codebook, each qualitative coder coded the same transcript to compare coding across individuals. An inter-rater reliability (IRR) test was conducted after approximately 15% of transcripts had been initially coded and after the third revision of the codebook. Results from the IRR test ranged from a kappa of 0.6 to 0.8 with an average of 0.7 across coders on major themes. After reviewing the IRR test, discussions with team members were held to review discrepancies on coding, and coding resumed after necessary modifications were made to the codebook.

Coding was sequenced to include multiple respondent groups as coding progressed as opposed to completing a subset of transcripts (e.g., FGDs with household heads) before moving on to another group. This approach allowed the study team to examine representative excerpts while coding was ongoing and begin analyzing the excerpts into larger themes and phenomena. Researchers from the United Kingdom and Mali conducted the initial analyses together in Bamako and then continued working together remotely. Qualitative analysis focused on shedding light on multiple points of view around health-seeking behavior with the aim of understanding typical and atypical behaviors and socially

acceptable and unacceptable behaviors to inform programs and policies that may have the greatest impact.

3.4. Research ethics

For both the quantitative and qualitative data collection, informed consent was acquired prior to participation in either an exit interview, an FGD, or an IDI. An informed consent document was read to each participant explaining the data collection process, data use, and participant rights. Individuals were asked to sign a consent form if they agreed to participate in the research and were given a copy of the signed version to keep. For individuals under the age of 18, parental permission was acquired before adolescent assent. Participants were compensated, as is customary with similar studies in Mali. The research protocol was approved by the Population Council Institutional Review Board in New York and the National Ethics Committee (Comité National d'éthique pour la Santé et les Sciences de la Vie) in Bamako.

©2013 Jane Silcock



RESULTS

Key findings from the quantitative exit interviews and qualitative findings from the FGDs and IDIs are presented thematically in the next 14 sections, beginning with household context, then moving to maternal and reproductive health, other environmental factors affecting health, maternal and child nutrition, health-seeking behavior for children under 5, and provider and community leader perspectives. We present integrated quantitative and qualitative results wherever possible, and at the start of each sub-section, we identify which data are being presented.

The quantitative results are derived from women seeking care for themselves (n=1,342) as well as those seeking care for a child under age 5 (n=1,463; n=153 males and n=1,310 females). We draw parallels and contrasts between exit interview respondents where appropriate. Illustrative verbatim quotes from the FGDs and IDIs are presented to illustrate key points.

Our qualitative analysis presents normative points of view. While we may present one quotation that best represents the normative point of view and comes from an individual in the FGD (recognizing the difficulty in reliably assigning quotes to particular people), there are other quotes from that focus group that support the same points. At the end of each chapter, we present a challenge related to the chapter topic that lends itself to health strategies and interventions, and we summarize barriers and facilitators related to that challenge.

4 Demographic Profile of Study Participants

The demographic characteristics from the quantitative and qualitative components follow.

4.1.1. Participants interviewed during exit interviews

This section and its accompanying tables show the demographic profiles of participants from the quantitative component. Table 4 shows the demographic characteristics of participants in exit interviews. Both women seeking care at CSCOMs and caregivers of children under age 5 were on average 28 years old, and nearly all had been married. Many reported having a previous live birth (mean of 3.7 previous live births among women seeking care at CSCOMs), and about 1 in 4 had attended school. Among caregivers of children under age 5, the majority were women (89.5%); of those, almost all reported being the biological mother of the child (95.2%). Among male caregivers (n=152, or 10.5%), 69.3% reported being the

biological father of the child. Caregivers who were not the biological parents of the child they were taking to the facility were maternal grandparents (23.6%), paternal grandparents (9.1%), aunts or uncles (46.4%), siblings (12.7%), guardians (2.7%), or others (5.5%). Caregivers reported seeking care for children of a mean age of 14.3 months, with ages ranging from 1 month to 5 years. The most common age reported was 12 months (n=246 children or 18.0%), which may be due in part to vaccination schedules.

In Table 5a, we examine select sample demographics by region for each dataset. Generally speaking, we find that women across samples are similar in age, number of live births, and school attendance. Interestingly, Mopti had the youngest mean age of child brought for care that day (17.1 months, on average) compared with Segou (20.0 months) and Sikasso (23.5 months).

4.1.2. Participants who participated in FGDs

Demographic characteristics of focus group participants are presented in Table 5b. Demographic profiles of focus group participants by each of the three study regions are included in the annex tables.

TABLE 4 SAMPLE DEMOGRAPHICS FROM QUANTITATIVE DATA

	WOMEN AT CSCOMS N=1,342	CAREGIVER SEEKING CARE FOR A CHILD UNDER AGE 5 N=1,463
Age (mean, median)	28.3, 26	28.1, 27
Female (%)	100	89.5
Ever married (%)	98.8	97.8
Number of live births (mean, median) among females	3.7, 3	4.2, 4
Number of living children (mean, median)	3.4, 3	3.5, 3
Age of child in months (mean)	N/A	14.3
Sex of child (% male)	N/A	51.1
Ever attended school (%)	27.1	24.3
Member of informal insurance plan (%)	2.5	1.0
Sikasso (%)	32.5	39.7
Segou (%)	48.4	43.0
Mopti (%)	19.1	17.3

TABLE 5A SAMPLE DEMOGRAPHICS BY REGION FROM QUANTITATIVE DATA

	WOMEN AT CSCOMS		
	SIKASSO	SEGOU	MOPTI
Age (mean, median)	28.8, 27	28.4, 25	27.2, 26
Number of live births	3.9, 4	3.6, 3	3.5, 3
Ever attended school	27.7	28.3	23.0
	CAREGIVERS OF CHILDREN UNDER 5		
	SIKASSO	SEGOU	MOPTI
Age (mean, median)	28.5, 27	28.0, 27	27.7, 27
Female (%)	84.5	93.3	91.7
Mean age of child, months	23.5	20.0	17.1

TABLE 5B DEMOGRAPHIC CHARACTERISTICS OF FOCUS GROUP PARTICIPANTS

	AGE (MEAN)	# OF CHILDREN (MEAN)	# OF CHILDREN UNDER 5 (MEAN)	# OF GRANDCHILDREN (MEAN)	# OF GRANDCHILDREN UNDER 5 (MEAN)	N
Unmarried adolescents						
Male	17.7	0.0	0.0			91
Female	16.5	0.0	0.0			89
Married adolescents (female)	17.9	1.7	1.4			97
Mothers 20–29	24.4	3.2	1.7	0.0		90
Mothers 30–44	35.2	5.3	1.8	0.1	0.0	97
Fathers 25–44	35.8	4.8	1.9	0.1	0.0	92
Grandfathers	59.9	9.3	0.0	5.3	2.5	92
Grandmothers	53.3	5.6	0.0	5.0	2.6	92

5 Household Context

This chapter draws heavily on the qualitative results and includes demographic information from focus group participants relevant to household context.

5.1. Hopes for newly married couples

IDI and FGD guides were designed to seek information on the household context and related gender-based and intra-generational dynamics. In FGDs, participants were asked to discuss topics based on a fictional character in a vignette as shown below. Vignettes were used to reduce stigma associated with discussing oneself and to understand social norms about the themes presented. A sample vignette is shown below.

C'est l'histoire d'Amadou et de Djénéba, un jeune couple comme tant d'autres dans ce village. Djénéba a 17 ans. Elle n'a pas été à l'école et elle cultive des cacahuètes qu'elle vend au marché local. Amadou et Djénéba se sont mariés il y a quatre mois. La cérémonie a eu lieu dans le village d'Amadou. Bon nombre de membres de la famille, d'amis, de voisins et d'autres personnes étaient présents. Après avoir passé une semaine dans le kononso (isolement/retraite après le mariage).

Djénéba s'est installée dans le domicile conjugal avec son mari, sa belle-mère et sa famille conjugale. Pouvons-nous commencer à imaginer à quoi ressemblerait leur vie ? À présent, qui souhaite poursuivre l'histoire à partir de ce moment-là ? Rappelez-vous que nous sommes ici pour discuter de scénarios ou de choix éventuels auxquels peuvent être confrontés Amadou et Djénéba. Dès lors, il n'y a pas de mauvaise réponse. Il ne s'agit que d'opinions sur différentes situations susceptibles de se produire. Nous aimerions que vous imaginiez ce qui pourrait arriver si vous étiez un des personnages dans cette histoire.

When FGD participants were asked about aspirations for the newly married couple, most respondents cited the importance of health, childbearing, agreement between husband and wife, and happiness. Their aspirations were thus contingent on achieving fertility goals while, as shown below, closely linked with respecting one's in-laws and preserving collective harmony in the family.

“ D: Their aspirations [the couple's] are for health because everything is linked to health.

C: It's agreement [peace] and health.

B: It's agreement [peace] and health because for me everything depends on agreement between them [the couple].

—FGD, Fathers, Sikasso

“ Their aspirations are that the happiness that they are looking for in their household comes to pass. It is hoped that the woman respects the mother and father of her husband and that the couple will have children who will bring happiness to everyone.

—FGD, Grandmothers, Segou

“ If a woman lives with her marital family, she should be like a needle and thread holding everyone together and not like a razor blade which would separate them. [In order to do this] she needs to take good care of her husband and his relatives, such as the father-in-law and brothers-in-law.

—FGD, Grandmothers, Sikasso

The hopes for respect within the new marriage were echoed throughout respondent groups including grandmothers, younger mothers and married adolescent girls, grandfathers, and husbands.

In general, mothers-in-law were viewed as important guides in a newlywed woman's transition to the marital family. Mothers-in-law were reported to show the

newlywed woman how to conduct herself and exercise self-control to get along with her husband.

“The first months of a marriage are difficult before she adapts to her marital family—it’s not easy as there will be little quarrels, but her mother-in-law will advise her not to get angry and to be patient with people. If she listens to her mother-in-law all will be well, but if she likes quarrels and she doesn’t listen to her mother-in-law, she will always be in disagreement with her husband. But if she can exercise self-control, she will get along with him.

—FGD, Grandmothers, Sikasso

5.2. Hopes for children

Regarding aspirations for their children, respondents expressed long-term hopes regarding their children’s productivity as well as education. Mothers viewed the importance of education in allowing children opportunities to change their own situations and support their parents and expressed parents’ need to set aside money for their children’s education.

“They will cultivate but they will also study so that later they can earn money so that they can feed their parents.

—FGD, Mothers 20–29, Segou

“They will want to have children who are blessed and valuable. They will hope that their children have good behavior. In terms of education, the parents should tighten their belts so that the children can study. These days, it is difficult to get out of certain situations if you are not educated. Even us, who abandoned our studies, we regret it now. If they have children, they should see that they study well.

—FGD, Mothers 30–44, Sikasso

Similar to their hopes for the newly married couple, participants expressed hope that daughters would enter new marital families and be prepared to adapt to their role

as daughters-in-law and establish family harmony. It was seen as the parents’ responsibility to train them for this.

“When their daughters are married, if they want to leave our family we will educate them so that they can prepare food, sweep up, and get water—they will know how to do everything. If they go into their marital household and they are asked to prepare food, they will already know how to do it. But if they don’t know how to cook or if they prepare rice badly, who will eat it?

—FGD, Mothers 30–44, Mopti

5.3. Social/power dynamics within the household

Young women were viewed as essential to showing respect and maintaining family harmony in their households. Demographic information collected during focus groups provides insight into a social structure where polygamous unions are common. As shown in Table 6, there is regional and age variability in the proportion of unions that are polygamous in our sample, reaching three out of four 30- to 44-year-olds in Segou.

Through the use of vignettes, married women 30–44 years old were introduced to Fatoumata, a woman who

TABLE 6 PROPORTION OF FEMALE FOCUS GROUP PARTICIPANTS IN POLYGAMOUS UNIONS, BY REGION

	SEGOU	SIKASSO	MOPTI	OVERALL
FGDs (n=376)				
Married adolescents	17	28	34	27
Mothers 20–29	38	53	23	40
Mothers 30–44	75	56	70	66
Grandmothers	57	59	33	51
Women at CSCOMs (n=1,342)				
Women under 30	30	36	26	31
Women 30–44	55	73	35	57
Women 45+	42	65	33	51

marries at 17 years old and lives with her husband, in-laws, and two co-wives. Some women expressed that the relationship among the co-wives is dependent on the husband. For example, if he treats one better than the rest, the others might collectively act out against the one who has been favored.

Q: How do the co-wives feel about Fatoumata?

B: The co-wives will say that Fatoumata is held in higher regard than they are.

F: She is highly regarded, she is above [the rest] because of her good actions. Fatoumata is not at all liked because she is distinguished from the rest.

B: The in-laws follow Fatoumata to see if she doesn't steal and that she respects people from the community.

Q: What are the co-wives' attitudes toward Fatoumata?

A: Fatoumata does not get along with her co-wives if she puts herself above them and doesn't respect them.

—FGD, Mothers 30–44, Segou

Women of different generations stated that co-wives can be helpful advisors in different situations; for example, their co-wives can help advise them on what to do when their child falls ill. Furthermore, when a mother-in-law has stated advice on treating a health problem that conflicts with what the young woman wants, she can approach her mother-in-law's co-wife, in addition to her husband, to convince her mother-in-law otherwise.

F: A woman can discuss health-seeking with her husband so he can talk to his mother.

G: She can ask her mother-in-law's co-wife to speak with her mother-in-law.

—FGD, Unmarried Adolescent Girls, Segou

Unmarried adolescent girls discussed how their mothers' co-wives can be a resource to help them seek care

against their parents' wishes or to speak to their father on their behalf.

C: She will inform the co-wife of her mother to tell her own mother that she should be able to take care of herself elsewhere.

D: It's the wife of my dad who is best placed to give information to my dad.

F: The co-wife of the mother can advise her to speak with her father or mother.

—FGD, Unmarried Adolescent Girls, Segou

Perhaps the clearest example of co-wives providing social support is through handling household tasks such as preparing meals while another co-wife takes her child for health care services or helping to find another person who can.

Q: Who prepares the food when Djénéba is away?

E: Maybe Djénéba has a co-wife who can prepare it before Djénéba is back or finding someone else to do it.

—FGD, Mothers 20–29, Segou

There were mixed responses regarding whether having a co-wife influences FP use. Many respondents stated that having a co-wife did not matter in influencing a woman's choice to use FP or that husbands were primarily responsible for this decision. Others stated that FP was beneficial for the family as a whole because it improves finances and the health of the children, suggesting there could be support among co-wives to use FP.

Q: If she has co-wives who don't want [her to use FP] is that a reason for her to not use contraceptives?

H: Not at all, it's the husband.

A: The co-wives don't have any influence on you.

—FGD, Mothers 30–44, Mopti

M: Does the fact that Fatoumata has two co-wives influence the decision to use a method?

A: No, it doesn't prohibit her from using.

C: No, the spacing between births reduces family expenses.

F: With births close together, the woman is always sick and the children, too.

—FGD, Mothers 30–44, Mopti

Adolescent girls believed the pressure to bear children immediately after marriage was exacerbated by the husband's threat of having another wife. Unmarried adolescent participants expressed that if a newly married woman (Oumou, the fictional character used in discussions with adolescents to elicit responses) told her husband she did not want to get pregnant right away, he would leave her and find another wife.

“ Q: Once Oumou marries, what would happen if she suggested to her husband that she didn't want to get pregnant right away? How would her husband react?

A: Her husband would find another woman to have children.

D: Her husband would marry a second wife before Oumou decided.

H: Her husband would leave her and take another wife.

—FGD, Unmarried Adolescent Girls, Sikasso

5.4. Savings for health emergencies

Qualitative respondents reported a variety of health emergencies in their communities, including obstetric emergencies as well as other adult- and child-related illnesses. Some respondents indicated that in the event of such health emergencies, the villagers save collectively at the community level to help pay for transportation to health centers and to cover the cost of care. The third comment below, derived from an interview with a community leader, indicates that community members set aside money during the rainy season, suggesting the influence of agricultural productivity on economic well-being.

“ Q: In the event of an obstetric emergency, what do you do?

R: If a pregnant woman is not able to deliver here, I call the DTC [Health Center Technical Director] and the DTC calls the ambulance at Barouéli and they come get her for the CSRef [Referring Health Center]. The costs for this evacuation are already paid annually by the communities, the mayor, and the community health association, so the day of the evacuation, the family of the pregnant person doesn't pay anything for the gas.

—IDI, Matrone, Segou

“ Q: What are the conditions for releasing the ambulance?

R: For that, they collect money each year.

C: What is the collected amount?

R: Each person in the village pays 25 CFA. It is pooled together. Each village has a fixed amount.

“ Q: It's you who manages the money?

R: No, it's the community health workers who manage it. They bring it to Bla.

Q: The 25 CFA are paid each month?

R: No, once a year.

—IDI, Matrone, Segou

“ Q: Who pays for the cost of ambulance?

R: It's the husband [of the woman needing care] who has to pay. To that effect, we have put a tontine [microfinance group] in place, in which each man contributes 100–200 CFA during the rainy season. We amass the coins to address the costs of the ambulance when the wife of one of us has to be evacuated.

—IDI, Community Leader, Sikasso

However, reports of saving for health emergencies were mixed, with some respondents indicating why savings mechanisms did not work in their communities.

“ Q: Do you have medical insurance or a savings club to help you confront treatments of illnesses?

E: No, we don't have that for the moment.

C: We don't have that.

B: We don't have that.

F: What you're referring to, it's in cities that we find that. Even if we introduced those types of initiatives here, they wouldn't work.

Q: Why?

F: Poverty would destroy it...In the big cities one can plan his/her money between expenses, but here we cannot.

—FGD, Grandfathers, Segou

F: Yes, it can help with the costs of antenatal care and with childbirth.

—FGD, Grandmothers, Segou

Some women were able to use their savings to split the costs of ANC with their husbands.

“ When she is 2 months pregnant, she should tell her husband that she is pregnant and can't stop throwing up. The husband will say, "Go to the health center and see a health worker." Some women will say they don't have any money. But if the woman has some savings, she can add that to what her husband is able to give her and go for her visits.

—FGD, Mothers 30–44, Sikasso

5.5. Women's economic empowerment

Women's economic empowerment consistently emerged as a theme in different parts of the discussion on the use of health services for women and children. Respondents expressed that a husband is expected to cover the costs of health center visits. However, if he is unable to find the cash, a woman can use her savings to cover antenatal, delivery, or postnatal costs for herself as well as health-seeking costs for her child. In the examples below, grandmothers and mothers age 30–44 expressed the benefits of women using their traditional savings and credit systems to finance their reproductive health needs.

“ A: We have a routine and each Wednesday we contribute and keep this money in a kitty. If one of our members has difficulties, she can come and get credit and reimburse us later when she has money.

Q: So the members can take loans?

F: Yes.

“ Q: And that can resolve the money problems around antenatal care?

Results indicate that when a woman earns money, her access to health care is improved by her ability to spend her earnings on her own care and on the care of her children, but perhaps more importantly indirectly, as her contributions to the family can fortify her position in the household if done in a manner deemed appropriate. Numerous participants emphasized that this increased status is dependent on a woman's behavior within the household.

“ B: If you have arrived in the family and you become haughty because it's you who brought the money, when others state it, they won't like it and therefore won't wish you well.

E: If you work, you earn money and perhaps you'll be heard in the village, but in the family you will not be heard.

Q: Why is that so?

E: Your behavior. You work and earn money. If you show that it's for the whole family, you are considered part of the family, but if you show that it's for you only or that you prefer to spend it on people outside of the family, you will not be considered a part of that family.

—FGD, Mothers 30–44, Mopti

This, in turn, can increase a woman's role in household decisions regarding resources. Many respondents said that a woman who makes money uses it to support her husband in taking care of the household needs (e.g., food and clothing) and to buy gifts for her in-laws, which improves their relationship and harmony in the family. Making financial contributions to the household while being generous earns young women increased status within the household.

“Djénéba's income can strengthen her status in the family and in the community, [but] everything depends on her generosity. With generosity and patience, we have everything in this world. But if you have an income [and] you are not generous, you are not patient, you will have nothing. If she is generous and patient, she will have the upper hand over her husband, and even her in-laws.

—FGD, Grandmothers, Mopti

However, some respondents perceived that providing for one's family is seen as a man's responsibility and that a woman who contributes financially to the family should do so carefully to preserve privacy around this. One group of grandmothers in Sikasso referred to this as “one of the secrets of marriage.”

“She should be aware that the money she holds belongs to everyone. She should not seem like the owner of the money. She should not favor the money. If she finds happiness, it's as if her husband and father-in-law found it.

—FGD, Grandfathers, Segou

6 Health Care-seeking by Women Including ANC

This chapter on health care-seeking by women (predominantly for ANC) draws on both exit interview and qualitative data. The WHO defines ANC as “the care provided by skilled health care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy.” Its components include risk identification; prevention and management of pregnancy-related or concurrent diseases; and health education and health promotion (WHO 2018).

6.1. Health-seeking behaviors from exit interview results

Among the women seeking care at CSCOMs, we heard that most were familiar with the health system: Only 10.6% reported that they had not been to a health facility for care for themselves in the past year. The mean number of times women visited a health facility last year (for their own health) was 2.8 times, with a median of 2 visits. Women with no reported live births had visited fewer times in the past year (mean of 1.8 times, median of 1 visit). Older age was positively associated with more visits to a health facility ($p < .001$); women aged 40 and older averaged 3.5 visits in the past year, with women under age 40 averaging 2.7 visits. Women visiting the CSCOMs were also asked about the number of times they had visited a health facility for a child; they reported visiting a health facility on average 2.8 times for health care for their child or children.

Although across regions ANC and curative care were the first- and second-most common reasons for seeking care among women at CSCOMs, there are some regional differences worth considering (Table 7). Sikasso had more respondents seeking curative care (40.8%) than Segou (32.3%) or Mopti (23.9%), while Mopti had the highest proportion of visits for ANC (64.4%, compared with 47.8% in Segou and 37.8% in Sikasso). It is worth noting that the higher proportion seeking ANC in Mopti may be due to the higher total fertility rate there (as shown in Table 1 in the Introduction). Postnatal and preventive care

TABLE 7 PRIMARY REASON FOR VISIT AMONG WOMEN AT CSCOMS, BY REGION

	OVERALL (N=1,342)	SIKASSO (N=436)	SEGOU (N=650)	MOPTI (N=256)
Preventive care	1.3	2.9	0.6	0.0
ANC	47.8	37.8	47.8	64.4
PNC	2.7	3.2	2.9	1.2
FP	9.8	10.1	11.1	5.9
Curative care	33.3	40.8	32.3	23.0
Other	5.2	5.0	5.2	5.5

Majority (85%) of “other” noted it was for delivery when asked to specify.

accounted for a small proportion of care in all regions (1.3% preventive and 2.7% postnatal overall), but notably, zero patients in Mopti reported seeking preventive care, and only 1.2% were seeking PNC.

