Implementation Research on Guinea's National Community Health Policy: A Sequential Mixed-Methods Study Using a Decision-Space Approach

Final Report

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The Health Systems Strengthening Accelerator (Accelerator), funded by the United States Agency for International Development (USAID) with co-funding from the Bill & Melinda Gates Foundation (the Foundation), helps countries apply a whole-of-systems lens to health systems challenges, connect local innovation and global knowledge, strengthen local ownership and processes, and build the institutional architecture needed to ensure lasting change.

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Table of Contents

List of Acronyms and Abbreviations

Accelerator	The Health Systems Strengthening Accelerator
ANAFIC	*Agence Nationale de Financement des Collectivités Locales* (National Agency for the Funding of Local Government)
ANSS	*Agence nationale de sécurité sanitaire* (National Health Security Agency)
CHW	Community Health Worker
CNERS	*Comité National d'Éthique pour la Recherche en Santé* (National Ethics Committee for Health Research)
COSAH	*Comité de Santé et d'Hygiène* (Health and Hygiene Committee)
COVID-19	Coronavirus disease
CRS	Catholic Relief Services
DHIS2	District 2 health information system
DNSCMT	*Direction nationale de la santé communautaire et de la médecine traditionnelle* (National Department of Community Health and Traditional Medicine)
EU	European Union
EVD	Ebola Virus Disease
FGD	Focus Group Discussions
GAVI	The Global Alliance for Vaccines and Immunizations
GNF	Guinean franc
IDI	In-depth Interviews
LSHTM	London School of Hygiene & Tropical Medicine
LMIC	Low- and Middle-Income Countries
MCH	Maternal and Child Health
MSHP	*Ministère de la Santé et de l'Hygiène Publique* (Ministry of Health and Public Hygiene)
MATD	*Ministère de l'Administration du Territoire et de la Décentralisation* (Ministry of Territorial Administration and Decentralization)
MFPREMA	*Ministère de Fonction Publique et de la Réforme de l'Administration* (Ministry of Civil Service and Administrative Reform)

NGO	Non-Governmental Organization
OLS	Ordinary Least Squares
PI	Principal Investigator
PNACC	*Programme nationale d'appui aux communes de convergence* (National program of support for convergence communes)
R4D	Results for Development
RECO	*Relais Communautaire* (Community "Relay" or Volunteer)
RF MERL	Rapid Feedback Monitoring, Evaluation, Research and Learning
SERACCO	*Service d'Assistance aux Coopératives et Coordination des ONG* (Department of Assistance to Cooperatives and NGO Coordination)
ToC	Theory of Change
UHC	Universal Health Coverage
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
WHO	World Health Organization

List of Tables

List of Figures

1. Executive Summary

Background and Rationale

Over the past decade, the government of Guinea has taken steps to move from a centrally and nationally managed health system to a system where power, decision-making, funding, and other important factors are decentralized to various administrative levels of the health system. Those changes have taken the form of national-level policies and strategies aimed at improving health services and health outcomes in Guinea through decentralization.

In 2017, a new National Community Health Policy (Politique Nationale de la Santé Communautaire or PNSC) was adopted, contributing considerably to the movement to decentralize the community health system by transferring responsibilities and competencies to the municipal level.

By January 2021, when this implementation research started, the PNSC covered 257 out of Guinea's 343 communes. Although the pilot program and scale-up have been successful in several aspects, implementation research has not been conducted to date to specifically examine the intersection of the national decentralization policy and the PNSC policy and their effects on the health system. This study explored the rollout of these two policies and their effects on maternal and child health (MCH) indicators.