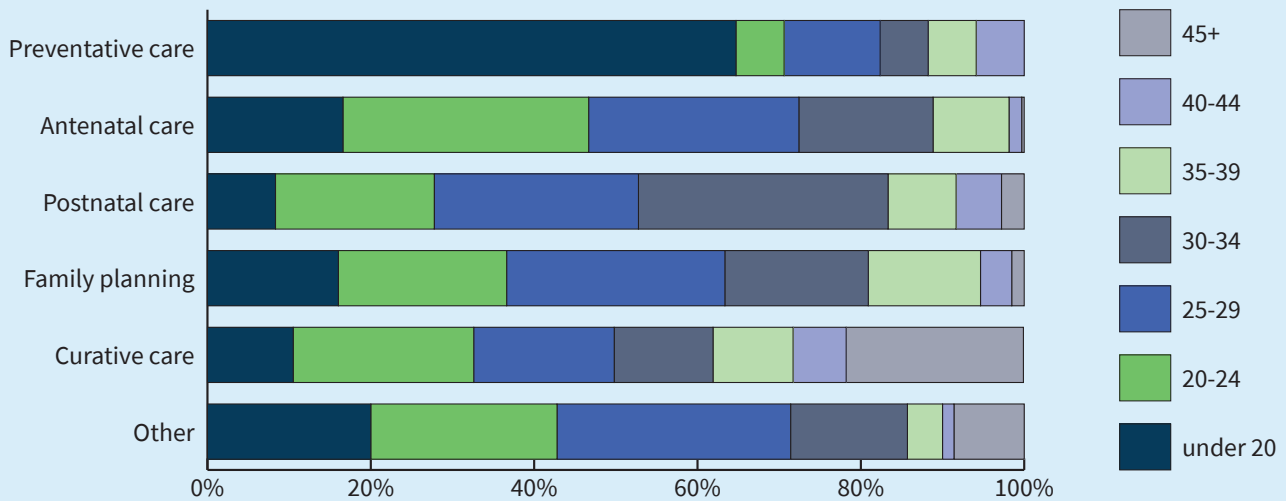
6.1.1. Preventive care

Among the few women seeking preventive care ($n=17$ or 1.3%), the majority of those were seeking tetanus immunizations ($n=15$); the remaining reported seeking malaria prophylaxis ($n=2$). No other reasons for preventive care were given.

In Figure 3, we look at use of categories of care by age group among women at CSCOMs. We find that younger women (<20 years) accounted for most of the preventive care visits (64.7%), while older women accounted for a larger share of curative care visits (37.3% of those visits were by women age 35 and older). Pregnancy- and FP-related visits were more evenly spread among age groups, with those 20–34 accounting for the largest share of those visits, as expected.

The knowledge and benefits of ANC from a trained provider were well understood by participants. Female respondents spoke of the routine checks performed during ANC visits as well as risk identification for those

FIGURE 3 TYPE OF CARE-SEEKING BY AGE GROUP, WOMEN AT CSCOMS



whose babies are not well positioned and those who are iron deficient.

6.2. Rationale for and timing of antenatal care-seeking: Qualitative results

“They weigh the woman and place an instrument on her stomach to see if the baby is in a good position.”

—FGD, Mothers 20–29, Segou

“It is possible that the baby is not well positioned in the stomach and the doctors can fix this. Then she’ll come back to her family and if all goes well and the pregnancy comes to term, it will make the delivery easier.”

—FGD, Grandmothers, Mopti

Both men and women showed support for ANC and perceived that its purpose was to help mothers have a healthy pregnancy—intervening with medications where needed—and avoid complications later in the pregnancy or following delivery.

“If you get pregnant, you should go and have antenatal care so that the birth is easy. And if the baby has problems, the health

“workers will know and they will pre-scribe medicines for it.”

—FGD, Married adolescent girls, Segou

“It’s for her own health and that of the child—she will go to the health center to avoid problems before and after the birth.”

—FGD, Fathers, Mopti

Initiation of ANC was reported to begin later in pregnancy, typically around the second trimester. Presumably, delaying the first consultation meeting would render it difficult to achieve the eight recommended visits.

“Certain women will let it go to the third, fourth, fifth, sixth, and even seventh month before starting antenatal care.”

—FGD, Grandmothers, Sikasso

6.3. Factors in decision-making about antenatal health-seeking behavior

Decisions about antenatal health-seeking behaviors were influenced by a combination of household dynamics and sociocultural beliefs as well as logistical and practical matters, as shown in the following mixed-methods results.

6.3.1 Household dynamics and sociocultural factors and beliefs: Mixed-method results

Existing household dynamics were such that most of the women (81.9%) in the exit interviews reported that they were required to ask permission from someone to go to the clinic that day. Among those who asked permission, the most common responses were their husbands (n=936, 85.3%), followed by mothers-in-law (n=74, 6.7%) and fathers-in-law (n=48, 4.4%). Women in the oldest age category (>44) had the lowest frequency of asking permission compared with all other age groups (64.8%).

The regional distribution of whom was asked was fairly uniform as shown in Table 8: 83.2% of women in Sikasso, 81.5% in Segou, and 80.5% in Mopti reported asking for permission. There was some variation by region in whom women reported asking for permission. Mopti had the highest percentage of women asking their husbands (92.2% of those asking permission; 74.2% of women overall), followed by Segou (84.2%) and Sikasso (84.1%).

TABLE 8 PERMISSION-SEEKING AMONG WOMEN SEEKING CARE AT CSCOMS

	SIKASSO N=434	SEGOU N=650	MOPTI N=265
Did not ask	16.8	18.5	19.5
Asked permission	83.2	81.5	80.5
Husband	69.1	68.6	74.2
Mother-in-law	5.8	6.1	3.5
Father-in-law	5.3	3.7	0.4
Other	3.0	3.1	2.8

The qualitative data show that household dynamics and leveraging social relations within the family were perceived as being strongly influential over decisions to seek ANC, perhaps due to the young couple not yet being financially independent. Despite quantitative data from exit interviews showing that permission from husbands was far more common than permission from mothers-in-law, focus group participants viewed both husbands and mothers-in-law as critical in helping a woman seek ANC when costs were limited (see logistical and practical matters below). Some respondents described how a woman’s mother-in-law can advocate with her son to provide money for ANC or even contribute herself so that her daughter-in-law can get to the health center.

Q: Whose permission does she need to ask?

A: Her husband’s, to see if he can take her [to seek antenatal care]. If not, it’s her husband’s younger brother who can take her.

Q: Does she have to borrow money from someone?

A: She has to ask her husband for money.

–FGD, Mothers 30–44, Mopti

“ The mother-in-law will talk to her son to ask him to give Djénéba money for antenatal care—she will even help her herself, if her son does not have any.

–FGD, Grandmothers, Mopti

Mobilizing the support of the husband or household elders to pay for services was contingent on the pregnant woman being seen as prioritizing family harmony and putting her own needs second to those of the extended family. If there was tension with her spouse or in-laws or the perceived pursuit of individual over collective gain, permission to access ANC and the covering of costs by these individuals was unlikely.

“ Q: What could stop Djénéba seeking antenatal care? [...]

E: Disagreement—if she does not get along with her husband, he could refuse [her permission to go].

–FGD, Married adolescent girls, Mopti

Exit interviews shed light on referrals to health centers. A majority of women surveyed at CSCOMs (60.5%) reported that someone referred them to the clinic that day. Among those reporting referrals, 69.8% were referred by their husbands and 11.8% by CHWs. Referrals declined with increasing age, with three quarters (76.6%) of the youngest group of women citing a referral and less than half (39.8%) of the women in the oldest category citing a referral as part of their decision to come to the clinic. Similarly, women with more live births were less likely to have asked permission compared with women with fewer live births (4.3 compared with 3.3). These

findings are similar to what others have found regarding age and likelihood of delivering in a health facility: Older women (30+) are more likely to utilize health services for delivery than are those 20–29 in Kenya and Malawi. However, that study found that higher parity was associated with lower likelihood of using maternal health services (Stephenson et al. 2006).

Exit interview data also shed light on accompaniment of women to health centers. Figure A3 in Annex 2 shows accompaniment for women at CSCOMs and caregivers of children under age 5. About half of the women were unaccompanied during the visit (46.9%). Among those who were accompanied (n=712) shown in Table 9, most were accompanied by another family member (45.1%) or a husband (39.5%). We also looked at mean respect scores (further described below) for women who came to the clinic with a male companion to see whether the presence of a male influenced how they experienced the visit. Respect scores did not differ among those who came to the clinic with a female companion versus a male companion (mean = 4.19, 4.15, respectively). Women who attended the clinic by themselves had a respect index of 4.22.

TABLE 9 REGIONAL VARIATIONS IN WHO ACCOMPANIED WOMEN TO CSCOMS

WHO ACCOMPANIED	SIKASSO N=252 %	SEGOU N=330 %	MOPTI N=130 %	TOTAL N=712 %
Other family member	41.6	47.6	45.4	39.5
Husband	42.1	38.4	36.9	45.4
Other	16.3	14.0	17.7	15.1

“Other” category was most commonly friend (n=29) or mother-in-law (n=27).

Qualitative respondents offered sociocultural explanations for why women delayed initiation of ANC, suggesting that pregnancy is considered private. Although our study did not probe the source of the reticence being due to a confirmation of the woman’s sexual initiation, this theme has emerged in the literature (see Holten 2013, for example). Participants implied that discomfort about pregnancy negatively influenced disclosure of pregnancy both within and outside a woman’s family.

“Yes, reticence/shyness can stop them going to the health center because they don’t want people to discover their pregnancy early on.”

—FGD, Grandmothers, Sikasso

Women therefore choose to delay announcing their pregnancy or find a discreet way to tell those in their marital family, usually starting with their husband, who then tells his own parents. Otherwise, the communication on pregnancy status was non-verbal and relied on observations by those in the woman’s family or community.

“She will first tell her husband; she will tell him something is “up,” she doesn’t know what. The husband will say that’s a good thing—he won’t have any other reaction because he will have suspected [that she is pregnant]. Afterwards the husband will inform his mother, saying that his wife is showing “signs of something” and that he wants to send her to the health center. His mother will say, “Your wife is pregnant.”

—FGD, Mothers 20–29, Segou

“She will say that she doesn’t feel well and people will ask her what’s wrong. She will say that she is ill and that she can’t work.”

—FGD, Grandmothers, Sikasso

The first quotation above indicates that pregnancy communication sometimes relies on the use of intermediaries, which is a theme that was echoed in some of the findings on how women ultimately convinced husbands of the need for PNC and curative childcare, often through the use of co-wives.

Exit interview data on messaging also indicate sociocultural factors influencing care-seeking. Women attending health facilities were asked whether they came to the health center based upon messages that they have heard through various media (Table 10). These response categories were not mutually exclusive; respondents could report having heard messages across multiple media sources. Overall, community outreach/awareness was the most common (25.6% of respondents answered yes),

TABLE 10 PERCENT REPORTED COMING TO HEALTH FACILITY BECAUSE OF MESSAGES HEARD, WOMEN AT CSCOMS

	SIKASSO %	SEGOU %	MOPTI %	OVERALL %
Television (pct. yes)	23.4	9.9	9.4	14.2
Radio	39.9	17.4	12.5	23.8
Phone apps/social media	4.4	0.0	0.0	1.4
Community awareness	31.4	24.2	19.5	25.6

Note: categories are not mutually exclusive.

followed by radio (23.8%) and television (14.2%). Mobile phone applications and social media ranked low in terms of influencing mothers to seek care, with less than 2% of the sample saying that messages through this medium were a factor in their decision to go to the health center. Interestingly, we do not see differences by age or education level (Table 11).

These distributions varied by region, perhaps indicating a broader messaging reach in Sikasso and a need to increase efforts to determine other entry points for women in Mopti in particular.

Qualitative respondents expressed that returning from the health center with a mosquito net (given to all pregnant women) was a signal to others that she was

pregnant. This signal to the public may have deterred women from seeking ANC.

“When you are 4 months pregnant, you will tell your husband that you are going to the health center for antenatal care. The health workers will give you a mosquito net and you’ll go back home with that and everyone will know.

—FGD, Mothers 20–29, Mopti

For young pregnant women, the sociocultural value placed on fertility was viewed as helping improve their status with their husband and in-laws and in facilitating their access to resources and health care during the pregnancy.

“E: During the pregnancy, the husband will look after Djénéba. He will bring her nice food and above all fruit for the well-being of the child. He will take her to the health center so that mother and child do well.

G: Thanks to this pregnancy, Djénéba and her in-laws will see eye to eye.

—FGD, Mothers 20–29, Sikasso

Focus group participants introduced sociocultural beliefs about traditional versus modern care into the discussion on decision-making around antenatal health-seeking

TABLE 11 ACCESS TO MESSAGING BY AGE AND EDUCATION LEVEL, WOMEN AT CSCOMS

	TELEVISION % YES	RADIO % YES	PHONE APPS/ SOCIAL MEDIA % YES	COMMUNITY AWARENESS % YES
Age groups				
Under 20	12.9	21.9	2.0	25.4
20–24	11.9	24.7	0.0	25.3
25–29	16.9	22.4	2.6	25.0
30–34	12.7	25.8	1.5	26.8
35–39	18.7	25.0	1.5	28.9
40–44	14.6	22.9	0.0	29.2
Over 45	13.0	23.1	1.8	21.3
Education				
No education	13.3	23.0	0.5	26.0
Some education	16.5	25.8	3.8	24.7
Overall	14.1	23.8	1.4	25.6

behavior. Participants expressed that the older generation in particular viewed the benefits of both types of care for pregnant women.

“When you come back from the health center, she [your mother-in-law] will prepare a concoction from plants called *mizin* or *nonchii*—this helps with the delivery. She will combine the traditional and modern treatments.

—FGD, Grandmothers, Segou

“The old women will tell her to do traditional treatments—so when she does the modern one, she’ll combine it with the traditional one and the use of both will leave her in good health.

—FGD, Mothers 30–44, Sikasso

However, some focus group participants expressed a belief that traditional care was detrimental to pregnancy, causing harm or even miscarriage. This reticence to use traditional healers during pregnancy was echoed by one of the key informants during the scoping visit.

“The medicines given by traditional healers can cause miscarriages—it’s at the health center that you can find the good medicines.

—FGD, Grandmothers, Segou

An additional factor that was said to discourage ANC-seeking was perceived provider incompetence, particularly in estimating the number of months of gestation.

“When you go for antenatal care for the first time when you are 6 months pregnant, the health worker will tell you that you are just 3 or 4 months gone. There is a lack of competence among our health workers. This can stop women from seeking antenatal care.

—FGD, Mothers 30–44, Mopti

Participants expressed that provider attitudes about early pregnancy being inappropriate often surfaced when adolescent mothers went in for antenatal visits. However,

participants did not explicitly link such provider attitudes with more limited use of ANC.

“Certain [providers] will say that the [young women] got pregnant very early when they are 15 or 16 and if they go for antenatal care, the providers will insult them.

—FGD, Mothers 30–44, Sikasso

However, exit interview data on respect show that women who did go to health facilities generally felt they were treated with respect by their provider during that visit. As mentioned above, we developed a respect index using responses to a number of items shown in Table 12. Scores ranged from 1 to 5 with a mean of 4.2 (SD 0.5) and a median of 4, with higher scores indicating a more positive experience of overall respectful care. We looked at perceptions of respect by both age group and wealth

TABLE 12 RESPONSES TO ITEMS INCLUDED IN RESPECT INDEX, WOMEN AT CSCOMS AND CAREGIVERS

INDICATOR	WOMEN AT CSCOMS N=1,247	CAREGIVERS OF CHILDREN UNDER 5 N=1,070
How were you greeted by the provider that conducted the consultation? (% responded they were greeted in a friendly way)	98.6	98.4
Were you asked if you have any questions? (% responded yes)	27.8	13.8
Did the provider ask for your permission before the exam (of woman herself or of the child)? (% responded yes)	90.1	63.9
Was the provider polite with you/your child at all times? (% responded yes)	99.2	98.9
At any given moment during the consultation, did you feel that you/your child was disrespected or humiliated? (% responded yes)	3.4	3.1

Note: Smaller sample sizes reflect that each question must have had a response (not including do not know) in order to be included in the overall index.

to see whether experiences differed by age or social standing. In Table 13, we look at the range of scores by age. We find that the youngest (<20) report the highest scores, perhaps reflecting lower expectations preceding the visit.

TABLE 13 RESPECT SCORES BY SOCIO-DEMOGRAPHIC CHARACTERISTICS, WOMEN AT CSCOMS

AGE	OVERALL N=1,247 MEAN (SD)	SEGOU N=605 MEAN (SD)	SIKASSO N=401 MEAN (SD)	MOPTI N=241 MEAN (SD)
Under 20	4.26 (.5)	4.28 (.5)	4.21 (.4)	4.31 (.5)
20–24	4.14 (.6)	4.17 (.5)	4.13 (.6)	4.08 (.5)
25–29	4.22 (.5)	4.16 (.4)	4.27 (.5)	4.25 (.6)
30–34	4.24 (.5)	4.21 (.4)	4.37 (.5)	4.09 (.6)
35–39	4.25 (.6)	4.25 (.5)	4.17 (.6)	4.43 (.5)
40–44	4.19 (.4)	4.19 (.4)	4.17 (.4)	4.25 (.7)
45+	4.15 (.5)	4.08 (.4)	4.30 (.5)	3.67 (.8)

We also examined respect index scores by age group and found that these variables were not strongly correlated. The youngest group (<20) had the highest mean score (4.26), which stands in contrast to the qualitative finding that providers stigmatize adolescent pregnancies. Women 35–39 had the second-highest respect scores (4.25); however, other groups had similar mean scores (the lowest was 4.14 among women 20–24).

In addition to the respect index, the exit interviews also examined satisfaction specific to the patient’s experience during the visit. We find that the vast majority of respondents (98.5%) reported being very satisfied or satisfied with the services they received. Among those who were neutral (n=17), there was no discernable pattern. When asked about their level of satisfaction with the consultation at the health center, 98.2% of women (n=1,318) were either very satisfied or somewhat satisfied. With only three respondents reporting dissatisfaction, there are not enough observations to provide adequate analysis of those who were unsatisfied.

Most women leaving CSCOMs reported that the provider was female (70.8%), and almost all respondents reported being examined that day (92.9%). This did not vary by sex

of the provider: 92.3% of those with a female provider (n=950) and 94.4% (n=392) of those with a male provider reported being examined that day.

Respondents were asked about whether they would recommend the health center to others based on their overall experience. Nearly all women seeking ANC (n=1,329 or 99.0% of respondents) would recommend the facility to others. Among those who gave reasons for recommending the facility (n=1,329), more than half cited “good quality of care” (63.7%) as their primary reason. A small number of respondents (n=13) would not recommend the facility. We examined whether age, cost of care, parity, education level, or wealth were associated with their dissatisfaction. Although numbers are quite small, we note that those who would not recommend the facility were mostly under 30 years of age and had an elementary education.

6.3.2. Logistical and practical matters: Mixed-method results

In addition to household dynamics and sociocultural influences on antenatal health-seeking behavior, exit interviews and qualitative results indicate that logistical and practical concerns affect use of ANC services.

Cost: In exit interviews, cost of ANC itself and for transport to the health center were principal considerations in the use of ANC. We asked both ANC patients and caregivers seeking care for their child under age 5 about how much it cost to go to their visit that day. These are the costs associated with traveling to the facility and may include costs of transport, childcare, per diem if she traveled overnight, and/or lost work costs. In this question, we did not specify each of these items but allowed respondents to sum the costs themselves. For simplicity, we refer to these costs as the cost of travel to the care facility, recognizing that travel may include items that are not specifically transport. Later in this section, we present the cost of the visit directly, including costs related to the consultation and medication costs.

Qualitative data echoed the limitations that financial difficulties place on ANC-seeking, such as the following quotation from an adolescent mother showing financial hardship and prioritization to feeding the family before paying for health care.

“ The barrier [to accessing ANC] is due to financial difficulties. Djénéba and her husband do not have the means and they cannot take out a loan with another person. The little [money] they have goes to feeding their family.

—FGD, Married adolescent girls, Mopti

The exit interviews inquired about whether respondents would lose money (by foregone wages, for example) because of the visit, and 9.3% of women seeking care reported a loss of money due to the visit. More women in Mopti (11.3%) reported loss of funds compared with those in Sikasso (6.4%) or in Segou (10.3%).

In addition to asking about the costs associated with traveling for the visit, we also asked about costs as a result of the visit, including the consultation itself, medications, FP methods, and/or materials such as a mosquito net.

We found that among women at ANC clinics, 10% (n=134) reported no costs associated with the medical care they received. However, the majority (90%) reported some costs, with a mean of 4,000 CFA (6.76 USD) (SD 7,080) and a median of 2,480 CFA. Among those who reported costs, the totals given ranged from 100 CFA to more than 140,000 CFA. Women in Sikasso reported the highest mean cost (5,257 CFA; median 4,000) with Segou the least (3,140 CFA; median 1,975) and Mopti in the middle (4,040 CFA; median 2,000). When we examine cost by care type (Table A15), we see that curative care and other (majority delivery) are the most expensive on average and also have a wider range of possible costs compared with preventive (very low or no costs) and FP (smaller and more consistent costs).

Among women at CSCOMs, we looked at the total cost by type of care, including both travel and visit costs. The mean total cost among women seeking care was 4,153 CFA (7.02 USD), and the median was 2,530. Only 8.3% of women reported paying nothing at all. Women in Sikasso reported the highest mean total cost (5,425 CFA), followed by those in Mopti (4,288 CFA) and those in Segou (3,245 CFA). The proportion of women reporting no costs was relatively uniform across regions.

We found that curative care and “other” were among the highest cost of total care. Among those reporting other

reasons for visiting the health center, 85.3% came to give birth, representing 4.8% of the overall sample. These are among the more expensive available services, with a mean cost of 8,569 CFA (14.49 USD) and a median cost of 7,500 CFA.

The qualitative data indicate that a woman’s ability to finance health care is likely to be seasonal depending on when the proceeds from cash crops are available.

“ [Regarding ANC] if she can get money early on from her husband or find a way of getting her own money, then these barriers can be overcome...During the rainy season, all the women are in their peanut fields and...if there is a problem, you can sell your peanuts and you don’t have to ask your husband for money.

—IDI, Matrone, Sikasso

Geographic accessibility, transport, and travel time: Even in cases where cost was not a prohibitive factor in seeking health care, geographic inaccessibility was a limiting factor on antenatal health-seeking. Qualitative respondents from the Mopti region in particular brought up how the rainy season and other weather patterns inhibited access to health centers.

“ We need to talk about the problem of the rainy season. During the rainy season, it can rain so much that we can’t come [to the health center]. Even if you have money, you can’t get there.

—FGD, Mothers 20–29, Mopti

“ Yes, these obstacles could be of different kinds—rain, storms on the river, or the lack of a pirogue [boat].

—FGD, Married adolescent girls, Mopti

We know from previous research that access to health services depends in part on the distance to the nearest facility, and we were interested to explore access to the facility in exit interviews. In Tables A9 and A10, we examine how respondents traveled and how long the trip took to understand how geographic distance influences health-seeking behavior.

In general, we find that it did not take an extended period of time to access the facility. In Table 14 we look at travel time by region and find that more than half of respondents in each region report travel times of less than 30 minutes. One notable finding is that, among women seeking care at ANC clinics, about 1 in 5 (20.7%) reported travel times of 1–2 hours and 5.3% reported more than 2 hours for seeking care in Mopti, while these numbers were much lower in other regions.

TABLE 14 TRAVEL TIME TO CARE FACILITY, WOMEN AT ANC CLINICS

TRAVEL TIME TO CARE FACILITY	SEGOU	SIKASSO	MOPTI
0–30 min	66.9	77.8	55.9
30 min–1 hr	26.8	19.0	18.5
1–2 hrs	6.0	3.0	20.7
>2 hrs	0.3	0.2	5.3

As shown in Table 15, the most common methods of travel to the facility were walking (42.8%) followed by motorbike (39.1%). Others reported using a pulled cart (10.0%) or bicycle (4.1%). Notably, 14.8% of respondents reported using “other,” the most common type being canoe.

TABLE 15 MODE OF TRANSPORT, WOMEN AT CSCOMS

	OVERALL (N=1,342) %	SEGOU (N=650) %	SIKASSO (N=436) %	MOPTI (N=256) %
Walking	42.8	40.8	42.1	48.0
Bicycle	4.1	5.7	4.6	0.0
Pulled cart	10.0	0.2	15.7	12.1
Motorbike	39.1	51.8	36.1	25.0
Other	4.0	1.5	1.5	14.8

Note: “Other” in Mopti was most commonly a canoe (n=28).

TABLE 16 SUMMARY OF BARRIERS TO AND FACILITATORS OF PRESENTING LATE FOR FIRST ANC APPOINTMENT (FROM QUALITATIVE RESULTS)

HEALTH-SEEKING BEHAVIOR	BARRIER	FACILITATORS
Presenting late for first ANC appointment	<ul style="list-style-type: none"> ● Reticence announcing pregnancy ● Cost of care ● Cost of transport ● Lack of permission from husband ● Road inaccessibility during rainy season 	<ul style="list-style-type: none"> ● Confidence in provider ● Knowledge that ANC can reduce the likelihood of evacuating women with obstetric complications from home-based delivery ● Communal savings kitty to fund women’s SRH needs including ANC

7 Delivery

This chapter includes qualitative data from FGDs and IDIs on delivery. We also include a few results from the exit interviews on cost of delivery.

7.1. Knowledge of danger signs during delivery and related health-seeking behaviors

Focus group participants expressed that while many women began laboring at home, more complicated deliveries required a woman to leave home and deliver in a health center. Specific signs of problematic deliveries were pains in the stomach or back or foot cramping and often required a visit from the TBA.

“ If labor starts, then she will try and give birth at home. If the delivery is not straightforward, then she will go to the health center.

—FGD, Mothers 30–44, Mopti

“ During the birth, if Djénéba had stomach pains or backache or cramps in her feet we will call the traditional birth attendant—she will observe her and tell her to go to the health center. So it’s only if the labor is difficult that we go to the facility.

—FGD, Grandmothers, Segou

7.2. Factors in decision-making about delivery

Decision-making about delivery was influenced by household dynamics and sociocultural factors and beliefs as well as logistical and practical matters.

7.2.1 Household dynamics and sociocultural factors and beliefs

Household dynamics can affect decision-making about delivery with the mother-in-law wielding significant

influence over the ultimate decision of whether the laboring woman delivers at home or in a health center. If the woman is not on good terms with her mother-in-law, she will lack support from her marital family and will, as a result, not be permitted to deliver in a facility.

“ It is possible that at this time [of delivery] she is having an argument with her marital family. During this period of disaccord, if she says to her mother-in-law that she wants to give birth in a facility, the latter will refuse and in the meantime Djénéba will give birth at home.

—FGD, Married adolescent girls, Mopti

Where women deliver is influenced by sociocultural beliefs about traditional versus modern medicine. By and large, female respondents viewed the idea of giving birth in a health facility favorably. The perceived advantages were that the delivery was quicker and safer, that complications were avoided, and that the woman would receive PNC afterwards, including verification that the placenta had not been retained.

“ Giving birth in the health center has a lot of advantages because if things get complicated, they will give you an injection. And you give birth safe and sound, so it’s much better than giving birth at home.

—FGD, Grandmothers, Sikasso

Respondents perceived that giving birth in the health center was advantageous because it allowed women to be referred to a higher-level facility, possibly for a caesarean or for cases of postpartum hemorrhage, which was believed to affect young women more acutely. Respondents expressed concerns that providers looked down upon young women who had not sought ANC and suspected that these women would be mistreated if they showed up for delivery or that they would incur greater costs than those who had made antenatal visits. However, it is unknown whether this belief changed the decision of where to deliver. Many male respondents were in favor of facility-based deliveries, noting that it

was easier to get a birth certificate for the child if the mother delivered in a health center. They also seemed to think that they might be held accountable if something went wrong if she gave birth at home.

“ If her labor becomes difficult, she will give birth at the health center. But if she goes to the health center and they ask if she did antenatal care and she says she hasn’t, they won’t lower their prices.

—FGD, Mothers 20–29, Segou

“ The health center has a lot of advantages. For example, babies who are born at home and those born at the health center are not the same. At the hospital everything is very precise—the hour, date, and month [of birth] are well known and it is very easy to get the birth certificate.

—FGD, Fathers, Mopti

7.2.2. Logistical and practical matters

Speed of labor was a practical concern affecting the decision of whether to deliver at home or in a health facility. Participants voiced that if a woman delivers quickly and is not in close proximity to the health center, then she is unlikely to be able to go to the facility for trained assistance.

“ If you are far from the health center and the delivery speeds up, then you will give birth at home.

—FGD, Mothers 20–29, Segou

The time shortage in getting to a health facility for delivery seemed to be exacerbated by traditional medicines. In cases where women had taken traditional medicines, they seemed more likely to deliver at home and visit the health center post-delivery for formal care.

“ If you give her an effective medicine when her contractions start, which accelerates the process, this means she will give birth at home—you can take her to the health center afterwards so she can get some sort of [formal] care.

—FGD, Grandmothers, Sikasso

In addition to time, issues of access and distance were frequently cited as barriers to the use of modern services during delivery.

“ During the rainy season, you can’t get through on this road with a motorbike. But you can just about manage with a donkey cart. Last year, I accompanied a woman in labor on a donkey cart and we got stuck in the water. We were stuck for hours and the woman gave birth on the side of the road.

—FGD, Grandmothers, Segou

For those women who were undergoing obstetric emergencies and required an ambulance to take them to the health center, there were frequently issues relating to its availability.

“ With regard to the health center, the difficulty that we have is that if we need the ambulance, we find, every single time, that it is being used elsewhere.

—FGD, Mothers 30–44, Sikasso

Security posed another concern for respondents and was said to have influenced both decisions about where to deliver and health center workers’ availability to work late.

“ Women give birth at home—it’s the conflict that has resulted in that—beforehand lots used to come here to give birth. But with the crisis in 2012, the health workers became afraid and they left. They were absent from 2012–2014, but then they started coming back. However, women had got used to giving birth at home, and it’s difficult to break this habit...but we still do not have the rates we used to have. Out of 10 women who come for antenatal care, seven will not deliver here.

—IDI, Midwife, Mopti region

“ Certain women don’t come when their contractions start—they stay at home for a long time and when they do come to the maternity unit, things get very complicated.

With the current insecurity, health workers don't like to stay at the health center after the end of the day and if a woman arrives at night you have to go and get the midwife.

—IDI, Matrone, Mopti

Drawing on the exit interview data, we see that the cost of delivery at the health center was also perceived as influencing the decision of where a woman ought to deliver. In exit interviews at CSCOMs, women who were there for delivery reported the highest mean (8,569 CFA or 14.11 USD) and median (7,500 CFA or 12.35 USD) cost for type of care delivered, with 15.6% of services provided for free. In a country with high total fertility such as Mali, the cost of multiple deliveries over a woman's reproductive years is a very practical consideration in deciding where to deliver.

From the qualitative data, it did not appear that there was an absolute cost that prohibited delivery in a health center. Instead, cost was understood to be relative to one's means as shown in the quotation below from a group discussion with fathers. The quotation from a focus group with married adolescents suggests that community members would be willing to help one another if they anticipated needing the favor returned in the future.

“The sum [to give birth at a health center] varies. You have to pay between CFA 7,500 and CFA 9,000. That's why certain people prefer to consult traditional birth attendants. People's financial situations differ—for some people, CFA 10,000 is not a problem and for others CFA 5,000 is too much. If people don't have the means to go to hospital, they are obliged to go elsewhere.

—FGD, Fathers, Sikasso

“Everything boils down to a lack of money. Because if you have money you can deal with all these problems—for example, you can borrow a motorbike and pay for the petrol. In addition, if people know you have money, it is natural that they will come and help you because they know that they themselves may have need of you in the future.

—FGD, Married adolescent girls, Sikasso

In a similar vein, a number of older male respondents cited advantages of delivering at home or with a TBA. The reasons cited were financial and concerned the transport and delivery costs as well as the costs of the subsequent baptism.

“You know that when you give birth at home or with a traditional birth attendant, there are not too many expenses—but if you go to the health center, there are costs and if you don't have the means, that is a problem—you won't even be able to do the baptism of the child, because what you would have spent on the baptism, you spend at the health center.

—FGD, Grandfathers, Mopti

Women themselves perceived additional cost-related barriers that were associated with the time spent in the facility after delivery. Items that the midwives asked them to bring were costly and deterred some from giving birth in the health center. In particular, a kind of thick cotton wrap-around for use after delivery was said to be expensive.

“She can't go to deliver [in the health center] without a [specific kind of] wrap-around [pagne]. There aren't these sort of requirements if you give birth at home. Giving birth at the health center means you have to bring an unused pagne and some money—before the delivery the matrone asks the mother-to-be to prepare all that. So if the woman hasn't been able to get these things together she is discouraged about going to give birth in the health center as she hasn't been able to get ready properly...the matrone asks pregnant women to get the kind of artisanal wrap-around made in thick cotton—it's what they prefer when someone gives birth.

—FGD, Mothers 30-44, Sikasso

In some settings, community members mentioned that costs would be incurred if women did not deliver in a health center. In these areas, community-level decision-making prioritized the importance of facility-based births, recognizing the advantageous outcomes for women and infants. Some villages were said to impose a fine on the families of women delivering at home, thus

publicly prioritizing health center births and sanctioning those who delivered elsewhere.

“ If there is a health center in the village and you give birth at home, you will be sanctioned and have to pay a sum of money due to the fact that you weren’t brought to a health center even if your delivery was quick.

–FGD, Married adolescent girls, Segou

However, this theme was not sufficiently probed, and anecdotal evidence from colleagues in Mali suggests that the fine is instead imposed on those who do not seek ANC.

TABLE 17 SUMMARY OF BARRIERS TO AND FACILITATORS OF LOW UPTAKE OF FACILITY-BASED CARE (FROM QUALITATIVE RESULTS)

HEALTH-SEEKING BEHAVIOR	BARRIERS	FACILITATORS
Low uptake of facility-based care	<ul style="list-style-type: none"> ● Women don’t come to the facility after contractions start and health workers may then not be working due to security concerns ● Perception that facility-based delivery indicates complications ● Women asked to bring expensive sheeting ● Lack of transport to get to facility ● Male members perceive cost of facility delivery to be high 	<ul style="list-style-type: none"> ● Facility delivery perceived as quicker, safer, and more precise ● Complications managed more effectively in a facility ● Easier to access birth certificate ● Fine levied on women who deliver at home ● Male involvement/encouragement to deliver at health facility ● Receipt of useful materials may incentivize health facility delivery

8 Postnatal Care

The quantitative and qualitative arms of the study sought information on care for mother and child during the postnatal period. In exit interviews, only 2.7% of women reported visiting CSCOMs for PNC, with the highest proportion in Sikasso (3.2%) and the lowest proportion in Mopti (1.2%). Among caregivers of children under 5, 20.8% of visits were for children 3 months of age or younger (Table A12 in Annex 2).

8.1. Social support and mobility post-delivery

Focus group participants raised a belief espoused by many living in the Sahel: that a woman should remain secluded in her house or compound for 40 days after giving birth (see for example Vanderwall & Maiga 1991; Brady & Winikoff 1993). For some participants, this seclusion period was a requirement without exception, whereas others believed the new mother could leave the house, and still others believed she could leave as long as she did not travel far from home during the first 40 days after giving birth.

Q: Is Djénéba free to leave her house during the 40 days following her delivery?

F: Yes, she is free to leave.

A: She cannot go out, even if she is suffering during the 40 days, she cannot go out. She must always stay at home.

—FGD, Fathers, Sikasso

The period of seclusion was motivated by a belief that if a child is brought outside, he/she could encounter sorcerers, and for some respondents the seclusion period for children was understood to be longer than 40 days.

B: Djénéba cannot go out for 3 or 4 months because if she ever encounters a certain kind of person, her child will fall ill.

Q: What kind of person?

D: The *fouratigui*—someone who was born in the child’s mother’s natal village but who never left it.

B: The *fouratigui* must never take the child in his arms—if he does, the child might get a cough and even die.

Q: How many months [seclusion] do you say it is for a boy and how many for a girl?

D: If the child is a boy it is 3 months and if it is a girl, then 4.

—FGD, Married adolescent girls, Segou

For some older respondents, the tradition of 40 days’ seclusion was a custom from the past, which was no longer upheld today.

Beforehand, the tradition forbade [the woman from going out in the first 40 days]... but now that’s no longer the case... In the past, when a woman left the house with a newborn before the first 40 days, she couldn’t speak to people. If she tried to do so the baby would fall ill.

—FGD, Grandmothers, Segou

Exceptions were made to the 40-day period if it seemed as though the woman required medical treatment.

She should stay in the house for the first 40 days after her delivery. However, she can leave to seek treatment or go to places that aren’t very far away. But she must never go to distant places [during this period].

—FGD, Mothers 20–29, Sikasso

Additional exceptions were made for the duration of a woman’s seclusion post-delivery if she did not have additional social and domestic support.

“ Yes, she can go out and fetch water, cook, and pound millet. But if you have help in the kitchen, there are some women who can go for 40 days without preparing food for the family. But if you don’t have help, you can start preparing food again after a week.

—FGD, Grandmothers, Segou

8.2. Motivations and health-seeking

PNC offered at the health facility for both the mother and child was looked upon positively by respondents and seen as a way to identify and address health problems. Focus group members mentioned knowledge of maternal cases requiring postnatal interventions, such as hemorrhage, edema, breastfeeding troubles, or sore breasts.

“ Yes, she will go for a postnatal visit after the baby’s baptism—that is to say the 7th day after giving birth. At the end of the visit, the matrone will tell her about her own health and that of her baby. The matrone can also tell her whether her breastmilk is flowing well. She will encourage her and sensitize her about the baby.

—FGD, Mothers 30–44, Segou

“ Postnatal visits are obligatory. If you don’t make a postnatal visit it is not good. Because after delivery you could have a hemorrhage or edema. If you don’t do a postnatal visit, it is not good for you...she could do 3 or 4 postnatal visits. That is what is good.

—FGD, Mothers 30–44, Sikasso

“ With some women, the child is not delivered in the right position, and that can lead to the child having problems.... After delivery, some women have sore breasts and they can’t feed the baby. If any of this happens, the woman will go back to the health center and explain what is happening to the health workers.

—FGD, Married adolescent girls, Segou

Respondents who sought ANC and delivered at the health center were said to be more likely to make postnatal visits. The following quotation from a father implies that those who are likely to follow one set of treatment guidelines on ANC are likely to carry this adherence forward into the postnatal period as well.

“ If she gave birth at the health center, it is obvious that she will go back there for a postnatal consultation. She [already] followed the treatments at the health center so she’ll do the postnatal visit too, 40 days after the birth. If something is not right, she will get it treated at the health center.

—FGD, Fathers, Sikasso

8.3. Factors in decision-making about postnatal care

Decision-making on PNC was influenced by household dynamics and sociocultural factors and beliefs, as shown in the qualitative data, and by logistical and practical matters, as shown in the exit interview and qualitative data.

8.3.1 Household dynamics and sociocultural factors and beliefs

Qualitative data indicate that husbands were the first line of gatekeepers in deciding whether or not women should seek PNC. When practical matters such as prohibitive costs got in the way, a chain of communication up to the household head could be catalyzed so the new mother could acquire funds for the visit.

“ So, she will first [ask permission] from her husband. Then the husband will ask her to inform the mother-in-law and she will tell her. And then the mother-in-law will ask her to inform her father-in-law and then they [the parents-in-law] will look for funds to get her to the health center.

—FGD, Married adolescent girls, Segou

Respondents expressed a belief that young or first-time mothers and fathers are likely not to be aware of the importance of follow-up after delivery despite the fact that males are often in a position to disburse resources for PNC.

“ [If the mother is newly married] she will have the ideas of a young person. But if she is mature or she has learned from observing her relatives, she could take on board the idea of going for a postnatal consultation at the health center.

—FGD, Married adolescent girls, Sikasso

“ Regarding postnatal care, at the beginning [of his life as a father], he doesn't know much about it as he has just started out.

—FGD, Fathers, Sikasso

Similarly, older male household members whose own wives (now grandmothers) had not gone for PNC during their years of childbearing were also unsure of its purpose.

“ A: The grandfather doesn't know anything about postnatal care. We don't know anything about that.

B: If the husband has the means, the grandfather won't know anything about postnatal care. But if the husband does not have the means to pay for it, then the grandfather must learn what it is.

—FGD, Grandfathers, Mopti

Consistent with the perception that delivering in a health facility suggests severity, participants expressed a belief that if a woman experiences postpartum bleeding, she may be ashamed that others in her community get to know about it if she seeks help, despite it being a condition that may require urgent management.

“ The thing that could stop some women going for postnatal care, is that some experience bleeding after childbirth and they don't want other people to know about it or see it.

—FGD, Married adolescent girls, Mopti

8.3.2 Logistical and practical matters

Exit interview data show that the median cost for women seeking postnatal care at CSCOMs was 1,605 CFA (2.64 USD) and the median was 500 CFA (0.82 USD). More than one third (36.1%) of PNC services were provided for free.

In the qualitative data, similar to the influences on antenatal and delivery care, PNC was reported to be influenced by cost.

“ We don't go [for postnatal care] as our husbands are not in agreement. They will say that they don't have any money and that we are in good health [so there's no point].

—FGD, Mothers 30–44, Segou

However, participants reported that if a woman had access to a *caisse* (savings and credit fund), she could access money to pay for PNC and reimburse it later.

“ You really need money to go to the health center. If you can't pay, they will make you go home. But you can go and get money from the *caisse* and reimburse it afterwards. That way you can get to the health center.

—FGD, Grandmothers, Segou

In some cases, PNC was sought after the baby's baptism, as the ceremony would generate income to pay for the services and the transport to get to them.

“ She can go out during the second week after giving birth to get care for herself or her child because during the baptism, people will give her money.

—FGD, Married adolescent girls, Mopti

TABLE 18 SUMMARY OF BARRIERS TO AND FACILITATORS OF POOR UPTAKE OF PNC (FROM QUALITATIVE RESULTS)

HEALTH-SEEKING BEHAVIOR	BARRIERS	FACILITATORS
Poor uptake of PNC	<ul style="list-style-type: none"> ● Postpartum seclusion stops women from leaving home ● Only deemed necessary if the mother or baby is sick ● Husbands unwilling to pay if mother and child appear fine ● New fathers unaware of its importance 	<ul style="list-style-type: none"> ● Can obtain a birth certificate ● Can obtain advice about (exclusive) breastfeeding ● Missed opportunity for postpartum FP

9 Family Planning

This chapter on FP draws on results from the exit interviews and FGDs. In exit interviews, just under 1 in 10 (9.8%) of women visiting CSCOMs reported doing so for a FP consultation. This proportion varied by region, with the highest proportion in Segou (11.1%), followed by Sikasso (10.1%) and Mopti (5.9%). Knowledge and use of FP, as well as factors influencing the (non-) use of FP, were explored in the qualitative study.

9.1. Family planning knowledge

Modern methods of FP were looked upon favorably by qualitative respondents as a means to space children.

“If a mother’s births are piled up, one after the other, she can go to the health center. The health workers will give her pills or an injection to help her space her births. Then she can go 2, 3, or 4 years without falling pregnant.”

—FGD, Married adolescent girls, Mopti

Spacing was said to confer considerable advantages—for example, it improved the health, well-being, and nutritional status of both mothers and children and brought financial benefits to the whole family.

“If there is space between children, it is a good thing for all of you. If there is space between them, bringing them up is easy because the mother will feel at ease; the husband and all the family will be free from worry. If they’re spaced, the children will grow up in peace and you can save money and it will be good for the economy of the household.”

—FGD, Fathers, Sikasso

“Family planning is a good thing not only from a financial point of view but also in terms of bringing up children as you can then look after them well. If births are closely spaced, it can cause malnutrition.”