Objective

The overall aim of this study was to explore the extent to which actors at decentralized levels of the health system are aware of, understand, and exercise their new roles and responsibilities in the delivery of community health services, the alignment of those new responsibilities with available resources and capacities, and how these factors affect the institutionalization of community health in the context of decentralization. The study also assessed whether there is early evidence of improvement in routine MCH indicators. This exploration is based on the analysis of the "decision space[1]" of community health actors across communes with different levels of implementation of the PNSC, and the analysis of routine MCH service delivery indicators over time across communes. The study also assessed how commune type was associated with the components of decision space. We expected that decision space, knowledge, capacity, and accountability would be highest in fully implemented communes, second highest in partially implemented communes, and lowest in control communes.

Methodology

This study used a sequential implementation science explanatory mixed-methods design (quantitative and qualitative) based on the analysis of the knowledge, involvement, and decision space of PNSC actors in three types of communes.

In this study, there were three types of communes to include communes with fully implemented PNSC interventions, communes with partly implemented interventions, and control communes with no new interventions:

[1] We define decision space as "the range of choice for different functions that local officials can make as defined by laws, regulations or practice" (Bossert, 1998).

Fully implemented communes (intervention communes) represent communes which, in addition to the PNSC, benefited from the transfer of 14 competencies, including health, education, and public health through the National Program of Support for Convergence Communes as part of the decentralization of local government.

Partially implemented communes are implementing the PNSC according to Ministry of Health criteria, with the support of development partners, but are not yet implementing decentralization policies.

Control communes include those designated for PNSC implementation but where it is not yet operational, as well as those not yet targeted or covered by the PNSC.

To assess how commune type was associated with the components of decision space, we used a cross-sectional survey of "decision space" questions related to choices made by respondents at three administrative levels: the CHW/RECO level, the commune level, the regional level, and the central level. The analysis examined the degree of choice respondents exercised over different functions, their capacity to implement the policy, and their accountability for making good decisions, by type of commune. The survey also examined respondents' knowledge of the PNSC and decentralization policies and their involvement in implementation. The survey data was analyzed using descriptive analyses and ordinary least square (OLS) multiple regressions to explore the effect of commune type on decision space.[2]

To examine how implementation of the PNSC and decentralization policies were associated with routine health service delivery indicators, an interrupted time series analysis[3] was carried out to assess changes in the level and trend of routine maternal and child health (MCH) service delivery indicators over time by type of commune (fully implemented, partially implemented, or control commune). The results of the quantitative study were used to develop key questions and areas for further in-depth exploration in the qualitative component of the study.

The qualitative component of this study involved interviewing key PNSC actors at the national, regional, district, and commune levels. This included individual in-depth interviews (IDIs) and focus group discussions (FGDs). Data were analyzed using thematic analysis.

[2] Mahanty, C., Kumar, R. & Mishra, B. K. Analyses the effects of COVID-19 outbreak on human sexual behaviour using ordinary least-squares based multivariate logistic regression. *Qual Quant* **55**, 1239–1259 (2021).
[3] Delamou, A. *et al.* Effect of Ebola virus disease on maternal and child health services in Guinea: a retrospective observational cohort study. *Lancet Glob Health* **5**, e448 (2017).

Results

Effect of Commune Type on Decision Space

This study enabled us to describe community health actors' knowledge of the PNSC and decentralization policies, knowledge of their roles and responsibilities, and the factors hindering or fostering the implementation of those responsibilities at different levels of the health system. We explored *de jure* (the degree of choice that local, decentralized officials are authorized to make as is written in official strategies, policies, or laws) and *de facto* (the degree of choice that local, decentralized officials report that they actually exercise) decision space at different levels. In applying this approach, research teams can better understand the gaps between the conceptualization of new policies such as community health programs, and their actual implementation, particularly in the context of decentralization. This approach allowed us to assess differences in the levels of knowledge, gaps, opportunities, and practice among the different actors within the different commune types.

Knowledge and Implementation of Responsibilities of Decentralization and PNSC policies

Community health workers (CHWs) and community volunteers (RECOs)[4] across all commune types had the *highest levels of knowledge* about their community health roles and responsibilities and the highest level of implementation of their roles and responsibilities. By contrast, commune-level actors (including mayors, health center heads, and others) had low levels of knowledge of their roles and responsibilities and *low* levels of implementation. Commune-level actors in the fully implemented communes had results similar to, or less than, similar actors in the control communes, indicating that the implementation of the PNSC was not significantly associated with increased knowledge of the new community health policy and implementation of their responsibilities. Actors at the central and regional levels (including Ministry staff, technical and financial partners) and commune levels (Prefectoral Health Departments) of the health system had *moderate* levels of knowledge of their prescribed roles in implementing community health such as monitoring and supervision, resource mobilization and recruitment among others, but a *low* level of implementation of their prescribed responsibilities.

There were differences in knowledge and implementations in the **types** of communities. At the **commune level**, actors in *fully implemented* communes had a *lower* level of knowledge of their official PNSC responsibilities (for example, recruiting or selecting CHWs/RECOs or resource mobilization) than actors in partially implemented and control communes. These commune-level administrators in the fully implemented communes also had low levels of de facto decision space, indicating that they were not very involved in the implementation of their responsibilities under the PNSC.

[4] CHWs (or ASC in French) are paid Ministry of Health staff who are assistant nurses by training. They deliver basic MCH services (including provision of essential commodities), carry out community-based surveillance of epidemic-prone diseases, carry out health promotion and education, and supervise RECOs. RECO are volunteers who receive a monthly stipend, and who are a resident of the community they serve. They provide health promotion and prevention services and disease surveillance.

At the **central and regional level for all types of communes**, actors had *moderate levels of knowledge* of their responsibilities (for example, resource mobilization, training CHWs/RECOs, supervision of CHWs/RECOs, or recruitment of CHWs/RECO) for implementing the PNSC. However, these central- and regional-level actors also reported a *low level of implementation* of their responsibilities under the community health policy.

Accountability of actors to maintaining their roles and responsibilities within the health system was *consistent across the three types of communes*, with high levels of performance monitoring and mechanisms of rewards or incentives.

According to the qualitative study results, the multiple competing responsibilities of actors at the central, regional, and commune levels partly explain their relatively low knowledge and implementation of their roles and responsibilities for both the decentralization and PNSC community health policies. The qualitative results also indicated that the lack of ownership of the PNSC by commune-level actors is related to the fact that these actors were not involved in designing and disseminating the PNSC. This lack of ownership of the PNSC and motivation by commune-level actors was identified as the main factor impeding the successful implementation of the PNSC. There was also insufficient training in strategic planning for the PNSC program.

Contrary to the study's hypothesis that fully implemented communes would have the highest decision-making space, followed by partially implementing communes and control communes, the analysis showed that the type of commune was not the primary predictor of the decision-making space of CHWs and RECOs in the implementation of the PNSC. For *de facto* decision space, partially implementing communes had lower de facto decision space compared to control communes.

Capacities to Implement National Community Health Policy (PNSC)

Financing Capacity: Actors at all levels of the health system cited the *lack of financial resources* as one of the main capacity factors hindering the successful implementation of the PNSC. For commune, regional, and central level actors, the main challenge for implementing their responsibilities, such as supervision, ongoing training of CHW/RECO, and coordination of community health activities, is the lack of financial resources.

Analysis of the capacity of CHW/RECOs to implement community health revealed two main findings: 1) an *overall low capacity* in all three types of communes, and 2) a relatively *higher capacity in partially implemented communes* where consistent financing was available, particularly for CHW/RECO salaries and stipends. Partially implemented communes had higher implementation capacity at the time of data collection than fully implemented communes, due to the withdrawal of partner support for covering the costs of CHW/RECO salaries and stipends in the fully implemented communes after 24 months of support.