—FGD, Grandmothers, Sikasso

Method-specific knowledge was raised by respondents, who expressed generally favorable attitudes toward a variety of methods.

“The implant is good because it lasts for a long time, but when you remove it you can get pregnant.”

—FGD Mothers 30–44, Segou

Pills were seen as complicated to take and most suited to those with some level of education who could remember to take them daily. Women interviewed feared they would become pregnant if one was missed.

“People are afraid to use pills because there are folks who say that if you miss [even] one, you will fall pregnant.”

—FGD, Mothers 20–29, Segou

“There are pills, but pills are for intelligent people.”

—FGD, Married adolescent girls, Sikasso

Injectables were noted for allowing a swift return to fertility once a woman stopped using them.

“She likes the injectable as when the expiry date arrives, the injection is no longer effective and when you go back to your husband you will fall pregnant.”

—FGD, Unmarried girls, Mopti

“Respondents mentioned use of traditional methods, such as the tafo (knotted string worn around the waist to supposedly prevent pregnancy), when referring to the past. In olden days, if you had closely spaced births, you went to see an old lady who gave you a remedy for yourself and for the child so that the child could grow up without the mother falling pregnant quickly. For the

mother, the remedy was a tafo that she'd attach to her waist.

—FGD, Grandmothers, Segou

Male disapproval of FP was believed to drive women to use a method in secret. Respondents spoke of clandestine use relying on confidentiality of health workers not divulging reasons for their clients' consultations. Respondents who referred to clandestine use were not always specific about the choice of method, but the second quotation below from a married woman 30–44 shows a preference for the implant, which can be used without the husband's knowledge.

“ There are husbands who refuse so you use it [family planning] in secret...your husband won't discover unless you tell him the truth. With the help of the health workers, no one will know.

—FGD, Mothers 30–44, Segou

“ She will prefer the implant because of its discretion. As long as you don't tell anyone, and as long as no one has seen you having it inserted, no one will know.

—FGD, Mothers 30–44, Segou

Older female relatives were reported to support secret use of FP as long it was for a shorter time frame, suggesting a possible preference among older women for their daughters-in-law to use short-term methods.

“ [The grandmother] will accept to help Djénéba as long as [her use of family planning] doesn't go beyond 1 or 2 years. If she goes beyond this duration, she won't accept to help her anymore.

—FGD, Grandmothers, Segou

In some married women's groups, participants expressed a belief that co-wives could play a potential role in a woman's use of FP, but this belief seemed hypothetical rather than actual.

“ G: The co-wives can support her use of family planning, except if they are in a

competition with each other with regard to the number of children they produce (laughs).

D: You can't win a competition about the number of children if your births are closely spaced.

—FGD, Mothers 30–44, Segou

The above quotation implies that co-wives are in competition with regard to the frequency of childbearing, as the number of children a woman has may define her social status.

FP knowledge was hindered by a number of myths and misconceptions about the effects of various types of contraceptives on a woman's fertility and her health more broadly.

“ It's better if you use the implant, because some people say that pills can pile up in your stomach and leave you sterile.

—FGD, Married adolescent girls, Sikasso

“ For me, the injectable is better because certain people say that the implant can disappear in your body, and to avoid this happening, it is better to use something that is liquid.

—FGD, Married adolescent girls, Segou

“ The injectable is better because when the time comes and you stop using it and get married you can become pregnant, but if you use the implant, it can get lost in your body and you'll never find it again...and you'll die never having given birth to children.

—FGD, Unmarried girls, Mopti

9.2. Use of family planning

We also examined care-seeking by parity in the exit interviews to examine whether experience of a live birth was associated with care-seeking behavior. We found that at 16.0%, women with three live births had the highest frequency of seeking FP services, while 6.1% of women who had not yet given birth were seeking FP.

The qualitative results indicate mixed opinions on the best time to initiate use of FP. Some respondents believed it could be done immediately after birth if a woman and her husband were in agreement, while others expressed that immediately after marriage would not work. Respondents also shared the notion that the woman first had to prove her fertility with a few births before initiating FP.

“ She can only use family planning immediately after her marriage if she and her husband are in agreement to not have children straight away—if there is no agreement between them, she shouldn’t use it, because the strength of a marriage is increased by having children. It is all about having children and even if she didn’t get married to have children, she shouldn’t use it at this time.

—FGD, Grandfathers, Mopti

“ You should not use it immediately after marriage—you need to give birth to at least one child before using it.

—FGD, Mothers 30–44, Sikasso

Despite the emphasis on FP for spacing, some women also said that FP could be used once they perceived they had had enough children and/or they were physically worn out from repeated childbearing.

“ A woman who sincerely knows that she is old but she is still fertile [can use family planning]. She knows she no longer has the strength to give birth again. That is the reason that she uses it because she knows she does not have the strength for another delivery.

—FGD, Married adolescent girls, Mopti

Other respondents underscored reasons to initiate FP use *before* marriage, to avoid premarital pregnancy and to not curtail studies.

“ A young woman should use a method before marriage—there are girls who

are just too knowledgeable [of sex] and there are certain parents who recognize that their girls are just too aware and so they get them *gris gris* [talismans] to put around their waist.

—FGD, Mothers 30–44, Mopti

“ There are methods that women are able to use before marriage. Family planning is used by schoolgirls who have boyfriends but they don’t want to get pregnant because then they may be forced to drop out of school.

—FGD, Married adolescent girls, Sikasso

Unmarried adolescent boys also demonstrated knowledge of modern FP methods as an acceptable way to prevent pregnancy, specifically before marriage.

“ A: If she wants to have a good time with her boyfriend and avoid getting pregnant, she must go to the health workers. But sex must not last, otherwise condoms can [break]. [...] Men and women should avoid constant relations [intercourse] because all [family] planning methods fail. Whether it is injections or a condom, the time of intimacy should not be long.

M: “Fail,” meaning?

A: Fail is when you become pregnant despite the contraceptive methods because it is God who gives the child.

—FGD, Unmarried Adolescent Boys, Mopti

9.3. Factors influencing use and non-use of family planning

FP decisions were reported to be influenced by household dynamics and sociocultural factors and beliefs as shown in the qualitative data and by logistical and practical matters as shown in the exit interviews and FGDs.

9.3.1 Household dynamics and sociocultural

factors and beliefs

Qualitative data show that the decision of whether or not to use FP involved input from husbands, in-laws, and heads of household. The husband's authority was believed to override that of other family members in decisions around FP.

“After giving birth, if she wants to use a method of family planning, then she can talk to her husband about it. If he approves, then she can use it.

—FGD, Mothers 20–29, Sikasso

“Q: Can the disapproval of other marital family members stop Djénéba from using a method?

A: No, not as long as the husband is in agreement, then she can go ahead and use it.

—FGD, Mothers 30–44, Sikasso

In groups with grandmothers, there was support for FP given that its non-use would lead to additional childcare responsibilities for the grandmothers to support their daughters-in-law.

“She [the mother-in-law] will be in favor of family planning because she knows that if Djénéba [her daughter-in-law] has closely spaced births, she won't be able to help her out with household tasks. So, in order that the mother-in-law can rest, she will be in favor of Djénéba using a family planning method.

—FGD, Married adolescent girls, Sikasso

A belief was expressed among older male respondents that FP denies families the possibility of having potentially useful members who could contribute to the larger family economy and household well-being. FP was also seen to interfere with God's will about the number of children one has.

“Us, and me in particular, you can't even talk to me about family planning. A man is never satisfied with the number of children he has. We prefer treating our children's illnesses than stopping women having

children. Family planning is ineffective as certain women can have seven children and others don't have such luck. Sometimes, one will study and become very rich and if you practice family planning you will put a stop to that. How will you have a lucky child? That's why you need to have as many children as God decides. You can't talk to me about stopping.

—FGD, Grandfathers, Sikasso

Men further expressed sociocultural beliefs about what use of FP signified—a lack of faithfulness and disinterest in one's partner—but these respondents did not make a link between such beliefs and (non-) use of FP.

“By using family planning, a man can think his wife is promiscuous.

—FGD, Married adolescent girls, Segou

“Certain men think that if the woman uses family planning, it's to avoid having children with him and to be unfaithful to him too.

—FGD, Married adolescent girls, Segou

9.3.2 Logistical and practical matters

Among exit interview respondents seeking FP, the mean was 500 CFA (0.82 USD). Nearly one fifth (18.3%) of services were provided for free. FP costs were lower and more consistent than other cost categories.

Qualitative data suggest that the calculus of decision-making around method choice is influenced not only by cost, but also by the perceived value for money of each method. Some focus group respondents cited multi-year cost implications. These considerations demonstrate that respondents' beliefs about which methods to choose are influenced by long-term considerations.

“The implant is simpler. If you want to use it, it costs CFA 300—certain people even say it's free and if you want to take it out, that costs CFA 1,000. Even if pills are cheaper, if you want to wait 5 years before your next child, you will spend more on them than the implant because each packet will

finish and you have to replace it...but with the implant, you insert it once and take it out when you want.

–FGD, Mothers 20–29, Segou

“ She will use an implant as, if she uses injectables, there will be times when she does not have enough money to renew the injection. The implants last for years and although injectables are not expensive, there will be times when you can’t buy the next dose even though it is obligatory, and that is why she will use implants.

–FGD, Mothers 30–44, Sikasso

TABLE 19 SUMMARY OF BARRIERS TO AND FACILITATORS OF MODERN CONTRACEPTIVE USE (FROM QUALITATIVE RESULTS)

HEALTH-SEEKING BEHAVIOR	BARRIERS	FACILITATORS
Low uptake of modern contraception	<ul style="list-style-type: none"> ● Women need to demonstrate fertility ● Men often provide financial assistance for health care ● Myths and misperceptions persist 	<ul style="list-style-type: none"> ● Covert use facilitated by mothers-in-law and co-wives who may provide financial assistance ● Women and men recognize the value of birth spacing ● Men acknowledge the economic benefits FP use brings

10 Water, Sanitation, and Hygiene

This chapter addresses qualitative findings on WASH. Although revisions of the study instruments eliminated some of the questions on WASH, FGD participants and interviewees alike surfaced this theme in their comments with regard to handwashing, latrines, water potability, and grandparents washing infants.

When asked what could be done to improve child nutrition and growth, handwashing emerged as a key strategy. The following quotation from a community leader demonstrates that health agents had encouraged universal handwashing after toilet use to keep children from getting sick.

“ Health agents tell us that everyone has to adopt handwashing behavior when leaving the toilet with soap or ash. They tell us that he who teaches this behavior to his children, that these children will not get sick.

—IDI, Community Leader, Sikasso

Focus group participants were asked to play a game to help them cite common barriers to desired health behaviors. The facilitators asked the focus group participants to comment on what was getting in the way of a given health behavior. In the following quotation, lack of WASH commodities and of means to obtain such commodities were clear barriers to handwashing.

“ Q: All households need to have a latrine with a place to wash hands with soap. Yes, it's true, but...

C: Yes, it's true.

Q: So what is the obstacle to this?

C: Lack of means.

Q: How so?

C: To construct latrines and buy soap for handwashing.

Q: So what solution are you proposing?

C: Assistance.

Q: What kind?

C: Facilitating construction of latrines and soap donations.

—FGD, Unmarried Boys, Mopti

The lack of potable water was reported to be a grave concern, causing people to drink dirty water and exacerbating existing problems. In the following quotation, it was reported to be a problem for women, but this attribution could be due to the fact that women have traditionally been the ones who seek water. Presumably, drinking dirty water would cause problems for everyone.

“ For women [in this community] the principal health problem is the lack of potable water after the rainy season. When there isn't potable water, that can bring on other problems as they drink dirty water and that's the biggest problem...If [potable water] is not available, it aggravates problems.

—IDI, Traditional Healer, Sikasso

In discussions on the postnatal period and role of paternal grandmothers, participants described the decisions and tasks performed by the mother-in-law in the early days, including infant washing.

“ It's not easy to wash a baby. The baby is soft and fragile and Djénéba should ask her mother-in-law to wash him/her for her.

—FGD, Married adolescent girls, Sikasso

11 Malaria

Malaria was a key health domain covered in the quantitative and qualitative data, though few respondents in exit interviews reported malaria prevention or treatment as a primary reason for seeking care. Exit interview data show that among the few women seeking preventive care at CSCOMs (n=17 or 1.3%), the majority of those were seeking tetanus immunizations (n=15) and the remaining reported seeking malaria prophylaxis (n=2). Among caregivers of children under age 5 who visited the clinic for preventive care (n=593), all indicated that they came for infant immunizations. While none reported malaria prophylaxis as the main reason for their visit, n=8 respondents mentioned treatment for malaria in the “other” category.

11.1. Malaria knowledge

Although focus group participants were not explicitly asked questions about their knowledge of malaria, they demonstrated knowledge of how it is transmitted and knew the time of year when malaria was most prevalent and cited related cost expenditures for families.

“From the months of September, October up until November, during this time there is a lot of malaria in our village. There are families who can spend up to CFA 50,000 for treatment—certain families spend up to CFA 100,000 in 1 month.

—FGD, Grandfathers, Mopti

Respondents demonstrated knowledge of pregnant women and children under 5 needing to sleep under a bed net to prevent malaria but cited challenges that prevent this practice from happening. The primary concern was money to purchase a net. Some women cited that they could go to the health center to receive a bed net, particularly during ANC or vaccination visits, but money was still discussed as a major challenge.

“A: Yes, it’s good to sleep under an insecticide-treated net but it’s poverty that makes that impossible.

F: Yes, but the refusal of the antenatal consultations during pregnancy can mean that she won’t have an insecticide-treated net.

C: She can borrow money to buy an insecticide-treated net.

—FGD, Unmarried Adolescent Girls, Sikasso

Interviews with traditional healers and community leaders demonstrated their knowledge of preventive care and engagement in community-level activities around malaria prevention and hygiene promotion. They possessed accurate information, for example, about the need to clear stagnant water to prevent malaria.

“The main problem is malaria among women, children, and adults—it is a particular problem for children. The cause is the fact that we are near the river and our villages are not clean, so we advise everyone to sleep under mosquito nets, to clean the place up, to avoid dirty water, and to stop defecating in open air.

—IDI, Community Leader, Sikasso

11.2. Factors affecting malaria-related services

Qualitative findings seem to be consistent with the quantitative finding that malaria treatment and prophylaxis were not high priorities and were instead viewed as secondary health considerations. On the whole, qualitative respondents didn’t focus their comments on malaria unless citing particularly grave cases, as demonstrated in the quotation below from a traditional healer. Health center referrals were particularly frequent for suspected cases of malaria, perhaps because they were perceived to be potentially fatal.

“After having given medicines to people who come and see me for malaria treatment, I ask them to go to the health center, as just one person can’t cure someone.

I don't hold anyone back. I'll give you the medicine but also tell you to go to the health center.

—IDI, Traditional Healer, Sikasso

As members of the community, healers may also have been engaged in community-level activities about malaria prevention and water potability. In the following quotation, it is not evident whether the traditional healer's knowledge was circulated to others.

“According to the information we have received, malaria is linked to dirtiness. If things are not clean, malaria can reign in the neighborhood. To prevent malaria, you need to sleep under a mosquito net, so should your children.

—IDI, Traditional Healer, Sikasso

TABLE 20 SUMMARY OF BARRIERS TO AND FACILITATORS OF MALARIA TREATMENT AND PREVENTION (FROM QUALITATIVE RESULTS)

HEALTH-SEEKING BEHAVIOR	BARRIERS	FACILITATORS
Malaria treatment and prevention are not high priorities despite more than a quarter of women in the DHS in these regions having malaria at the time of the survey.	<ul style="list-style-type: none"> ● Seen as a low priority in terms of health needs ● Perceived cost of insecticide-treated bed nets 	<ul style="list-style-type: none"> ● Knowledge of need to prevent pregnant women's exposure high ● ANC patients can receive free bed nets ● Traditional healers' knowledge being circulated to others ● Traditional healers reported making referrals to health centers for malaria treatment

12 Food Security and Nutrition

Given the interest in learning about maternal and child nutrition, the qualitative study explores the related issue of food security.

12.1. Key moments of food security throughout the year

The period of food scarcity occurs when food stocks from the previous harvest are finished and the next harvest has not yet begun. Interviewees and focus group participants in all three study regions signaled that food shortages are common and echoed findings from the Nutrition and Food Security Survey (ENSAN) about particular shortages occurring between the middle or end of the dry season until the first harvest following the start of the rainy season (the period of soudure).

“ [The most difficult period] is now, what month is it? July, September, October, November. All of these months are hard months for women. And for men as well because it’s the period of food insecurity. The old food stocks are emptied and there are no new ones for the moment. At this moment, all that the men find they bring to the fields. The woman in the household gets by so her husband will have something to eat when he goes to the field. July and August is a very hard period.

—IDI, Midwife, Mopti

It is worth noting the overlap between reports of when malaria is rife and when food shortages are common. Participants described extreme circumstances during this time, calling it a “crisis.” The period of soudure was described as lasting a long time, leaving many households food insecure throughout the year.

“ It occurs in all villages—there is a time of the year starting in the 7th or 8th month when food shortages begin. If you take 100 people in a village, the ones who can guarantee to have food all year until the new

harvest comes in will not be over 50% and the others will have to look for food here and there. It goes on like this for half the year.

—FGD, Grandfathers, Mopti

A lack of rainfall in some years was associated with greater hardship regarding food security during the rainy season.

“ As a person who works on the land, there are some years without sufficient rainfall. So, in that year, you won’t have any fortune. We wish to have businesses to conduct during the dry season. In the absence of such jobs, we get by by relying on the grace of God.

—FGD, Grandfathers, Segou

12.2. Prioritizing need and coping mechanisms during food insecurity

During the period of food scarcity, the head of household or husband has to decide who should be prioritized and plan alternatives for everyone else. Elders, mothers, and mothers-in-law were also cited as key decision-makers. Mothers were often described as signaling to decision-makers in the household that their children are hungry.

“ The old woman in the household, if her daughter-in-law takes the hand of her children and says the children are asking for something to eat, she will respond...she will get up to go look for something to give them because for kids it’s obligatory. You cannot hide food; children are children; you can’t hide food from children.

—FGD, Grandmothers, Mopti

There was general agreement between groups about which individuals should be prioritized to receive food during periods of food scarcity. Responses reflected awareness that children are more vulnerable to health problems associated with malnutrition and are among the priority groups selected to receive food during scarcity given their inability to tolerate hunger, the possibility that they will share the family's situation with people outside of the family, and their inability to go in search of food themselves.

“ I would like to give the example of children who suffer from malnutrition. Those children, if they arrive [at the health center], we say that they are transformed. We ask them to go to the health center. On their return, we see that they have become human.

—IDI, Community Leader, Mopti

“ If the children are not full, they will cry and they will go out and tell everyone that we haven't even put the pot on the fire today because there is nothing to cook. But when you feed them until they are full, no one will know that there is a problem within the family.

—FGD, Married adolescent girls, Mopti

Elderly people were also given priority, as, in addition to the respect they merited, they were frequently not mobile enough to leave their households to beg for food from others in the village.

“ You need to prioritize the old men and women in the household because they are older and they have the right to respect—that's why we give food to them.

—FGD, Married adolescent girls, Mopti

Lastly, pregnant women were prioritized due to the perceived additional needs of the mother during pregnancy. Following these groups, which were considered the most vulnerable in the household, some participants said men should take the next priority because they are the people who go out and work for money or food to bring home, while others suggested women should be given food to spare their husbands shame, presumably of being unable to provide for his family.

“ We give [food] to men. We have to give it to the husband and children because they are the ones working. You as a woman, even if you have a mouthful, that's enough for you.

—FGD, Grandmothers, Mopti

Prioritizing need in areas of high food insecurity meant that health costs, such as delivery in a health facility, were often foregone in lieu of nutrition needs.

“ If the man does not have any money, the woman should stay and give birth at home. The money she would spend at hospital could be used to buy food for her and her child.

—FGD, Mothers 20–29, Mopti

Respondents mentioned numerous community, household, and individual coping mechanisms to manage food shortages. The majority of discussions included reference to multiple strategies.

Selling livestock was one way participants expressed coping during moments of food insecurity when health care services were needed, as shown in the example below from an adolescent mother about how families cover antenatal costs during pregnancy.

“ If the husband has livestock, he can sell them to give to Djénéba for antenatal care. If he doesn't have livestock, he can go and get credit with a neighbor or close relative to get over these difficulties.

—FGD, Married adolescent girls, Mopti

In some areas, cultivation of cash crops (for example, fruits for urban markets) was reported to offset the moments during the year when food scarcity is likely.

“ This period of food shortages corresponds with the appearance of fruits such as mangoes and bananas so we try and overcome this with [the sale of] these.

—FGD, Grandmothers, Sikasso

Borrowing food or money to purchase food was another coping mechanism; however, this carried with it the risk that the stress of paying back the loan would remain with the family throughout the year.

“ When you take out a loan, you repay it with interest when your harvest comes in. When you take credit, a sack of millet costs around CFA 20,000 or CFA 25,000, but when you repay, it you have to add a bit more.

The villages are not the same—there are villages where food insecurity lasts 3 months—you take out a loan and repay it afterwards. Some people then work the whole year to pay off what they owe.

—FGD, Mothers 30–44, Sikasso

When possible, another coping mechanism during food scarcity is to rely on contributions of women who have their own income or food stocks from their cultivation activities and could thus contribute to the needs of the family during this difficult period.

“ There are women who are lucky—they have their own income within the family and so their husband can use their revenue to get through this difficult period and afterwards he can reimburse her.

—FGD, Mothers 20–29, Segou

Gender relations affected the decision-making around the way that food was procured and distributed. Although male household heads believed they made decisions about food distribution, during *soudure* women were responsible for acquiring and managing the way food was procured and distributed given their presence in the household and ability to ask non-relatives for gifts or loans to offset periods of food scarcity. Women could also draw on networks outside their marital families to get food, for example by calling upon their natal kin.

“ Women are better than men at asking for gifts or loans of food, particularly from non-relatives. If there are food shortages, the woman can quickly find a solution—better than the man. She can go and ask elsewhere. The husband can ask where the food she procures comes from—and because of what she

has acquired, everyone benefits. It is difficult for a man to go and ask another man for food—but for women, no [this is not the case].

—FGD, Mothers 30–44, Sikasso

For men, food security coping mechanisms were not based on social networks but instead focused on searching for new work opportunities or selling live-stock in exchange for food for the household. Migration was thought to provide coping mechanisms for food scarcity—either by paving the way for new income-generating opportunities elsewhere or by relying on migrant relatives’ remittances.