However, there was also evidence of progress towards *more sustainable community health financing*. According to the qualitative study results, in some fully implemented communes, monthly payment of CHW/RECO salaries and stipends was being done by the Mayor's Office as stipulated in the policy, rather than by technical and financial partners. In the control communes, CHWs/RECOs were also paid monthly through a local micro-credit agency (*Crédit Rural*).

Financial motivation, through the payment of salaries and stipends, was not the only source of motivation reported by CHWs/RECOs. According to some CHW and RECO, *non-financial incentives*, such as gratitude and encouragement, were factors that positively influenced their activities.

Human Resources Capacity: Another key capacity challenge identified for the successful implementation of the PNSC is inadequate human resources in terms of the number, training, and quality of CHWs, RECO, and other health service personnel. The results of the quantitative study indicated that central-, regional-, and commune-level actors had *low levels of training in essential skills for implementation* of the PNSC. This challenge was confirmed during the qualitative study, during which these actors cited the lack of targeted training on the PNSC as a challenge. The qualitative results also indicated that the number of CHW/RECO was often lower than the required ratio of community health workers to the *population covered*. In addition, in some cases, the geographic catchment area to be covered by RECOs is very large, which impacts their ability to provide services across all of their assigned locales effectively. RECOs also reported the need for ongoing training as a factor that could improve the implementation of community health activities.

Accountability

The summative indices of accountability in the quantitative survey indicated that *accountability levels were similar across the three types of communes*, with some exceptions. For example, a significantly higher proportion of CHW and RECOs in partially implemented communes reported having sufficient resources to carry out their responsibilities during the last quarter than in the other two types of communes. Across all types of communes, there were *consistently high levels of performance monitoring and mechanisms for incentives for good performance*, with a majority of CHW and RECOs reporting that they received performance monitoring during the last quarter by health center managers and NGO partners.

Effectiveness of health services provided by CHW/RECOs

The effectiveness of community health services delivered by CHWs/RECOs was assessed by asking respondents at different levels of the health system in the quantitative survey about their perceptions of CHW/RECO services. Central-, regional-, and commune-level stakeholders reported relatively *high levels of satisfaction and perceived effectiveness of the work of CHWs/RECOs*, noting a relatively *low frequency of complaints* regarding their performance. Stakeholders highlighted that CHWs/RECOs had enhanced the provision of essential health services. Specifically, the survey respondents reported *improvements in key services* due to the efforts of CHWs/RECOs including increased vaccination coverage, antenatal care visits, and malaria management.

CHWs and RECOs consistently reported that services effectively met *their communities' health needs.* CHWs/RECOs consistently reported that the services they provide meet the health needs of the population; treat their clients with respect, without judgment, and in a professional manner; respect the confidentiality of their clients; and are sensitive to health issues affecting women and men differently; and are sensitive to health issues affecting adolescents and young people differently.

Respondents at the commune level raised common concerns regarding their healthcare needs, including the *insufficient availability of essential medications* for CHW/RECO use and the shortage of healthcare personnel. These issues were consistently reported across all commune types.

Sustainability

The respondents at both the central, regional, and commune levels were somewhat *divided on the sustainability of CHWs and RECOs implementing the PNSC*, with slightly more than half considering the use of CHWs/RECOs to be sustainable. In contrast, a higher proportion of CHWs/RECO reported that the PNSC is very sustainable. Among commune-level actors, the proportion who agreed that the sustainability of using CHW/RECO was highest in control communes and lowest in partially implemented communes.

Association between the PNSC and Maternal and Child Health

The results showed that PNSC and decentralization were *associated with positive increases in maternal health services* and that results for other health *services varied depending on the extent of implementation*. A time series analysis of the combined effect of the PNSC and decentralization on MCH indicators showed that **the use of maternal health services (including antenatal consultation visits one and four, skilled birth attendance, and live births) increased significantly in fully implemented communes immediately after the start of implementation of the PNSC and decentralization policies,** in contrast to maternal health indicators in the other two types of communes, which did not significantly increase. However, the time series analysis indicated that some of these improvements in maternal health indicators were reversed with the start of the COVID-19 pandemic in March 2020.

In contrast to maternal health indicators, child health indicators did not significantly vary with the implementation of the PNSC in the fully implemented communes or in the other two types of communes.

Furthermore, **the joint implementation of the decentralization and community health policies did not have similar positive effects across all of the MCH indicators examined, and the effect of the joint implementation of the community health and decentralization policies also varied among indicators at times within the same commune.**

The variability of the effect of the PNSC on MCH indicators in the interrupted time series analysis suggests that **there may have been variations in the fidelity of implementation** (level of training, supervision, insufficient supplies, delays in salary payments, etc.) of the PNSC in different communes.

The variability that we found in the effect of the joint implementation of the two strategies on maternal health indicators versus child health indicators between MCH indicators within the same commune and between communes suggests that there were **differences in the extent of implementation** of the community health and decentralization policies. There may have also been **spillover effects with control communes** learning of the intervention in other communes and adopting the same activities or using additional funding mechanisms.

Conclusion

This study assessed the extent to which actors at decentralized levels of the health system are aware of, understand, and exercise their new roles and responsibilities in the delivery of community health services, the alignment of those new responsibilities with available resources and capacities, and how these factors affect the institutionalization of community health in the context of decentralization. Overall, it found that at central, regional, and commune levels, the lack of detailed knowledge of **roles and responsibilities and involvement in implementing those policies impeded the impact of both policies**. However, it also found that the front-line workers at the commune level were the most knowledgeable of their roles and most involved in the implementation.

The study also found that the **lack of capacities in terms of financing and human resources at all levels** was an important constraint on the implementation of the PNSC policy.

Perhaps most encouraging was the finding that the policies had an **initial significant improvement in maternal health services**.

Recommendations

Based on the results of this study and participant recommendations from the qualitative component of the study and from central- and regional-level stakeholders who participated in the dissemination of the study's quantitative findings, we have developed the following recommendations that may be useful for improving the sustainability and performance of the national community health policy in Guinea:

1. **Knowledge improvements are needed**, especially at the central, regional, and commune levels, about the roles and responsibilities of officials so that they are aware of their roles and responsibilities and can become more involved in the coordination and provision of needed funds and supplies for the program and in the supervision of the community workers. This might involve **expanded training programs** among these officials and more widespread communication about the PNSC program.
2. **Capacity building** programs are needed **to improve the financing and supplies available** for implementation of the PNSC program. Improving the processes of assuring that donor and national financing does not experience fall-offs needs to be developed. In addition, programs to **incentivize mobilization of local financing** need to be explored.
3. Capacity building programs are also needed to **address the staffing shortages at the commune level** that have hampered the administration of the PNSC program.
4. The improvements in knowledge and pursuit of roles and responsibilities, especially of commune administrative actors, as well as consistent financing and skilled staffing, should be emphasized together at the beginning and throughout the implementation period. Some specific activities include:
    a. Continue *advocacy initiatives led by civil society* and other actors in support of CHWs and RECOs.
    b. Strengthen community health *coordination at the national, regional, and commune levels*
    c. *Strengthen recruitment, motivation, and retention of CHWs and RECOs*, with an emphasis on local recruitment.

d. *Promote community participation* in decision-making, accountability, and ownership of the PNSC to ensure responsiveness to community needs.