“ Some people go on migration to get food—when there are shortages, you can’t just sit around like that! It is the problem of the household head who decides everything, and migration is one of his strategies.

—FGD, Grandfathers, Mopti

“ Some people have a big brother or a little brother who has migrated—they can send money and they can use it to buy food.

—FGD, Married adolescent girls, Mopti

12.3. Desired versus actual nutrition behaviors

Following on the exploration of food security, the qualitative study probed about nutrition with particular attention to antenatal and postnatal periods and factors that facilitate and impede exclusive breastfeeding. It also explored those relating to the timing and type of supplementation given to breastfeeding children.

Respondents were asked about the best foods for pregnant women and about what was ideal in terms of quantity and quality. Many cited specific fruits, vegetables, meats, eggs, and potatoes that were said to enhance the health of both the mother and the baby during pregnancy and help prepare the mother for delivery. Reports of these ideal nutrition behaviors were accompanied by comments on one’s financial means, and alternative diet suggestions, such as dried fish, were

given for pregnant women whose families lacked the financial means to purchase desired foods.

“As she is pregnant, she should eat food of a good quality and quantity. She should eat a lot of fruit such as oranges, mangoes—she should eat these three or four times a day during her pregnancy, but because she lacks money, she will have problems consuming them.

—FGD, Fathers, Mopti

There was a gap between the kinds of food said to be needed during pregnancy and foods that respondents reported eating every day (e.g., those grown in the area).

“Really, it is a serious problem because even the husband doesn't eat quality foods. We have difficulty finding quality food because what we eat here has no vitamins in it. We can put meat or fish in the sauce a maximum of three times a week.... So you will find that Djénéba will do that throughout her pregnancy—she will work but she won't eat quality food. She will go through her whole pregnancy like this until she gives birth.

—FGD, Fathers, Sikasso

“Here, it is difficult to get good food because we just eat tô [millet porridge] every day. Under such circumstances, if you don't have money, it is really hard to vary what you eat.

—FGD, Mothers 20–29, Sikasso

Newborns reportedly received colostrum to protect them from illness and to consolidate kinship ties.

“The newborn receives the colostrum—if s/he does so, s/he will never forget his mother and he will not suffer from illness.

—FGD, Married adolescent girls, Mopti

Most participants said that a mother should exclusively breastfeed her baby for 6 months following birth. Some responses indicated, however, that participants may not interpret “exclusive” breastfeeding as only giving

breastmilk to the baby and may instead follow health workers' advice for supplementation.

“We feed infants exclusively on the breast, but we also give them something to drink. If one delivers in a health center, the health agents advise us to give water to the baby 40 days after birth and to continue until 7 months.

—FGD, Married adolescent girls, Segou

In cases where the infant failed to latch on, infants were given liquids and substances other than breastmilk soon after birth. It was thought that these “unblocked” the child's throat and cured any illnesses with which s/he was said to be born.

“If the infant doesn't start to suckle the mother will buy shea butter and mix it up with a broken mint sweet [axi]—she then gives it to the child and it will cure coughs and colds. The shea butter the baby eats will fill him/her up and gets rid of any dirtiness in the stomach...When certain women give birth, even before they have left the place where they deliver, an old lady brings a liquid and recites incantations into it and you have to give it to the child. This is called the “opening of the throat.”

—FGD, Mothers 30–44, Mopti

After 6 months of age, a child's diet was diversified to include numerous types of foods that are available.

“The baby has breast milk until 6 months of age then you can add a bit of light bouillie until he is 1 or 1 and a half. At the same time, you can give him food from the bush—we prepare pounded millet [gnègnè misèni] and laro with powdered peanuts and fish that we give to children until they grow a bit. When tomatoes are in season, we give them these as well as potatoes.

—FGD, Grandmothers, Segou

However, there was a perception that some foods, such as beans or couscous, were too heavy for children and could stunt their growth.

“ A child should not consume tô [millet porridge] before the age of 1 year. You should give him/her a liquid bouillie made with flour. This way he will grow quickly. But if you give him tô before 1 year, his growth will be slowed.

—FGD, Married adolescent girls, Segou

12.4. Factors influencing nutrition

Focus group respondents reported that nutrition was influenced by household dynamics and sociocultural factors and beliefs as well as logistical and practical matters.

12.4.1 Household dynamics and sociocultural factors and beliefs

Qualitative respondents reported that pregnancy may impede a woman’s ability to carry out household tasks, thus shifting the household responsibilities to other members of the household who no longer see her as productive. Women’s decreased productivity during pregnancy was reported to result in cases of food deprivation for the pregnant woman by other female members of the household, who are forced to assume the pregnant woman’s domestic responsibilities.

“ When certain women fall pregnant, they can’t work anymore. Because of this incapacity, the other women in the family refuse to give them anything to eat, saying they themselves had been pregnant. They don’t give her quality food and they prepare food that she doesn’t like on purpose.

—FGD, Grandmothers, Segou

“ If Djénéba falls ill, and can’t prepare food for the family, her mother-in-law will tell her there’s nothing wrong with her and that it’s laziness. Under such circumstances, she won’t get anything to eat and the illness will get worse.

—FGD, Married adolescent girls, Segou

Participants also expressed concern that if women ate too much during pregnancy their baby would grow too big. *Bouillie*, or gruel, as well as salt were said to be avoided for this reason.

“ Certain people don’t allow a pregnant woman to consume bouillie, saying that it will make the baby grow too big. She can eat tô, rice, and couscous, but never bouillie.

—FGD, Grandmothers, Segou

The mother-in-law was reported to initiate the weaning process. It seems to serve to gradually separate the child from the mother and to integrate him or her into the extended family. However, in many cases, the husband’s advice or permission is also key to determining when and how a child receives supplementary food, which requires good communication within a couple.

“ The father of the child takes the decision [to supplement] based on what his wife tells him.

—FGD, Mothers 20–29, Sikasso

Nutritional decisions were informed by messages from trained health providers. Participants indicated that messages may have influenced grandmothers to discontinue the practice of giving supplements, such as traditional medicines, to their grandchildren.

“ Before, we used to give traditional medicines, but since we started collaborating with the health workers we don’t give them any more. With regard to a child’s first medicines, they tell us to go and buy syrups.

—FGD, Grandmothers, Segou

Respondents expressed a notion that if a child is breastfed while the mother is pregnant, the child will fall ill.

“ Closely spaced births have a negative effect on the health of the woman because each delivery makes her weaker—so if they are closely spaced, she loses her strength. Boy children in particular do not do well if the births are closely spaced—if they breastfeed when the mother is pregnant, they

will die, although you can give them a traditional treatment which will help.

—FGD, Mothers 20–29, Segou

Focus group respondents offered knowledge of the duration and benefits of exclusive breastfeeding and noted that those who did deliver in health centers missed the opportunity to learn about the benefits of exclusive breastfeeding.

“After delivery, you should just give your child breastmilk and not even give him or her water to drink. Even after he has been to the toilet, you should not give him or her anything until 6 months. At 6 months you can bring the child to the health center for a check-up. After the check-up, the health workers will tell you if it is necessary to give him or her some bouillie [gruel].”

—FGD, Married adolescent girls, Sikasso

However, one focus group with 30–44-year-old mothers pointed out that those who had not delivered in a health center may not have learned about the benefits of exclusive breastfeeding. Even with knowledge of the benefits of exclusive breastfeeding, some mothers believed the practice was not common and were skeptical that giving water to a baby would cause harm.

“F: Those who exclusively breastfeed here without also giving water are not numerous—there are very few people. In fact, exclusive breastfeeding does not exist.”

D: There is no proof that if you give water to a baby that s/he is going to die.

—FGD, Mothers 30–44, Mopti

In the following quotation, an adolescent mother’s personal experience with exclusive breastfeeding was also thought to influence her positive attitudes toward the practice.

“I myself have had experience of exclusive breastfeeding. When my baby was born, he didn’t receive anything but breastmilk until he was 6 months old. After 6

months, I took him to the health center—the matrone examined him and weighed him. Then we started to give him a bit of water and some bouillie. With my next child, I didn’t practice exclusive breastfeeding—and the difference is palpable—you can tell just by holding the 2 children. The one who was exclusively breastfed is heavier than the others and healthier. You can notice that my children who started to drink water at an early age have big stomachs.

—FGD, Married adolescent girls, Sikasso

Beliefs about the benefits of breastfeeding went far beyond medical benefits to suggest the role of breastfeeding in strengthening and blessing the child as well as reinforcing the maternal bond.

“The colostrum gives baraka [strength and blessings] to the child.”

—FGD, Grandmothers, Sikasso

12.4.2. Logistical and practical matters

Lack of access to information about nutrient-rich foods and inadequate time available to prepare such foods were reported as practical considerations influencing maternal nutrition.

“Maybe she doesn’t know which quality foods to eat. She has not gone out to ask anyone and no one has told her or maybe there has not been a sensitization on this topic to explain to women—and so if you don’t have the information, you can’t apply it. This can cause her problems as she simply doesn’t know.”

—FGD, Grandfathers, Mopti

Cost is another practical consideration influencing maternal nutrition. Some respondents framed the discussion on cost about the woman’s own money, and others framed it in terms of her husband.

“The problem is the lack of money—if she doesn’t have money and the members of her family don’t have any either, [it is a problem] as she needs these foods but

they don't come for free—so she can't obtain them to eat.

—FGD, Mothers 20–29, Mopti

Women with their own source of income were believed to be able to influence their own nutrition when a husband was not able to purchase vitamin-rich foods during pregnancy.

“ Q: What could impede Djénéba from eating meals that contain vitamins during her pregnancy?

B: That will happen if the husband can't afford to buy them.

D: That happens if the husband does not have the means to buy such food, but if she has her own money, she can buy the food herself if her husband is unable to.

—FGD, Married adolescent girls, Mopti

“ Exclusive breastfeeding in the first 6 months was seen as an ideal; however, a mother's milk supply was a practical consideration that led some women to find alternatives to their baby's consumption. Before 6 months, certain women do not have enough milk in their breasts so they make a bouillie to give to the baby, or if you have money you can buy some animal milk to give.

—FGD, Mothers 30–44, Mopti

Limited availability of affordable, vitamin-rich foods (described above) would also presumably influence child nutrition. However, respondents from one focus group in Mopti reported availability of free supplementary food, which would facilitate availability and nutrition for children.

“ Q: From whom do you receive the misola [porridge that contains soybeans]?

R: From the health center. It is the health workers who give it us as a gift for the children.

—FGD, Mothers 20–29, Mopti

13 Health-seeking Behavior for Children Under 5

Health-seeking behaviors of children under age 5 were a key focus of the exit interviews and were further explored qualitatively. In exit interviews with caregivers, the mean number of times a caregiver reported going to a health facility last year (for his or her own health) was 2.6 times, with a median of two visits. Female caregivers reported more visits for their own care (mean of 2.8 visits) than male caregivers (mean of 1 visit). We also asked about the number of times caregivers had received care for a child in the past year and found that caregivers reported a mean number of visits of 4.3. Male caregivers reported slightly more visits (4.9 visits) than female caregivers (4.3 visits); both groups reported a median of 4 visits.

Among caregivers seeking care for a child, the majority sought curative care (59.0%), while 40.5% reported seeking preventive care. However, this varied by region. Sikasso (66.3%) and Mopti (78.3%) had higher proportions of caregivers seeking curative care for their child, while Segou had the opposite, with 55.2% of caregivers seeking preventive care and 44.7% seeking curative care. Care-seeking did not vary greatly based on wealth quintile.

TABLE 21 REASON FOR VISIT AMONG CAREGIVERS OF CHILDREN UNDER 5, BY REGION

REASON FOR CAREGIVER VISIT	OVERALL N=1,463 %	SIKASSO N=581 %	SEGOU N=629 %	MOPTI N=253 %
Preventive care	40.5	33.0	55.2	21.3
Curative care	59.0	66.3	44.7	78.3
Other	0.5	<1	<1	<1

13.1. Community perceptions of traditional versus modern care

We begin this section by looking at overall attitudes toward traditional versus modern health care from FGDs before delving into how these beliefs shape health-seeking for children under 5.

Some focus group participants expressed comments suggesting a belief that modern care was more efficient and systematic than traditional care, which can also allow for more immediate results from treatment.

“Going to a traditional healer is not as good as going to the health center. The traditional healer doesn’t do a consultation, hasn’t got any equipment—the treatment is decided by trial and error. Doctors are precise.”

—FGD, Grandmothers, Sikasso

Preferences for type of care were also determined by the fact that providers of modern care were perceived to be better at keeping client confidentiality, as traditional healers spread news of their “successful” treatment of patients to advertise their services.

“Confidentiality is better kept at the health center—they are just concerned with curing you. With traditional healers, there is no confidentiality. Their way of getting clients is to say, “You know so-and-so? Well, it was me who cured him—if it hadn’t been for me, he would have died.” And they will say his name. There’s no sense of confidentiality.”

—FGD, Fathers, Mopti

Some respondents believed the welcome was better at the health center, as informants appeared to mistrust the claims of traditional healers and their desire for immediate money. Others were unimpressed by the welcome in health centers and did not trust the providers there.

“ H: The welcome is warmer at the health center compared with that of the traditional healer.

D: Even if the traditional healer doesn't know you, they will steal your money. They will insist that you pay CFA 35,000 upfront—so it is better to go to the health center.

—FGD, Married adolescent girls, Segou

“ In the public health centers, the health workers often steal and they do not welcome the clients properly. They prescribe medicines which you have already bought and then they prescribe you the same ones again because they themselves have stolen these medicines in order to prescribe them to you.

—FGD, Fathers, Sikasso

These overarching beliefs about traditional versus modern health care influenced decisions about appropriate health services for children under 5.

“ [These days] the mother-in-law prefers the health center. You need a lot of courage to administer traditional treatments properly, because you need to be brave enough to prepare the plants correctly. These days, when you come back with the plants you have to prepare, you find that your mother-in-law has already left for her field, where she is busy working. If you don't follow the exact way to prepare the treatment—if you get mixed up—you'll risk killing your baby.

—FGD, Married adolescent girls, Sikasso

Some illnesses were thought to have no medical cure. In some of these instances, there was a potential traditional cure, such as a plant for sunken fontanelle.

“ There's an illness called fassani [sunken fontanelle]—modern medicine

can't cure it—it will make the child really thin to the point where the nerves in the head become visible. There's a special plant to treat this illness so you need to go and find this plant to cure the child.

—FGD, Mothers 20–29, Segou

Decisions about how to resolve a child's febrile illness or diarrhea were also influenced by attitudes on traditional versus modern medical care. For some respondents, the first line of intervention was traditional care; if and only if that did not work did they seek modern care. For others, modern medical care was sought right away for the child.

“ She will first start to treat the fever traditionally with plants—if that doesn't work, she will take the child to the health center to see what kind of fever it is. After they know this, the health workers will give her a prescription. They give out pills but, if it's serious, they will give injections. Her husband will pay for the treatment.

—FGD, Married Adolescents, Mopti

Some participants expressed grandmothers' preferences for traditional treatments and how this belief could engender problems in the younger woman accessing resources for the treatment for childhood illnesses. As the following quotation shows, the mother-in-law wields substantial influence over her son. Not getting along with her mother-in-law creates immense barriers to a mother's health-seeking behavior.

“ The mother-in-law will prefer a traditional treatment.

Q: Why?

Because she doesn't want her son investing money in this [modern treatment]. Even if her son [the child's father] doesn't think this way, she'll say to the child's mother, “We are poor. You are crafty. You have invented this illness in order to get money out of my son.” If the husband follows the view of his mother, the child will never go to the health center.

—FGD, Mothers 20–29, Sikasso

Younger mothers seemed to be aware of the importance of maintaining harmony with their mothers-in-law to maximize treatment opportunities for their sick children. For example, if they preferred modern treatment but the older family members recommended visiting a traditional healer, the younger mother would placate them by not telling the truth.

Q: How can Djénéba refuse advice she doesn't agree with from her close elderly relatives?

D: She can politely refuse the traditional medicines given by these people by saying that her child is already cured.

G: She pretends that she has already given them to the child.

—FGD, Mothers 20–29, Segou

13.2. Immunizations

Exit interview data show that among caregivers who visited the clinic for preventive care (n=593), all indicated that they came for infant immunizations.

Focus group participants were asked about what might prevent a mother from fully vaccinating her child by 12 months of age. In general, respondents were in favor of vaccination as it increased the child's immune resistance; they attributed non-vaccination to maternal negligence.

“ For us, Djénéba is the only person at fault for this because no one is opposed to vaccination...the only [reason for non-vaccination] is if you show yourself to be negligent... You need to go to the health center so it's your fault if you don't go and if you don't know if the return date has come or gone. If you tell your mother-in-law she will pose no problem whatsoever but if Djénéba doesn't tell her, it will be her fault. Sometime the parents-in-law learn that the date has gone—they will yell at their daughter-in-law because the date has gone by due to her [negligence] and her alone. Otherwise, everyone is in agreement because it is obligatory to vaccinate children.

—FGD, Grandmothers, Segou

Reasons for not following the vaccination schedule included concerns over the side effects, conflicting obligations to work, or changes in the availability of vaccination teams without much advanced warning.

“ Certain mothers are discouraged because following the injection, the child will have a fever and cries all night. Certain people say they even had to take the child to see a provider at the health center because of this. This can demotivate people.

—FGD, Mothers 20–29, Sikasso

Such postponements were particularly difficult for women who had had problems in getting together the money needed to pay for transport or the immunization card, only to find that the vaccination was not happening as planned.

“ Certain people incur expenses because you can't go to a vaccination session without a bit of money. So, if you go once, and you don't get the vaccines, when you have to go again you may not have the money and so you won't be able to go back.

—FGD, Married adolescent girls, Segou

Access, distance, and unawareness of vaccination dates also posed problems, particularly if the vaccination teams were inflexible for those who arrive late to the session because of transport difficulties.

“ If you arrive late, the health workers will refuse to see you. The distance means that it is difficult to find a means of transport—even if you get a donkey cart, if you don't leave early, it will be midday by the time you get there and the health workers will say they are no longer vaccinating.

—FGD, Mothers 20–29, Segou

Some respondents were in favor of vaccinations but reported that other family members were against them and put up such barriers that the mother eventually gave up on trying to vaccinate her child.

“ Often, they don't go because they are annoyed!

Q: Why are they annoyed?

Generally, it [immunization] is a function of a woman's relations with her parents-in-law. If the health center is far away and if you can't find a means of transport, then they will tell you to go on foot or to not go at all...and so you get irritated and decide to no longer go.

—FGD, Married Adolescents, Segou

Women in the Mopti region voiced how security fears kept them from taking their children to get vaccinated alone, and husbands' busy schedules often meant they could not accompany the woman and child.

“ We are the other side of the river in the bush...Fear can stop a lot of women seeking vaccination services as they have to be accompanied by men, and the men are usually busy. You see the problem?

—FGD, Married Adolescents, Mopti

13.3. Other common reasons for seeking health services

Exit interviews with caregivers indicated the main symptom of children who were seeking curative health services. Common reported symptoms included fever (37.3%), diarrhea (21.4%), and appointments for Plumpy Nut, which is used for the treatment of severe acute malnutrition.

Focus group respondents were asked to comment on reasons why children would seek health services other than for immunizations. To get at decision-making around children's health seeking, focus group participants were given a hypothetical situation in which a child under 5 years of age experienced febrile illness. Some respondents used this question as a jumping-off point to talk about processes followed at the health center, whereas other participants focused on the factors influencing health seeking, which is further described in the next section.

“ If the child has a fever, she will try and find some paracetamol to give to him or her. If that doesn't work, she will take

him to the health center. Once she has arrived there, a health worker will examine the child and give medicines which she must buy and give according to the way described on the prescription.

Q: Who could advise her to go to the health center?

Her husband or, if he doesn't do this, older people in the household.

—FGD, Mothers 20–29, Mopti

13.4. Factors influencing children's health seeking

Maternal decision-making on seeking health services for children was reported to be influenced by the advice of older women within their marital families.

“ The mother is best placed to know the health of the child as she has spent the night with him or her. She is more likely to know if the child has a fever than the father because she can touch the child and know that their skin is hot. She will then tell the child's father and in the morning, if he doesn't have any money, he will ask her to show the child's grandmother and see if she has a remedy. If the grandmother's remedy doesn't work, the mother will ask to take the child to the health center as s/he isn't better.

—FGD, Grandmothers, Segou

There was a belief that, even though women sought the advice of husbands and mothers-in-law on the need for medical intervention for their children's illness, they were ultimately the ones to decide whether or not to bring the children to the health center, even if against the wishes of their family members.

“ She can get advice from her husband and from her mother-in-law. They may accept that the child is taken to the health center. If they don't accept, there are certain women who take the child to the health center

anyway and pay with their own money...others just leave it.

—FGD, Mothers 30–44, Mopti

In cases where family members were reluctant to help out the mother, women could reportedly use humor to ask their husband or other relatives for money to help those who are sick—either children or adults.

“If there is a joking relationship between you and your husband, if you welcome him home nicely after he has been in town, you can say, “Hey, Coulibaly, look at our state of health—it’s not good at all. Even if I told you I was preparing beans, it will lead to you finding a solution. So, give us money so we can go to the health center, because I am your mistress (*matigui*) and no one should make a mistress suffer!” If you say these things with humility, he will easily accept to give you money or if he hasn’t got any he will tell you he will go and look for some. But if not, if you get annoyed in the bush, nothing will be resolved and you will be obliged to sell one of your chickens to treat your child as your husband won’t cough up one cent!

—IDI, Matrone, Segou

Practical considerations such as cost again influenced decisions about whether to seek traditional or modern care, with a preference for traditional as it did not incur any transportation costs.

“If the health center is close, she can go on foot, but if it’s far away, she’ll have to find a means of transport.

**Q: And who pays for the petrol?
Her husband or his father.**

—FGD, Mothers 20–29, Sikasso

Cost concerns for children’s health care could be offset if family members had migrated for work and were sending remittances.

“Here, a lot of men are abroad looking for money. It doesn’t really change

much as when she or her children fall ill, the husband sends money by Orange Money for their treatment.