2. Research Context and Rationale

Globally, community health programs are increasing in number and scope, as they are considered to be essential to achieving universal health coverage (UHC) targets and global commitments to high-quality, accessible, and affordable primary healthcare and to meeting human resources for health challenges, particularly in low- and middle-income countries (LMICs).[5,6,7] There is ample evidence of the effectiveness of community health programs in addressing priority health outcomes, including maternal and child health (MCH), access to family planning, child nutrition, and the control of infectious diseases such as tuberculosis, HIV, and malaria, and contributing to effective epidemic surveillance and response.[8,9]

In Guinea, the government has also taken steps to move from a centrally and nationally directed and managed health system to one where power, decision-making, funding, and other important factors are decentralized to sub-national administrative levels of the health system. These changes have taken the form of national-level policies and strategies that aim to improve health services and health outcomes in Guinea through decentralization. In 2017, a new National Community Health Policy (PNSC) was adopted, which adds significantly to the movement to decentralize the community health system by transferring responsibilities and competencies to the commune level.[10]

To date, multiple technical and financial partners (UNICEF, the Global Fund, the World Bank, GAVI, USAID, etc.) have been involved in supporting the implementation and expansion of the PNSC. By January 2021[11], 257 (74.9%) of the country's 343 rural communes were already implementing the policy. Although the pilot program and scaling-up have been successful in many respects, there has been no research examining the intersection of the PNSC and ongoing decentralization reforms, and their effects on the health system.

This study was conducted to explore the extent to which actors at decentralized levels of the health system are aware of, understand, and exercise their new roles and responsibilities in the delivery of community health services, the alignment of those new responsibilities with available resources and capacities, how these factors affect the institutionalization of community health in the context of decentralization. The study also assessed whether there is early evidence of the performance outcomes expected from the actions of local actors and CHWs/RECOs in relation to routine MCH

[5] Dahn B, Tamire Woldemariam A & Perry H et al. Investment Case and Financing Recommendations. (2015)
[6] World Health Organization. Global Conference on Primary Health Care: From Alma-Ata towards Universal Health Coverage and the Sustainable Development Goals. (2018).
[7] Scott, K. *et al.* What do we know about community-based health worker programs? A systematic review of existing reviews on community health workers. *Hum Resour Health* **16**, 1–17 (2018).
[8] Black, R. E. *et al.* Comprehensive review of the evidence regarding the effectiveness of community-based primary health care in improving maternal, neonatal and child health: 8. summary and recommendations of the expert panel. *J Glob Health* **7**, (2017).
[9] Perry, H. B., Zulliger, R. & Rogers, M. M. Community health workers in low-, middle-, and high-income countries: an overview of their history, recent evolution, and current effectiveness. *Annu Rev Public Health* **35**, 399–421 (2014).
[10] Ministère de la Santé. *Politique Nationale de Santé Communautaire*. (2017).
[11] Information on PNSC coverage in 2021 was used to design this study.

indicators. This exploration is based on the analysis of the decision space of community health actors across different types of communes, and the analysis of routine MCH service delivery indicators over time across communes.

The Decision Space Approach

One way to explore the application and limitations of decentralization is the decision space approach, which involves carefully mapping decisional authority and capacity at decentralized levels of government and the health system. This approach was originally conceptualized by Dr. Thomas Bossert at the Harvard School of Public Health in 1998 and has since been used in multiple different contexts in Asia and Africa.[12,13,14] Decentralization is a widely used approach to improving health service delivery, and the decision space approach assesses the effectiveness of decentralization efforts in a specific context by defining decentralization through several key factors, defined below:

1. **Decentralized authority**: also referred to as decision space, or the choices about different functions such as financing, organization of services, human resources, and governance that are made at different levels by those involved in administrative decision-making in relation to specific functions of a health system.
2. **Capacities:** the skills of decision-makers and the financial and material resources available to make good decisions.
3. **Accountability:** how decision-makers are held accountable by national authorities and the local community for making good decisions.

The interaction of these three key components contributes to improved outcomes in health systems. Evidence suggests that decentralization produces better health outcomes in the context of improved availability of resources (human and financial), accountability, and institutional capacities of local officials.[15]

Decision space is defined as having two components. The first, *de jure* decision space, is the degree of choice that decentralized local officials are authorized to make, as written in official strategies, policies, or laws.[16] The second element is *de facto* decision space, or the degree of power that local officials exercise in practice. By applying this approach, research teams can clarify and better define the roles and responsibilities of actors at all levels of the health system, understand the knowledge and capacity needs of public servants to perform their prescribed roles, and promote accountability in the health system.

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[12] Bossert, T. Analyzing the decentralization of health systems in developing countries: decision space, innovation and performance. *Soc Sci Med* **47**, 1513–1527 (1998).
[13] Bossert, T. J., Mitchell, A. D. & Janjua, M. A. Improving Health System Performance in a Decentralized Health System: Capacity Building in Pakistan. *Health Syst Reform* **1**, 276–284 (2015).
[14] Kigume, R. & Maluka, S. Decentralisation and Health Services Delivery in 4 Districts in Tanzania: How and Why Does the Use of Decision Space Vary Across Districts? *Int J Health Policy Manag* **8**, 90–100 (2019).
[15] Bossert, T. J. & Mitchell, A. D. Health sector decentralization and local decision-making: Decision space, institutional capacities and accountability in Pakistan. *Soc Sci Med* **72**, 39–48 (2011).
[16] Bossert, T. Analyzing the decentralization of health systems in developing countries: decision space, innovation and performance. *Soc Sci Med* **47**, 1513–1527 (1998).

Theory of Change

Based on the current context in Guinea and our literature review, we expected that decentralization and health reforms in Guinea, including the PNSC, the National Decentralization Policy and the Local Development Plan, would improve community health in Guinea, including MCH outcomes (as measured by maternal and child health indicators), and community satisfaction with services offered by CHW and RECO as a result of these new policies and strategies. As demonstrated by the Theory of Change (ToC) developed for this study in **Figure 1**, these policies and strategies were expected to lead to better community health outcomes and improved performance of community health programs in a decentralized setting[17] by improving the decision space, capacities, and accountability in the community health system.

According to our ToC, improvements in decision space, capacities, and accountability can be seen and measured by improved knowledge and practice of decision space, increased financial and organizational capacities, increased qualified and trained human resources, increased knowledge and capacities of stakeholders, and improved accountability. Other important factors for these policies and strategies to have a positive impact on the performance of community health programs include the availability of commodities and the availability of reliable, high-quality data, although this research activity does not assess these factors directly.

Specific questions and objectives based on this ToC are presented in the section below.