—FGD, Grandmothers, Segou

Respondents mentioned informal saving clubs that could be drawn upon if a child fell sick. The advantage of these was that they imbued the mother with a degree of autonomy, as she was in charge of the money and could thus control the child’s treatment.

“The women have a savings scheme, not the men...so between us women we support each other in the event of such things happening. So when your child is sick, you will you come and get money [from the kitty] to give to the child’s father, and afterwards, if he wants, he can help you reimburse it...but if he doesn’t want to, you can reimburse it yourself.

—FGD, Mothers 30–44, Segou

Some men appreciated this support from women, but others felt threatened by it, as shown in this quotation from a father about women’s economic empowerment threatening her respect for her husband.

“Q: How can the child’s father help Djénéba get the resources to treat their sick child?

There are women who, if you give them CFA 50,000, they can start a small business which will succeed—but then she won’t respect her husband anymore. That’s why men are afraid of helping women.

—FGD, Fathers, Sikasso

Another practical consideration in seeking health care for the child is whether or not the mother can find a replacement for food preparation and her usual domestic chores. If she is unable to find a replacement, her husband may need to take the child to the clinic alone.

TABLE 22 SUMMARY OF BARRIERS TO AND FACILITATORS OF CHILD IMMUNIZATIONS (FROM QUALITATIVE RESULTS)

HEALTH-SEEKING BEHAVIOR	BARRIERS	FACILITATORS
Childhood vaccination-seeking rates are not high enough.	<ul style="list-style-type: none"> ● Concerns about side effects of immunizations ● Parents' conflicting obligations to work ● Distance to a health facility where immunizations are provided ● Providers discourage use with unpredictable and inflexible schedules ● Need for accompaniment amidst safety concerns ● Other obligations may make families miss vaccination clinics during limited timeframes 	<ul style="list-style-type: none"> ● Social norms about vaccination being obligatory ● Belief that immunizations are effective in building resistance ● Costs are low/free (54% reported paying nothing, derived from exit interview data)

14 Perspectives from Midwives and Matrones

This chapter draws on qualitative data concerning midwives and matrones. A total of two midwives and 11 matrones were interviewed, and focus group participants shared opinions on the services and information these providers offered as well as their ability to influence community health.

14.1. Services and information provided

Matrones were seen as being the first source of information on holding babies and breastfeeding, and it was only after their advice that a new mother would be open to receiving advice from her mother-in-law.

“ If it’s Djénéba’s first birth, before the mother-in-law gives her advice, the matrone should counsel her. She will say, “Djénéba, you have just given birth and you know what pain you bore since the beginning of the pregnancy until the end of labor. You must take good care of your baby.” In order to do this, the matrone will show her how to hold a baby and how to breastfeed. It is only afterwards that the mother-in-law can give advice and that Djénéba will follow it.

—FGD, Mothers 20–29, Sikasso

An important service performed by matrones was teaching women about the importance of returning for postpartum check-ups for mother and baby.

“ Djénéba took her baby [for postnatal care] because before being discharged from the maternity unit, the matrone gave her advice about coming back after 7 days for a check-up. She explained to Djénéba that the appointment would allow the health care

provider to verify her state of health and that of the baby.

—FGD, Mothers 20–29, Sikasso

Matrones were reported to intervene with the woman at home in the last stages of labor or afterwards to cut the umbilical cord.

“ When the labor starts, she won’t say a word to anyone and goes to give birth in her house. When the birth is over, she will get someone to call the matrone, who will come and cut the cord.

—FGD, Mothers 20–29, Sikasso

14.2. Factors affecting midwives’ ability to influence maternal and reproductive health

Qualitative data indicate that midwives’ ability to influence maternal and reproductive health is influenced by household dynamics and sociocultural factors and beliefs as well as logistical and practical matters.

14.3. Household dynamics and sociocultural factors and beliefs

Matrones echoed many of the same sociocultural beliefs as community focus group participants about influences on maternal and reproductive health: reluctance to disclose pregnancy inhibiting antenatal consultations, fear of certain FP methods (e.g., implants getting lost inside the woman), and spousal refusal of FP.

“Some of them come for antenatal care at 9 months; some come at 8 months and others at 7—there are only a few that come at 3 months—they say they are reticent to come.

—IDI, Matrone, Sikasso

In addition to the myths about FP there was a great deal of opposition by men, which impeded the application of information given by the provider, in large part due to male desire for large families.

“I have had some serious cases of opposition where certain men have come to see me and threatened me with prison if I give their wife a family planning method.

—IDI, Matrone, Sikasso

Midwives underscored the importance of involving men in health issues that affect their wives and children. Sometimes health workers reported using innovative and subtle ways to get men to come to the health center and benefit—for example, from postnatal FP information.

“If we see that a woman is having closely-spaced births, we ask her to inform her husband and tell him to come and see us just before the baptism to formally declare the birth—and if he comes, we talk to him about family planning. Some men then approve of its use and others don’t trust it... we tell women to tell their husbands to come and get the birth declaration and then we use that occasion to explain to them about family planning.

—IDI, Matrone, Mopti

Men—both heads of households and their sons—were viewed as pivotal allies in understanding the benefits of ANC.

“Everything depends on communication with the heads of household. We call the heads of households to come and see us here but they don’t pass the messages on within their families. I think the husband of the woman should be contacted because if we

sensitize the household heads, they just sit there and don’t say anything. For example, the household head could inform one person in the family but he has five sons who are married—and their wives don’t come. But if there is a husband whose wife has been for antenatal care, if he is informed, he can say, “Dad, this person has to go for antenatal care.” The son should inform his father because there will be expenses to prepare for...So we should not just contact the heads of households but also the husbands so that they understand a bit of what goes on at the health center.

—IDI, Matrone, Sikasso

Midwives also echoed the sentiment that a relationship between a mother-in-law and her daughter-in-law was influential on whether or not the daughter sought ANC.

“There are certain mothers-in-law who say that their daughter-in-law is weak or if they don’t get on with her, they are never going to take their needs seriously. There are also problems in families and you will find that the mother-in-law does not like her daughter-in-law and so she will not help her get antenatal care.

—IDI, Matrone, Sikasso

14.3.1. Logistical and practical matters

A midwife’s ability to deliver maternal and reproductive health services was reported to be compromised by a lack of equipment, commodities, or space.

“We don’t have enough material or medicines. We don’t have a table on which women can give birth. The births take place on a big table with no cover and we don’t have a light. We do deliveries at night with the aid of a torch...in addition, my blood pressure monitor was broken and I went and told my colleagues but they said the same thing had happened to them...so I bought one with my own money and I work with that. I’ve never received any medication [for my clients].

—IDI, Matrone, Sikasso

A factor encouraging women to deliver in health facilities was the provision of kits containing a plastic sheet for the woman and supplies needed to cut the umbilical cord and care for a newborn.

“ There is a plastic sheet that we spread out over the table here [where] they give birth—not all women should use the same plastic or they will get sick. So after the delivery, we disinfect it and put it on the woman’s bed and when she goes home she takes it with her. We buy it with our own money but we add it to the cost of delivery—it costs CFA 100. Women know that it is very useful and that it stops them getting sick so they take it away with them. It attracts a lot of women [to give birth in the facility]. We also have kits for newborns which contain towels, bandages, razor blades to cut the umbilical cord—everything is in there—soap and talcum powder. When a woman gives birth, we take the towel and we wrap the baby in it and we give the rest to the mother and she takes it home. This too attracts people. Maybe one day when these things are free people will come and deliver in the health center.

—IDI, Midwife, Mopti

A factor limiting midwives’ ability to provide adequate support to women in labor is obtaining transport to move women with obstetric complications to higher-level services.

“ We have great difficulty in evacuating women who we are unable to help. There is no ambulance—no ambulances come here these days. It’s only on market day we could get a lift. Sometimes women die before being evacuated...sometimes we try and rent a hearse to evacuate the woman to Sevaré but the parents-in-law of the woman have to pay for it.

—IDI, Matrone, Mopti

Midwives reported that women in need of obstetric evacuation were able to obtain an ambulance for transport paid for by community contributions and financial support from the local authorities, though the demand for such arrangements seemed to outweigh supply, and families still had to cover the cost of petrol.

“ If a pregnant woman is unable to deliver here, I call the DTC and the DTC calls the ambulance from Baroueli and they come here to take her to the CSREF. The costs for this evacuation are paid annually by the communities, the mayor’s office, and the ASACO—so the day of the evacuation, the family of the pregnant woman doesn’t pay anything.

—IDI, Matrone, Segou

15 Perspectives from Traditional Birth Attendants and Traditional Healers

IDIs with TBAs (n=3) and traditional healers (n=10) shed light on the traditional services they provided as well as factors affecting their ability to influence health. In focus groups, participants mentioned TBAs and traditional healers, and related data from IDIs and FGDs are included below.

15.1. Services provided

Traditional healers and TBAs described their role as curing sick people and helping pregnant women respectively. In both of the following quotations, the traditional providers describe their role vis à vis society or their community.

“ My place in our society is to be near the animals and also to be in the domain of hunting. I cure adults who are sick. [Also] if something has been stolen, I can divine who it is and then we catch the guilty person and he is interrogated to know why he did it...What I do is a privilege. If you get on with people, they will respect you and they will do what you recommend. Yes, it is really a privilege.

—IDI, Traditional Healer, Sikasso

Traditional healers reported being called upon to address social problems such as conflict with families. Health services provided by traditional healers were far-reaching and largely curative, including a varying range of ailments such as back pain, stomachache, ulcers, hemorrhoids, and mental illness. Sometimes selection of treatment was said to be informed by one's dream.

“ I receive instructions in dreams about which tree to use as a treatment or, for example, which one will combat a particular

form of bad luck. I also consult my cowrie shells as well as using dust from the ground [trabou]. First of all, before I touch a patient, I consult the cowries to see if the person will be cured.

—IDI, Traditional Healer, Segou

Traditional healers also reported that their work involved finding the source of the illness much as a medical doctor would, suggesting that illness was viewed as a lived experience rather than simply as a medical condition.

“ In a hospital, a doctor consults his patient to know what hurts. I'm currently learning with my geomancy teacher and traditionally that allows me to divine the nature of the illness—is it water or wind which is causing it? With geomancy you can assess that.

—IDI, Traditional Healer, Sikasso

Interestingly, healers listed a host of problems that they treated that could be considered to be in the domain of reproductive health, including contraceptives and sexually transmitted infections. However, these problems excluded pregnancy and childbirth, which were considered difficult and best referred to the health center.

“ I treat women who have had a lot of children who died. As a healer, I think it is due to an internal itching. So, if a woman is in this situation, I give her the correct plant and she will be cured. She will have her child. Thanks to my work in this field I have at least 10 children on this earth who are named after me...but it is very difficult to treat a pregnant woman. It's really not easy. She should go to

the health center. We don't know what is in her stomach as we don't have any diagnostic equipment that can tell us...pregnant women are delicate. I prefer to ask them to go to the health center.

—IDI, Traditional Healer, Sikasso

FP was another domain of reproductive health where traditional healers reported talking to clients about types of traditional methods but referring some people to the health center for a less-complicated method.

“ Amongst us, the Bambara, there is a magic thread that we put around our hips, but the accompanying rules [for it to work] are that the wearer cannot stop at a door threshold or receive anyone in her room. But today with modern contraceptives [it's easier].

Q: Do you show women traditional methods of contraception?

R: Yes.

Q: And do you suggest that these women inform themselves about modern methods at the health center?

R: Yes, I often tell women who are in need of a method to do this.

Q: Why do you recommend the health center?

R: Not everyone can respect the rules which the traditional methods require—but, by contrast [with the methods you get at the health center], it's very simple.

—IDI, Traditional Healer, Sikasso

However, while in modern FP service-delivery settings the husband is not obliged to be present at the consultation nor give his permission for the woman to use a method, in traditional settings, spousal approval is necessary.

“ I don't use family planning myself but I do dispense it to others. I tell women to tell their husbands to come and pick up the method when I have finished making it.

—IDI, Traditional healer, Sikasso

When it came to children, traditional healers seemed specific about which conditions they treated (diarrhea) and which they preferred to refer to a health center or hospital (respiratory infections).

“ [If a child under 5 has diarrhea] I can help him with traditional medicines—you mix the medicines and give him them to drink with water and following this treatment you will be cured...I don't treat children with respiratory infections; I refer them to the health center.

—IDI, Traditional Healer, Sikasso

Traditional healers reported also treating children to protect them from future illnesses and named common reasons they would attempt to cure a child—either of fever or malaria.

“ When the woman gives birth, I give medicines so that the child is protected against illnesses and, until he walks, he will show no sign of illness. Malaria and fever are very common among children here and when these serious illnesses begin no one has any peace.

—IDI, Traditional Healer, Segou

15.2. Factors affecting TBAs' and traditional healers' ability to influence health

IDIs with TBAs and traditional healers explored their ability to influence health. Results are broken down into household dynamics and sociocultural factors and beliefs, as well as logistical and practical matters.

15.2.1. Household dynamics and sociocultural factors and beliefs

Traditional providers largely saw traditional versus modern care as complementary approaches. As the following quotations from traditional providers demonstrate, modern medicine complements rather than threatens traditional medicine, and traditional providers reported that they themselves or their family members relied on modern medicine.

“ It’s really not a problem for me. Even yesterday my wife was at the doctor’s because I think that one person can’t know everything. There are things that I don’t know and there are things that I know that the doctors don’t know. In addition, the doctors’ medicine works more quickly but it doesn’t cure you completely—it’s the traditional medicine that cures you completely.

—IDI, Traditional Healer, Segou

It is worth noting that healers, similar to the general population, also believed in some of the misinformation about FP methods.

“ When the implant disappears into the muscle, the woman will become sterile. Also, using family planning before marriage or before the first birth can lead to difficulties during delivery, even to surgical operations.

—IDI, Traditional healer, Segou

As members of the community, healers may have also been engaged in community-level activities about malaria prevention and water potability. In the quotation below, the traditional healer’s message on water potability was circulated to community members.

“ I tell the population to drink water from the pump which is potable and for the cultivators not to put fertilizer in their soil.

—IDI, Traditional healer, Segou

16 Collaboration among Different Types of Providers

This chapter presents qualitative data on collaboration among different types of providers. Traditional and modern providers participating in IDIs were asked about the extent to which they collaborated with one another. Below, we present their responses, as well as a few insights from focus group participants on provider collaboration.

16.1. TBAs, doctors, and health workers

Where pregnancy was concerned, traditional healers reported referring women to doctors, who had greater knowledge of pregnancy than the healers themselves.

“ I tell them [pregnant women] to go to the health center because our plants can cause miscarriages. The doctors are more knowledgeable in this domain [pregnancy] than us.

—IDI, Traditional Healer, Segou

Some women who gave birth in the facility were accompanied by TBAs chosen by the villagers to go with them. The trained personnel appeared to involve the traditional provider in non-medical aspects of the delivery and postpartum care.

“ The village chooses a traditional birth attendant to accompany the woman in labor. Once they arrive there, the woman is handed over to the health workers so that they assist with her delivery. After the birth, they will ask the traditional birth attendant to go and get a wrap-around with which to protect the baby.

—FGD, Grandmothers, Segou

TBAs interviewed reported open communication with other providers and referrals to health centers for ANC and to facilities for complicated deliveries. Interestingly, much like community members, TBAs reported not seeing pregnant women until around 6 or 7 months.

“ Often, they come and see me when they are 6 or 7 months pregnant and I suggest that they go and see the health workers in Dourou for their antenatal care. They usually start to go at around 6 months, then they go each month and after the three consultations, they deliver.

—IDI, TBA, Mopti

16.2. TBAs and matrones

TBAs and matrones also reported collaboration. For the TBA articulating the quotation below, the relationship between TBAs and matrones is not one of complementarity but rather speaks to an implicit hierarchy, with matrones having greater knowledge.

“ The matrones at the CSCOM told me to tell them if a woman is about to give birth. If the woman delivers without difficulty, so much the better, but if I see there are complications, I have to do everything I can to send the person to them...there's no competition between us. I consider them my superiors. I look at myself as the person who has to do their bidding. I don't know what they know.

—IDI, TBA, Mopti

Some matrones reported using TBAs in sensitizations or to provide referrals or postnatal follow-up.

“ Our collaboration is very good. When a woman's situation is too complicated for them, they tell her to come to us. They also

participate in following up with women after they have given birth. We often go via them to sensitize lots of women about things that concern them.

—IDI, Matrone, Mopti

16.3. Traditional healers and matrones

From the traditional healer point of view, there was collaboration with matrones to promote breastfeeding and good nutrition. Other healers reported an interest in collaborating with other providers but no personal experience doing so.

“ We collaborate with the matrones; for example, we discuss exclusive breastfeeding and malnutrition. Every 3 months we exchange with them. It really helped us look after the children...before, we didn't have this sort of exchange. It was a project which gave us the idea. If we continue with it then an understanding will be established little by little. Certain people are not sensitized to a maximum yet but if you persevere, they will be convinced.

—IDI, Traditional healer, Sikasso

Some of the matrones' views on collaboration with traditional providers were aspirational in nature, with midwives hoping to involve traditional providers to help them understand the local context of health problems. Other respondents mentioned actual cases of collaboration, where traditional healers were brought to meetings with matrones to help devise solutions to community health problems.

“ We could involve them [traditional healers] in our exchange of ideas. They are from the local areas and they understand how it functions—each of us explains our difficulties and what doesn't work in that particular setting, and then together we can seek solutions.

—IDI, Matrone, Sikasso

However, some midwife and matrone participants reported limited collaboration with providers in the traditional sector, with their interactions being more indirect through referrals for very serious cases. Others reported TBAs who accompanied women to health centers.

“ I don't know anything about traditional healers. But there are women who, after giving birth, get high blood pressure and it affects their brain. They are taken to a traditional healer who takes all their money. If things still aren't right, they are brought to the health center—when they arrive, we ask them, “Who sent you?” and they say that it was the traditional healer who told them to come here.

—IDI, Midwife, Mopti

“ We work a bit with traditional birth attendants—those that are in another village, when they can't get a woman to deliver, they come with these women. When they come, they sit outside...they don't help us. They just sit. In some cases, we don't even know they are a traditional birth attendant.

—IDI, Matrone, Mopti

16.4. Matrones and others

Matrones and midwives reported good collaboration with other formal health personnel, including doctors, nurses, managers, vaccinators, and CHWs who provide education and outreach in the community.

“ There is no competition between us.... There is myself [the midwife], the doctor and nurse and manager—luckily the manager is multifunctional—he can place drips and do injections and bandages—he knows how to do everything! ...The vaccinator goes to the villages on Fridays and on Mondays he does people in Youvarou town. We also work with the community health workers because they go to the villages where their target group are children. They do consultations for respiratory infections and malaria for which they give syrups. If that doesn't work, they refer cases to the CSCOM. Each month they present their

reports to the DTC of the CSCOM. They work well—they are no problem.

—IDI, Midwife, Mopti

“With community health workers, we work with them during our advanced strategies. They hold health talks with women in their covered villages even in our absence and also when women come for antenatal care and vaccinations, it is she [the community health worker] who accompanies us all day long by doing talks and helping the vaccinator to vaccinate children until we finish the job. So, we can consider this as a kind of collaboration between us.

—IDI, Matrone, Segou

16.5. Traditional healers and modern providers

A focus group with 30- to 44-year-old mothers addressed visiting the traditional healer first and then at times needing to seek additional care at the health center if the traditional treatment was not sufficient.

“If your child falls gravely ill, certain illnesses can be treated at the health center and others not. If you take your child to the traditional healer, he does what he can to treat the child, but he may tell you to take the child to the health center as he does not know if his treatment will work or not.

—FGD, Mothers 30–44, Sikasso

Despite reports of collaboration between traditional and modern providers, a small minority of healers perceived that any collaboration would dishonor those who had endowed them with their traditional knowledge.

“R: We don't work together...sometimes they ask me to come and help with a sick person but I say, “No, no, I'm not coming.”

Q: Why don't you go?

R: Because when my father [who taught me about healing] was here, there was no health center.

—IDI, Traditional healer, Mopti

Collaboration and referral between providers was also said to go from providers of modern medicine to traditional healers when the problem did not have a clear medical precedent. This form of referral is not surprising given that many health workers are likely to espouse the same belief systems as the communities they serve.

“I often cure people with swollen stomachs. Bambara people say it is due to having dirty hands. Most of my treatments are about this kind of thing. When this sort of person goes to the hospital and the doctors see that the problem is not in their domain, they send him along to me.... Doctor Kariba often sends me sick people and most of these have stomach problems and there's no treatment in the hospital. The doctors can only temporarily ease the problem by getting liquid out of the stomach, but the problem can be completely cured traditionally.

—IDI, Traditional healer, Sikasso

Other important collaborators were the community health volunteers who reportedly sensitized older family members who may constitute obstacles to optimal health behaviors by young mothers.

“Regarding barriers to exclusive breastfeeding, we use a *relais* [community health volunteer] to go and sensitize the mother-in-law because there are *relais* who are old ladies too—older than us. She can go and explain [its importance] to the relatives of the mother.

—IDI, Matrone, Mopti

17 Community Leader Perspectives

This chapter presents findings from the IDIs with community leaders. All but one of the 13 community leaders interviewed in the study were male. Most were village chiefs, and the female was treasurer of her community's association.

17.1. Ability to influence service providers and community

It was notable that the community leaders reported doing a significant amount of grassroots work on behalf of the formal health services. For example, they reported following up with those who did not show up for immunization, assisting at sensitization sessions, and checking up on patient flow at the local facility. They also acted as intermediaries in cases of health worker/client disputes.

“From time to time I go and see the doctor to know how many people are using the health center. I am a village leader and at the same time a member of an association and I can't tell people to go to the health center without being sure that they are getting the best care...I also intervene if there is a misunderstanding between the doctor and his patients.

—IDI, Community Leader, Segou

However, some community leaders expressed concerns about the quality of health care provided in health centers and voiced that a lack of provider professionalism both was disrespectful to the community and served as an obstacle to care.

“There are people in the health center who have been given jobs they are incapable of doing. As long as the personnel are qualified, we don't have a problem going to the health center for services...we need qualified people, not trainees, because they

haven't mastered anything—it's serious. If the providers are incompetent, it is disrespectful to the population in terms of treatment. It is the biggest obstacle [to care].

—IDI, Community Leader, Sikasso

“The disadvantages are related to injections—we have people in the village who can't walk because of [badly given] injections due to the lack of professionalism of our health workers.

—IDI, Community Leader, Sikasso

The theme of mobilizing ambulances during a health emergency was echoed by leaders. In the following quotation, this leader tells about the community system put into place to address the burgeoning cost of ambulances.

“We had a system in place where each taxpayer paid CFA 100 or CFA 150 to cover the costs of the ambulance. But it didn't work, as we couldn't collect the money and the mayor's office pulled out. So after that, we adopted a system where we added CFA 100 to each prescription to pay the ambulance costs. We sensitized people about this and at the CSCOM there is a committee who manages the process. At the end of the year, the costs for the ambulance are guaranteed and the people who are evacuated don't pay anything.

—IDI, Community Leader, Segou

Community leaders provided accurate information about nutrition and shared insights into food availability in their area. For example, a leader in Sikasso noted the paradox of living in an area with high food security alongside malnutrition.

“Young children should eat fish and pregnant women should eat fruit such

as bananas, oranges, and meat...here people mix up powdered peanuts to give to children. You can make millet couscous and also turn beans into a powder—all these foods are good to consume along with rice...The Sikasso region should be number one in terms of food because there is a lot of variety here, but instead you find that it is the region which has the most malnutrition compared with other regions of Mali. This shouldn't happen as the villager should be a king because he cultivates—but he doesn't consume what he grows and that is due to a lack of understanding. We talk about this all the time to heads of families and to women.

—IDI, Community Leader, Sikasso

The leaders pointed out that health information, particularly about FP, is regularly exchanged among women. One leader viewed his own role as encouraging FP and its advantages and garnering financial support for it from men.

“ Women chat about family planning with each other when they are in their groups en route to the market and they also get information about it from the relais [community health volunteers]—so I would say that they are better informed than us about the topic.... I encourage women to go to the health center to get family planning and in my chats I encourage men to give money to their wives so that they can go and use it—I explain its advantages to them.

—IDI, Community Leader, Mopti

However, advice from the leader could also reinforce the notion that women should follow their husband's wishes.

“ The advice that I give is that a woman should listen to her husband. If a woman is not at ease in her marriage, it is because she does not listen to her husband. By contrast, if she does listen, she will be happy. If a woman seeks to trick her husband, he will not like it and if he doesn't like it, he will not help her be happy...if a woman does what her husband likes, her in-laws will love her and there will be no difficulties. In the opposite case, it will be very difficult for her to get what she wants.

—IDI, Community Leader, Sikasso

18 Discussion

18.1. Key findings and possible entry points for interventions

Key thematic findings are described below along with suggestions for possible health strategies and interventions. Utilization of health services by exit interview clients was high, with nearly 90% of women having been to a health center recently. Overall, just under half of all women were seeking ANC (47.8%), with the highest rates in Mopti (64%), where the total fertility rate is also highest (7.2). However, women present late for ANC, rendering it hard to achieve the recommended number of ANC visits over the course of the pregnancy. This delayed health seeking is motivated by a reticence in announcing one's pregnancy, lack of permission from one's husband, and practical considerations such as the cost of the visit and associated transportation costs. Qualitative findings suggest that presenting earlier for one's ANC visits is possible given the confidence that some women have in providers, the knowledge that ANC visits can decrease the likelihood of pregnancy and delivery complications, and the communal savings behaviors among women to fund SRH needs including ANC. Possible entry points to further motivate ANC visits earlier in the pregnancy are use of multiple media channels to support the importance of ANC and community sensitizations and outreach to heads of household on the importance of ANC visits.

PNC was low, with less than 5% of women in study communities reporting it as the reason for their visit and only 1.2% of women in Mopti doing so. Poor uptake of PNC is due, to some extent, to a sociocultural belief about women needing to stay secluded for 40 days postpartum and the belief that such visits are necessary and worth the cost only if the mother or baby are sick and require curative care. Limited knowledge among new fathers on the importance of PNC was also perceived to contribute to low utilization rates. Nevertheless, qualitative findings show existing motivations to seek PNC, such as availability of birth certificates in health centers, provision of advice about breastfeeding, and postpartum FP consultations. A potential approach to address postpartum seclusion is by bringing PNC services to women through existing structures such as CHWs. Another next step to address seclusion would be to engage women's groups,

delivery care providers, and community leaders to address the norm for seclusion.

Use of FP among women at CSCOMs was low, with less than 10% of women reporting it as the reason for their visit. Few CSCOM clients reported receiving modern FP methods during their visit, but among those who did, the most common was injectable (48.3%) followed by implant (43.2%). Barriers to uptake of modern contraceptive use include persistent myths about side effects that discourage use and the high value placed on fertility. However, beliefs about the value of birth spacing among men and women, men's acknowledgement of the economic benefits of FP, and reported support by mothers-in-law and co-wives for covert use were facilitators of its use. Possible entry points for increasing use of modern FP include use of multiple media channels to address myths about FP, inclusion of husbands as appropriate in FP promotion campaigns, ensuring providers are counseling on voluntary FP options, and considering missed opportunities for FP such as antenatal, postnatal, and well-baby/child health visits.

Caregivers of children under age 5 seeking preventive care unanimously reported being there for vaccinations. However, DHS data indicate that a significant minority of children in the study regions have no immunizations (10.5% in Sikasso, 11.2% in Segou, and 19.3% in Mopti). Qualitative data indicate that immunizations are hampered by concerns over side effects, distance to health facility where immunizations are provided, parents' obligations to work, unpredictable and inflexible provider schedules, and need for accompaniment amidst safety concerns. However, immunizations were encouraged by social norms that vaccinations are obligatory and a belief that immunizations are effective in building children's resistance to disease. Exit indicator data suggest that costs of vaccinations are either low or free. Strategies to increase vaccination use could include diving deeper into barriers for caregivers, allowing for variation by region and ethnic group, addressing myths around vaccination that may be specific to some communities, addressing supply-side barrier to vaccination, and, once barriers are more clearly outlined, developing interventions such as mobile outreach or digital intervention.

18.2. Cross-cutting themes

The formative research included a few cross-cutting themes that emerged across respondent groups, and in some cases across data collection activities. The first theme is on economic constraints on the one hand and evidence of women's economic empowerment on the other as a way to offset cost barriers to health seeking. The second theme is on social and power dynamics between women and their husbands and women and other women. It is worth noting how these two themes frequently overlapped in the findings, suggesting that social and economic influences in one's life are continuously influencing one another.

Cost was nearly unanimously cited as a barrier to seeking health services. Findings from this mixed-methods formative assessment suggest that delivery costs in a high-fertility country, curative care costs, and interruptions to one's livelihood through food shortages result in significant economic constraints and could tip already fragile household economies into debt and thus increase the likelihood of future malnutrition and vulnerability among women and children.

Strategies to offset these constraints often relied on women's economic activities such as communal savings to cover their SRH needs or other health needs of their children. However, this economic empowerment was considered beneficial to the family only when the woman prioritized family harmony above all else. The multi-member household structures in Mali mean that women have to navigate several key relationships in their conjugal home to have a successful marriage and have financial and social support when they or their children require health services. Focus group participants expressed that early on in a marriage, a woman must strive to establish harmony and agreement with her husband and other female members of her household. Time invested in building solid relationships with these women was believed to ultimately facilitate women's use of health services, either directly via financial assistance or indirectly via social support (with domestic duties or negotiating with husbands), allowing women to seek services when needed.

18.3. Limitations

There are some study limitations that temper our findings. The topical literature review was primarily focused on Mali. Once health strategies and interventions are prioritized for Mali, it would be worthwhile to expand the geographic scope to the Sahel and the rest of sub-Saharan Africa. Because the scoping mission discussions took place with key informants based in Bamako, they may lack important perspectives of Malian researchers, program implementers, and other stakeholders based elsewhere in Mali.

The exit interviews are by nature selective. Only those who visited CSCOMs were included, and they may be different than those not seeking services in terms of socioeconomic status, social networks, attitudes toward health-seeking, or morbidity and behavioral profiles. To gain a better understanding of health-seeking behaviors across the general population, DHS data could be disaggregated by region to fill some of the data gaps. Additionally, the data were not powered to look at regional data or data at a lower geographic level.

The qualitative research relied on purposive sampling, which may induce some inherent biases including a risk of homogeneity of respondents. Moreover, in a few communities in Mopti (Borondougou commune) and Segou (Mafoune commune), FGDs were held in Bamanan, but a few participants who spoke only Bobo or Bozo had trouble comprehending the questions posed as native-speaker interviewers were not available. In these few cases, other focus group participants translated for them. The volume of qualitative data collected (n=143 transcripts) made analysis and synthesis in the allotted time period burdensome. The ongoing violence in Mopti also resulted in less data being collected there. Finally, experience and skills of qualitative facilitators may have limited probing on some of the responses.

18.4. Contributions of this study and future research needed

This mixed-method formative assessment advances knowledge on the context of health behaviors, determinants, motivators, and opportunities for improving access to and use of health services in Mali. The findings provide new and detailed information about the nexus between a woman's place in her household, the social

relations in which she is embedded, and her ability to access care in the community for herself or for her child. Her own needs must be seen to be secondary to those of the extended family if she is to persuade them to pay for preventive and curative care. Women who are able to demonstrate economic independence or to access funds from a credit-and-savings scheme may accrue health-related advantages associated with the autonomy this gives them.

There are a number of future research directions suggested by our findings. Given the sheer volume of the data collected and the subgroups included in the data collection, there is an opportunity to provide deeper regional and subgroup analysis to understand how Sikasso, Segou, and Mopti differ in each of the themes and to delve deeper into each of the participant subgroups included in the qualitative data collection.

Throughout the report, we make use of the many qualitative participant groups to understand key themes such as ANC, but the analysis did not focus on drawing out the differences between subgroups on certain topics. For example, a deeper analysis could consider how adolescent males think about ANC versus how adolescent females think about it, with an eye toward designing interventions to target male partners before they become fathers.

For regional analyses, we suggest regional behavioral diagnostic work may be useful for elucidating differences at the regional level that are often overlooked in analysis that consider Mali as a whole. In the analyses presented here, there appear to be significant differences across regions on some beliefs and behaviors. We also know these areas look different in health care availability and quality. Additional regionally focused analyses would be useful for tailoring interventions to regional and sub-regional settings for optimal effect.

In addition to delving deeper into the available data from this study, there may be additional data collection with missing populations that could improve our understanding of these topics and provide useful insights. Because CHWs and health providers were not interviewed (with the exception of midwives and matrones), an interesting next step would be to garner their perspectives. Additionally, we heard from participants that CHWs play an important intermediary role; indeed, we suggest that interventions may utilize CHWs in postpartum care. It would be important to strategically interview CHWs

to understand their perspectives about these topics in order to develop appropriate interventions to harness their abilities and their role in these communities.

The literature review unearthed questions about how school-based WASH interventions can impact socioeconomic well-being, and further research is needed on this topic. Qualitative findings left us with questions on the effects of economic sanctions levied on those who deliver outside of health centers on delivery behaviors and on how reported stigma associated with bed nets given out to pregnant women influences ANC seeking.

As others have noted, the 40 days postpartum are a crucial period of importance to the mother and child and are also highly influenced by religious and cultural norms about what is considered acceptable behavior during this time. Another example is understanding the effectiveness of interventions that have engaged co-wives in settings with polygamous unions.

In terms of use of health care, in our exit interviews we found that only a small number of respondents would not recommend the facility and that the vast majority of respondents were satisfied with the care they received. We suspect that responses about satisfaction and respect may have been influenced by social desirability bias and the location of the exit interviews. Given the small number of respondents who were dissatisfied, it may be important to conduct data collection activities outside of the other health facilities or not immediately following the visit to try to reduce bias. Among the small number dissatisfied, it appeared that age and education may be associated with this dissatisfaction. Future research may examine how education and age influence health care experiences and whether providers treat patients differently based on age and education.

19 Bibliography

- Abuya, T. et al. 2015a. "The effect of a multi-component intervention on disrespect and abuse during childbirth in Kenya," *BMC Pregnancy and Childbirth*. 15(1). doi: 10.1186/s12884-015-0645-6.
- Abuya, T. et al. 2015b. "Exploring the prevalence of disrespect and abuse during childbirth in Kenya," *PLoS ONE* 10(4). doi: 10.1371/journal.pone.0123606.
- Adamu, Y. M., and H. M. Salihu. 2002. "Barriers to the use of antenatal and obstetric care services in rural Kano, Nigeria," *J Obstet Gynaecol*. 22: 600–3.
- Arsenault, C. et al. 2013. "Emergency obstetric care in Mali: catastrophic spending and its impoverishing effects on households," *Bulletin of the World Health Organization*. doi: 10.2471/blt.12.108969.
- Baxter, J. et al. 2016. "Evaluating programmatic effectiveness and implementation: An assessment of factors affecting change in the practice of exclusive breastfeeding in Ethiopia and Mali," *FASEB Journal* 30:1_supplement, 1149.1-1149.1
- Bery, R., S. Traore, and L. Shafritz. 2016. "WASHplus in Mali: integrating WASH and nutrition for healthy communities. (Special focus on nutrition-sensitive programming,)," Field Exchange Emergency Nutrition Network ENN.
- Bove, R. M., Vala-Haynes, E. and Vallenggia, C. 2014. "Polygyny and women's health in rural Mali," *Journal of Biosocial Science* 46(1): 66–89. doi: 10.1017/S0021932013000059.
- Brady, M. and B. Winikoff. (no date). Rethinking Postpartum Health care.
- Buor, D. 2003. "Analysing the primacy of distance in the utilization of health services in the Ahafo-Ano South district, Ghana," *International Journal of Health Planning and Management*. doi: 10.1002/hpm.729.
- Buor, D. and K. Bream. 2004. "An analysis of the determinants of maternal mortality in sub-Saharan Africa," *Journal of Women's Health*. doi: 10.1089/jwh.2004.13.926.
- Burke, E. et al. 2018. "Helping postpartum women in Mali achieve their fertility intentions: Perspectives from introduction of the dedicated postpartum IUD inserter," *Global Health Science and Practice*. doi: 10.9745/GHSP-D-18-00138.
- Castle, S. et al. 1999. "A qualitative study of clandestine contraceptive use in urban Mali," *Studies in Family Planning*. doi: 10.1111/j.1728-4465.1999.00231.x.
- Castle, S., P. S. Yoder, and M. K. Konaté. 2001. "Introducing complementary foods to infants in central Mali." Calverton, Maryland USA: ORC, Macro.
- Cooper, M. and C. Thor West. 2017. "Unraveling the Sikasso paradox: agricultural change and malnutrition in Sikasso, Mali," *Ecology Of Food And Nutrition* 56(2): 101-123.
- Christopher, J. B. et al. 2011. "Thirty years after Alma-Ata: A systematic review of the impact of community health workers delivering curative interventions against malaria, pneumonia and diarrhoea on child mortality and morbidity in sub-Saharan Africa," *Human Resources for Health*. doi: 10.1186/1478-4491-9-27.
- Dettwyler, K. A. 1987. "Breastfeeding and weaning in Mali: Cultural context and hard data," *Soc Sci Med*. 24: 633–44.
- Diarra, M. L., M. Mariko, M. S. Mbaye, and K. Noba. 2016. "Plantes médicinales utilisées dans le traitement traditionnel du paludisme à Bamako (Mali)," *International Journal of Biological and Chemical Sciences* 10(4): 1534-1541.
- Ellis, A. A. et al. 2012. "Treatment actions and treatment failure: case studies in the response to severe childhood febrile illness in Mali," *BMC Public Health* 12(1): 946.
- Freedman, L. P. et al. 2014. "Defining disrespect and abuse of women in childbirth: a research, policy and rights agenda," *Bulletin of the World Health Organization*. 92(12): 915–7. doi: 10.2471/BLT.14.137869
- Gage, A. J. 2007. "Barriers to the utilization of maternal health care in rural Mali," *Social Science and Medicine*. 65(8): 1666–82. doi: 10.1016/j.socscimed.2007.06.001.
- Graz, B. et al. 2014. "Home treatments alone or mixed with modern treatments for malaria in Finkolo AC, South Mali: Reported use, outcomes and changes over 10 years," *Transactions of the Royal Society of Tropical Medicine and Hygiene* 109(3): 209–213. doi: 10.1093/trstmh/tru181.
- Gunawardena, N., G. Bishwajit and S. Yaya. 2018. "Facility-based maternal death in western Africa: a systematic review," *Frontiers in Public Health*. 6. doi: 10.3389/fpubh.2018.00048.
- Heaton, T. B., B. Crookston, H. Pierce, and A. Y. Amoateng. 2016. "Social inequality and children's health in Africa: A cross sectional study," *Int J Equity Health*. 15:92. doi: 10.1186/s12939-016-0372-2
- Hill, J. et al. 2014. "Effectiveness of antenatal clinics to deliver intermittent preventive treatment and insecticide treated nets for the control of malaria in pregnancy in Mali: a household survey," *PLoS One* 9(3): e92102.
- Holten, L. 2013. Mothers, medicine and morality in rural Mali: an ethnographic study of therapy management of pregnancy and children's illness episodes (Vol. 6). LIT Verlag Münster.
- Institut National de la Statistique (INSTAT), Cellule de Planification et de Statistique Secteur Santé-Développement Social et Promotion de la Famille (CPS/SS-DS-PF), and ICF. 2019. "Sixième Enquête Démographique et de Santé au Mali 2018." Indicateurs Clés. Bamako, Mali, et Rockville, Maryland, USA : INSTAT, CPS/SS-DS-PF, et ICF.
- Johnson, A. D. et al. 2013. "Assessing early access to care and child survival during a health system strengthening intervention in Mali: a repeated cross sectional survey," *PLoS One* 8: e81304. doi:10.1371/journal.pone.0081304.
- Klein, M.C. et al. 2016. "There is no free here, you have to pay": actual and perceived costs as barriers to intermittent preventive treatment of malaria in pregnancy in Mali," *Malaria Journal* 15(1): 158.
- Kuzara, J. et al. 2018. "Addressing social and gender norms to improve uptake of maternal health services in Mali: a descriptive study of CARE's Project Hope for Mothers and Newborns (PEMN)," *Culture, Health & Sexuality* 20(11): 1273–1286.

- Le Ministre de la Santé et de l'Hygiène Publique [The Ministry of Public Health and Hygiene]. Plan d'Action National de Planification Familiale du Mali 2014-2018. Available at: https://www.healthpolicyproject.com/ns/docs/Plan_d_Action_National_PF_du_Mali_2014_2018FINAL.pdf. Accessed December 13, 2019.
- Lesclingand, M., V. Hertrich and C. Dutreuilh. 2017. when girls take the lead: adolescent girls' migration in Mali," *Population* 72(1): 63–92.
- Makuta, I., and B. O'Hare. 2015. "Quality of governance, public spending on health and health status in Sub Saharan Africa: A panel data regression analysis," *BMC Public Health*. 15.
- Mensch, B. S., E. K. Chuang, A. J. Melnikas, and S. R. Psaki. 2019. "Evidence for causal links between education and maternal and child health: systematic review," *Tropical Medicine and International Health*. 24(5): 504–522. doi: 10.1111/tmi.13218
- Morand, P., F. Sinaba, and A. N. Fall. 2016. "Fishermen, herders and rice-farmers of the inner Niger delta facing the huge challenge of adapting to weakened floods: a social-ecological system at risk." In T. Tvedt and T. Oestigaard (eds.) *A History of Water: Series III*, Vol 3. London: Taurus.
- Nordeng, H. et al. 2013. "Traditional medicine practitioners' knowledge and views on treatment of pregnant women in three regions of Mali," *Journal of Ethnobiology and Ethnomedicine* 9(1): 67. doi: 10.1186/1746-4269-9-67
- Pickering, A. J. et al. 2015. "Effect of a community-led sanitation intervention on child diarrhoea and child growth in rural Mali: A cluster-randomised controlled trial," *Lancet Glob Heal*. 3(11): e701–11. doi: 10.1016/S2214-109X(15)00144-
- Rivers III, L. et al. 2018. "Mental models of food security in rural Mali," *Environment Systems and Decisions* 38(1): 33–51.
- Sangho, H. et al. 2016. "Tetanus vaccination of women of child-bearing age in Bamako (Mali)," *Le Mali Medical* 31(2): 26–32.
- Save the Children/USAID Nepal 2016. "Improving nutrition in Nepal: the Suaahara experience." Kathmandu, Nepal: Save the Children.
- Simkhada, B., E. R. van Teijlingen, M. Porter, and P. Simkhada. 2008. "Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature," *J Adv Nurs*. 61: 244–60.
- Sobgui, C. M. et al. 2018. "Predictors of poor nutritional status among children aged 6–24 months in agricultural regions of Mali: a cross-sectional study," *BMC Nutrition* 4(1): 18.
- Stephenson, R. et al. 2006. "Contextual influences on the use of health facilities for childbirth in Africa," *Am J Public Health*. 96: 84–93.
- Strassmann, B.I. 2017. "Polygyny, family structure, and child mortality: a prospective study among the Dogon of Mali." In L. Cronk, N. Changnon, and W. Irons (eds.), *Adaptation and Human Behavior: an anthropological perspective*. Philadelphia: Routledge.
- Tanser, F., B. Gijsbertsen, and K. Herbst. 2006. "Modelling and understanding primary health care accessibility and utilization in rural South Africa: An exploration using a geographical information system," *Social Science and Medicine* 63(3): 691-705. doi: 10.1016/j.socscimed.2006.01.015
- Thaddeus, S., and D. Maine. 1994. "Too far to walk: maternal mortality in context," *Social Science and Medicine*. 38(8): 1091–1110.
- Thibaud, B. 2005. "Enjeux spatiaux entre Peuls et Dogon dans le Mondoro (Mali)." *Science et changements planétaires/Sécheresse* 16(3): 165–174.
- Trinies, V. et al. 2019. "Uncovering the challenges to menstrual hygiene management in schools in Mali," *Waterlines* 34(1): 31–40. doi:10.3362/1756-3488.2015.004.
- Tranchant, J.P. et al. 2019. "The impact of food assistance on food insecure populations during conflict: Evidence from a quasi-experiment in Mali," *World Development* 119: 185–202.
- United Nations Fund for Population Activities (UNFPA)Mali. 2017. Santé et droits sexuels et de la procréation des adolescentes au Mali: Analyse des politiques et des programmes : opportunités et défis pour l'UNFPA. Bamako, Mali: UNFPA.
- United Nations High Commission for Refugees(Mali). 2019.Mali Situation as of 31 July 2019 Refugees. <https://data2.unhcr.org/en/documents/download/70926>(Accessed 20th August 2019)
- Van de Walle F, Maiga M. Family planning in Bamako, Mali. *Int Fam Plan Perspect*. 1991;17:84-90+99.
- Warren, N. et al. 2015. "Nègè-nègè: sweet talk, disrespect, and abuse among rural auxiliary midwives in Mali," *Midwifery* 31(11): 1073–1080.
- White D et al. 2013. "The influence of intra familial power on maternal health care in Mali: Perspectives of women, men and mothers-in-law," *Int Perspect Sex Reprod Health*. 39: 58–68.
- Willcox, M. L. et al. 2018. "Circumstances of child deaths in Mali and Uganda: a community-based confidential enquiry," *The Lancet Global Health* 6(6): e691–e702.
- The World Bank. 2019. Country database. <https://data.worldbank.org/>. Accessed 3 Dec 2019.
- The World Bank. 2018. "The challenges of urbanization in West Africa," *Working Paper*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/389881528873419842/The-challenges-urbanization-in-West-Africa>
- World Health Organization. 2001. "Dying for change : poor people's experience of health and ill-health." Geneva: World Health Organization. <https://apps.who.int/iris/handle/10665/42462>
- World Health Organization. 2004. "Poverty reduction strategy papers: their significance for health: second synthesis report." Geneva: World Health Organization. <https://www.who.int/hdp/en/prsp.pdf?ua=1>. Accessed 21 Nov 2019.

Annexes

Annex 1 List of communities sampled for FGDs and KIIs with selected characteristics

REGION	CERCLE	ARRONDISSEMENT	COMMUNE	VILLAGE	PREDOMINANT ETHNIC GROUP	PREDOMINANT PRODUCTION SYSTEM	LOCATION OF CSCOM	APPROXIMATE DISTANCE TO CSCOM (KM)	% HOUSEHOLDS IN THE POOREST ECONOMIC QUINTILE (CERCLE LEVEL)*
MOPTI	Mopti	Sendegue	Ouroube Doude	Samataka	Peulh	Herding	Sendegue	13	15.7
	Mopti	Sendegue	Ouroube Doude	Doye-Marka/ Doye Peulh	Marka/Peulh	Trading/ Herding	Sendegue	20	
	Mopti	Sendegue	Ouroube Doude	Dera	Peulh	Herding	Sendegue	4	
	Mopti	Konna	Borondougou	Bogo	Bozo	Fishing	Diambacourou	8	
	Mopti	Konna	Borondougou	Singo	Bozo	Fishing	Diambacourou	8	
	Mopti	Konna	Borondougou	Komio	Bozo	Fishing	Diambacourou	18	
	Youwarou	Guidio	Deboye	Akka	Songhai	Agriculture	Youwarou	5	16.8
	Youwarou	Guidio	Deboye	Fitobe	Songhai	Agriculture	Youwarou	10	
	Youwarou	Guidio	Deboye	Sobe	Songhai	Agriculture	Youwarou	9	
	Bandiagara	Dourou	Dourou	Idiely na	Dogon	Agriculture	Dourou	15	36.5
Bandiagara	Dourou	Dourou	Ersadja	Dogon	Agriculture	Dourou	3		
Bandiagara	Dourou	Dourou	Diondiourou	Dogon	Agriculture	Dourou	20		
SEGOU	Macina	Kologotomo	Boky Were	Kabanbougou	Peulh	Herding	Boky Were	10	4.6
	Macina	Kologotomo	Boky Were	Macina Were	Peulh	Herding	Oula	9	
	Macina	Kologotomo	Boky Were	Sossebougou	Peulh	Herding	Kolongo Tomo	12	
	Tominian	Mafoune	Mafoune	Lebekuy	Bobo	Agriculture	Mafoune	17	27.3
	Tominian	Mafoune	Mafoune	Mankoina	Bobo	Agriculture	Mafoune	15	
	Tominian	Mafoune	Mafoune	Batiolo	Bobo	Agriculture	Mafoune	30	
	Baroueli	Baroueli central	Baroueli	Siango	Soninke	Agriculture	Nianzana	5	7.3
	Baroueli	Baroueli central	Baroueli	Zana	Soninke	Agriculture	Baroueli	10	
	Baroueli	Baroueli central	Baroueli	Koliko	Soninke	Agriculture	Nianzana	6	
	Bla	Yangasso	Korodougou	Safalko	Mininaka	Agriculture	Nampaso	12	4.2
	Bla	Yangasso	Korodougou	Diakoro	Mininaka	Agriculture	Nampaso	3	
	Bla	Yangasso	Korodougou	Dingoso	Mininaka	Agriculture	Nampaso	7	

SIKASSO	Kolondieba	Kolondieba	Nangalaso	Toutiala	Bamanan	Agriculture	Toutiala	0	5.6
	Kolondieba	Kolondieba	Nangalaso	Bogodougou	Bamanan	Agriculture	Toutiala	7	
	Kolondieba	Kolondieba	Nangalaso	Bladieni	Bamanan	Agriculture	Toutiala	6	
	Yorosso	Yorosso	Karangana	Sinkolo	Mininaka	Agriculture	Karangana	5	3.7
	Yorosso	Yorosso	Karangana	Kaffona	Mininaka	Agriculture	Karangana	7	
	Yorosso	Yorosso	Karangana	Benigorola	Mininaka	Agriculture	Karangana	6	
	Yanfolila	Siekorole	Sankarani	Faraba	Peulh (Wassalou)	Agriculture	Faraba	0	6.7
	Yanfolila	Siekorole	Sankarani	Bambadala	Peulh (Wassalou)	Agriculture	Tagan	45	
	Yanfolila	Siekorole	Sankarani	Farani	Peulh (Wassalou)	Agriculture	Finkolo	4	
	Sikasso	Finkolo	Finkolo Ganadougou	Gladie	Ganadougou	Agriculture	Finkolo	20	4.7
	Sikasso	Finkolo	Finkolo Ganadougou	Kadjila	Ganadougou	Agriculture	Finkolo	12	
	Sikasso	Finkolo	Finkolo Ganadougou	Finkolo	Ganadougou	Agriculture	Finkolo	0	

*Source INSTAT (2018) based on revenue index.

Annex 2 Supplemental tables and figures

TABLE A1 PARTICIPANT DEMOGRAPHICS, QUALITATIVE FOCUS GROUP DISCUSSIONS

	AGE (MEAN)	# OF CHILDREN (MEAN)	# OF CHILDREN UNDER 5 (MEAN)	# OF GRANDCHILDREN (MEAN)	# OF GRANDCHILDREN UNDER 5 (MEAN)	N
SIKASSO						301
Unmarried adolescents						
Male	17.9	0.0				37
Female	16.0	0.0	0.0			37
Married adolescents (female)	17.7	1.7	1.5			39
Mothers 20–29	24.1	3.2	1.6	0.0		38
Mothers 30–44	34.3	5.0	1.3	0.0	0.0	39
Fathers 25–44	34.0	4.5	2.0	0.3	0.0	37
Grandfathers	62.2	11.3	0.0	7.0	3.0	37
Grandmothers	53.2	6.2	0.0	5.9	3.2	37
SEGOU						220
Unmarried adolescents						
Male	17.6	0.0	0.0			25
Female	16.9	0.0	0.0			27
Married adolescents (female)	18.6	1.7	1.4			29
Mothers 20–29	24.1	3.0	1.6	0.0		26
Mothers 30–44	35.9	5.3	2.4	0.2	0.0	28
Fathers 25–44	36.3	5.2	2.0	0.0		29
Grandfathers	56.1	8.1	0.0	3.9	2.2	28
Grandmothers	53.9	5.5	0.0	4.2	1.9	28
MOPTI						219
Unmarried adolescents						
Male	17.4	0.0				27
Female	16.7	0.0				27
Married adolescents (female)	17.5	1.7	1.3			29
Mothers 20–29	25.3	3.3	2.0	0.0		26
Mothers 30–44	35.5	5.8	2.1	0.0		30
Fathers 25–44	37.6	4.7	1.8	0.0		26
Grandfathers	60.6	7.7	0.0	4.6	2.2	27
Grandmothers	52.9	5.0	0.0	4.5	2.4	27

TABLE A2 PRIMARY REASON FOR SEEKING CARE, BY AGE GROUP (WOMEN AT CSCOMS)

	N	MOST COMMON REASON FOR VISIT
Under 20	201	Prenatal care (53.2%)
20–24	344	Prenatal care (56.4%)
25–29	308	Prenatal care (53.8%)
30–34	205	Prenatal care (51.6%)
35–39	128	Prenatal care (48.6%)
40–44	48	Curative care (60.4%)
45+	108	Curative care (89.8%)
Total	1,342	Prenatal care (48.0%)

TABLE A3 REPORTED MATERIALS OR MEDICATIONS RECEIVED FROM THE VISIT FOR CAREGIVERS OF CHILDREN UNDER AGE 5, BY REGION

	% REPORTED RECEIVING			
	OVERALL N=1,463	SIKASSO N=581	SEGOU N=629	MOPTI N=253
Medications	66.3	74.9	65.6	43.5
Materials (e.g., bednet)	2.6	4.0	2.4	0.0
Order (ordonnance)	24.6	38.9	19.1	5.9
Other	25.9	7.9	25.7	65.6

Notes: responses are not mutually exclusive and columns do not add to 100.0
Among other, many reported receiving plumpy nut (46%) and vaccines (40%)

TABLE A4 TRAVEL TIME TO CARE FACILITY BY TYPE OF CARE SOUGHT AND REGION

TRAVEL TIME TO CARE FACILITY	WOMEN AT CSCOMS N=1,342				CAREGIVER SEEKING CARE FOR CHILD N=1,463 (%)			
	OVERALL %	SEGOU %	SIKASSO %	MOPTI %	OVERALL %	SEGOU %	SIKASSO %	MOPTI %
0–30 minutes	68.6	66.9	77.8	55.9	67.8	63.5	79.3	51.0
30 minutes–1 hour	22.7	26.8	19.0	18.5	23.9	27.2	18.4	30.6
1–2 hours	7.5	6.0	3.0	20.7	6.9	8.3	2.2	14.9
>2 hours	1.2	0.3	0.2	5.3	1.0	1.0	0.0	3.4

TABLE A5 MODE OF TRANSPORT, CAREGIVERS OF CHILDREN UNDER AGE 5 BY REGION

	OVERALL (N=1,463) %	SEGOU (N=629) %	SIKASSO (N=581) %	MOPTI (N=253) %
Walking	52.5	47.5	50.8	68.8
Bicycle	9.8	10.5	12.9	1.2
Pulled cart	7.4	15.1	0.0	5.5
Motorbike	27.7	26.1	35.1	15.0
Other	2.6	0.8	1.2	9.5

Note: other in Mopti was most commonly pirogue, or canoe (n=21)

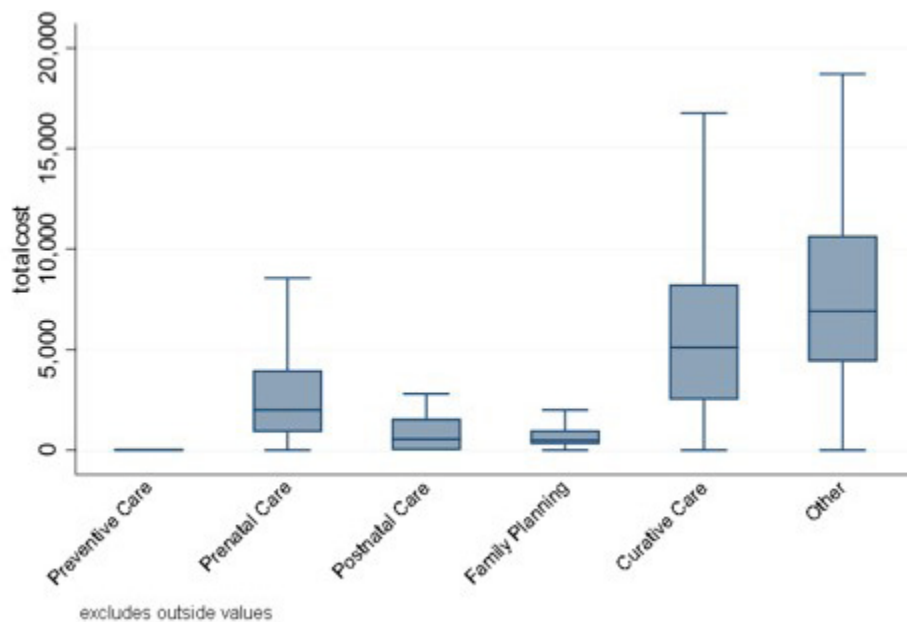
TABLE A6 RESPECT SCORES BY GENDER OF CAREGIVER AND MEDICAL PROFESSIONAL, CAREGIVERS OF CHILDREN UNDER 5

	OVERALL (N=1,070) MEAN (SD)	SEGOU (N=392) MEAN (SD)	SIKASSO (N=458) MEAN (SD)	MOPTI (N=220) MEAN (SD)
Male caregiver	4.01 (.5)	3.97 (.6)	4.07 (.4)	3.85 (.6)
Female caregiver	3.97 (.5)	4.13 (.5)	3.95 (.5)	3.74 (.6)
Male doctor	4.01 (.5)	4.12 (.6)	4.01 (.5)	3.84 (.5)
Female doctor	3.90 (.5)	4.11 (.4)	3.83 (.5)	3.51 (.7)

TABLE A7 COST OF SEEKING CARE BY TYPE OF CARE, WOMEN AT CSCOMS

CARE TYPE	COST FOR WOMEN RESPONDENTS (CFA) (MEAN, MEDIAN)	% OF SERVICES PROVIDED FOR FREE
Preventive care	1212, 0	64.7
Antenatal care	3026, 1900	5.27
Post-natal care	1605, 500	36.1
Family planning consultation	799, 500	18.3
Curative care	6056, 4900	8.8
Other	8569, 7500	15.6

FIGURE A1 TOTAL COST OF SEEKING CARE BY CARE TYPE, WOMEN AT CSCOMS



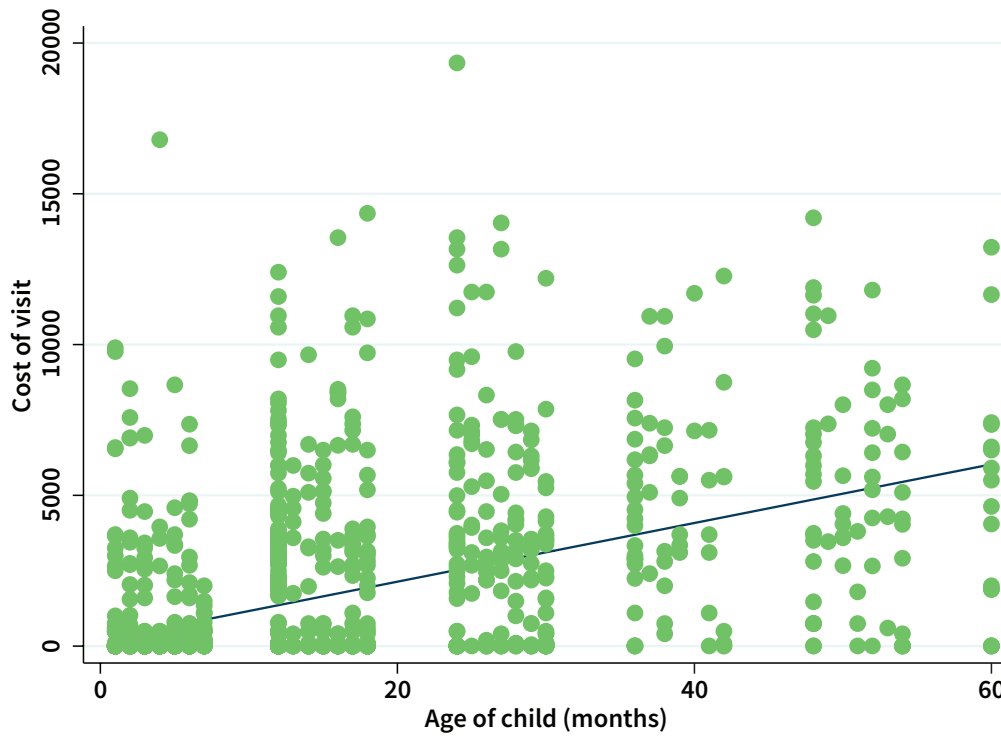
Note: when asked to specify, most respondents (85%) reported delivery as other

TABLE A8 COST OF SEEKING CARE, CAREGIVERS OF CHILDREN UNDER 5

REGION	TOTAL COST OF CARE (CFA) (MEAN, MEDIAN)
Segou	2933, 400
Sikasso	1102, 0
Mopti	1258, 0
Preventive care	93, 0
Curative	3071, 2000
Other	1485, 0
Overall	1856, 100

Note: total cost of seeking care includes travel and costs associated with the visit

FIGURE A2 TOTAL COST OF SEEKING CARE BY AGE OF CHILD



Note: costs shown include costs of the visit as well as reported travel costs

FIGURE A3 NUMBER OF VISITS ACCOMPANIED

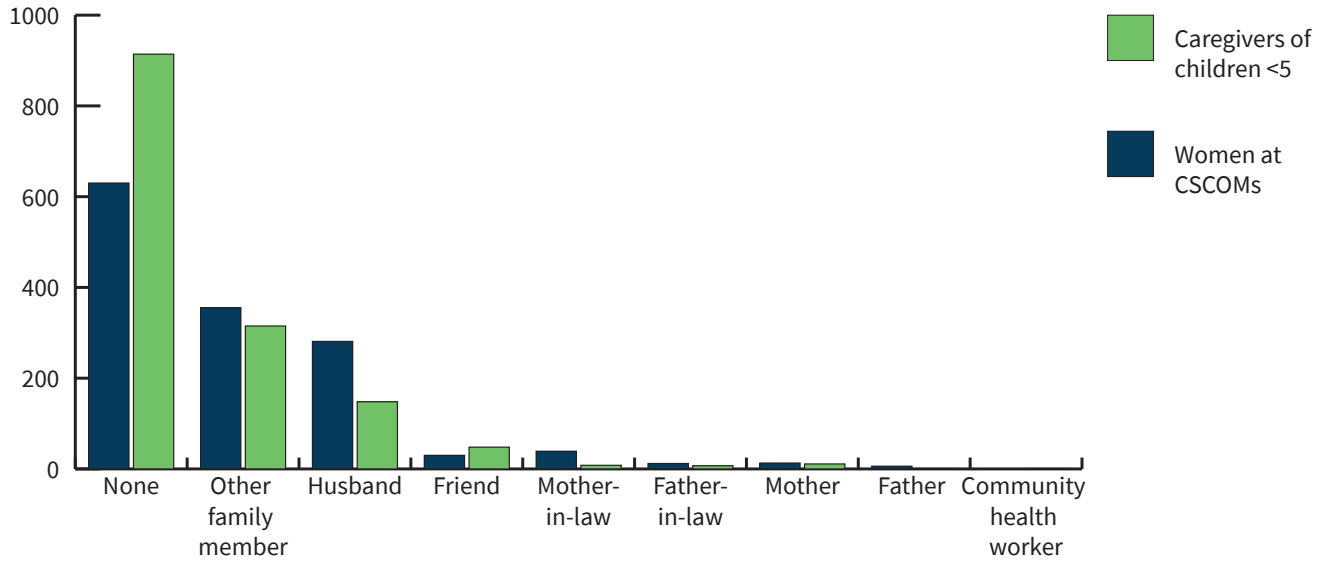


TABLE A9 PERCENT FROM WHOM PERMISSION FOR ANC CLINIC VISITS WAS SOUGHT, BY REGION

	SIKASSO %	SEGOU %	MOPTI %
Husband	84.1	84.2	92.2
Mother-in-law	6.9	7.5	4.4
Father-in-law	6.4	4.5	0.5

TABLE A10 PERCENT WHO REPORTED REFERRALS TO THE CLINIC AND BY WHOM

	WOMEN %	CAREGIVERS %
Report no referral	39.5 (n=530)	36.7 (n=537)
Report referral (by whom)	60.5 (n=812)	63.3 (n=926)
Husband	69.8	61.4
Mother-in-law	4.6	2.6
Father-in-law	4.7	3.6
Mother	2.2	2.4
Father	2.0	2.1
Community health worker	11.8	27.3
Traditional healer	0.1	0.0
Friend	0.6	0.9
Other	4.2	2.6

TABLE A11 PERCENTAGE OF CAREGIVERS OF CHILDREN UNDER 5 REPORTED COMING TO THE HEALTH FACILITY BECAUSE OF MESSAGES HEARD, BY REGION AND SEX OF CAREGIVER

	REGION			SEX OF CAREGIVER		OVERALL N=1,463 %
	SIKASSO N=581 %	SEGOU N=629 %	MOPTI N=253 %	MALES N=153 %	FEMALES N=1,310 %	
Television	21.8	11.4	7.1	13.7	15.0	14.8
Radio	36.3	16.7	7.5	22.8	22.9	22.9
Phone apps/social media	1.7	0.0	<1.0	1.3	0.7	<1.0
Community awareness	31.1	28.1	34.8	18.9	31.8	30.5

Note: categories are not mutually exclusive

TABLE A12 REPORTED AGE OF CHILD, BY REGION

	SIKASSO % (N)	SEGOU % (N)	MOPTI % (N)	OVERALL % (N)
0–3 months	16.7 (89)	25.4 (155)	17.9 (40)	20.8 (284)
4–6 months	18.4 (98)	24.5 (149)	17.9 (40)	21.0 (287)
7–12 months	19.4 (102)	21.2 (129)	23.3 (52)	20.7 (283)
1–2 years	13.9 (74)	10.3 (63)	23.3 (52)	13.8 (189)
2–3 years	17.2 (92)	10.8 (66)	11.2 (25)	13.4 (183)
3–4 years	6.4 (34)	3.1 (19)	2.7 (6)	4.3 (59)
4–5 years	8.2 (44)	4.6 (28)	3.6 (8)	5.8 (80)
Total	100.0 (533)	100.0 (609)	100.0 (223)	100.0 (1365)

Note: numbers may not total 100.0 due to rounding

Population Council

4301 Connecticut Ave., NW | Suite 280
Washington, DC 20008
+1 202 237 9400
breakthroughactionandresearch.org