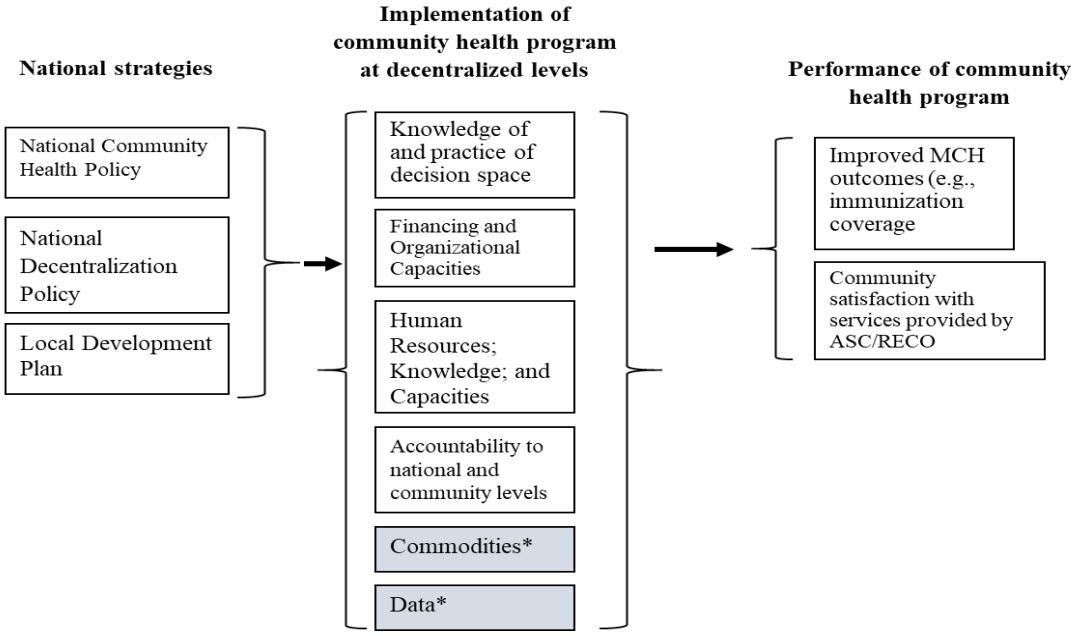


Figure 1. Theory of Change

3. Objectives

[17] Bossert, T. Analyzing the decentralization of health systems in developing countries: decision space, innovation and performance. *Soc Sci Med* **47**, 1513–1527 (1998).

The **overall objective** of this study was to assess the effectiveness of the implementation of two national policies, decentralization and the national community health policy, on health services indicators. The framework utilized a "decision space" analysis of decentralization that included the range of choices available and used by national and subnational actors, the capacities in terms of financing and human resources at each administrative level, and the accountability of decision-makers for making good decisions. The study also attempted to assess the degree of implementation of the policies by comparing communes with full implementation to those with partial implementation and control communes with no active intervention.

This study explores the following two research questions:

1. To what extent are local public actors aware of their roles and responsibilities under the national community health policy? What factors enable or hinder their capacity to assume those roles/responsibilities?

2. To what extent is the planned, integrated provision of services by CHWs to meet population health needs actually being provided at the community level? How well does this provision of services align with the community's perception of alignment with their needs?

Specific objectives included, but were not limited to, the following questions:

a) How aware are local public actors of their roles and responsibilities in implementing the policy? What factors facilitate or hinder awareness of roles and responsibilities?
b) What are the factors enabling or hindering the capacity of local public actors to assume these roles/responsibilities? What is the decision space of the actors involved at different levels of the health system in deploying the PNSC?

c) How has the national decentralization policy impacted the implementation and results of the PNSC?

d) What are actors' perceptions of the effectiveness of all the integrated services offered by CHW/RECO in meeting the health needs of the population at the community level in Guinea? Do those perceptions vary by gender and age (young adults 18-25 years of age vs. older adults)?

e) What changes - if any - have been observed in key health services (such as the use of MCH services) since the policy was implemented? Are those changes in line with expectations of success?

The recommendations based on the results of this study will serve as a basis for the iterative design and improvement of PNSC implementation in Guinea.

4. Implementation Research Setting

Implementation of the PNSC was launched as part of a pilot program in 2018 in 40 communes and has since been extended to other communes. The objective of the policy is to cover all rural communes across the country's eight administrative regions and four natural regions. The plan is for

a total of 18,938 RECOs and 1,895 CHWs to be recruited and deployed in 338 of 365 total communes in Guinea.

This implementation research covered all categories of communes and regions to ensure a broad and in-depth understanding of the PNSC. After discussion with the DNSCMT, the following four study regions were purposely selected to reflect variation in the status of PNSC implementation: Kindia, Mamou, Labé, and N'Zérékoré. Within these regions, we included the following three categories of communes:

Fully implemented communes represented 40 communes that had benefited from the transfer of 14 competencies, including in health, education, and public health, through the National Program of Support for Convergence Communes and Community Health and the decentralization process of the revised code of local governments. A total of 40 communes (or sub-districts) throughout the country were covered by this decentralization process. These communes were considered to be fully implementing the PNSC according to the criteria of the Ministry of Health, with additional support from the Ministry of Territorial Administration and Decentralization.

Partially implemented communes represented communes where the PNSC was fully implemented according to Ministry of Health criteria, with the support of development partners. They were designated as partially implemented because the decentralization process and policies had not yet been rolled out in these communes.

Control communes included communes that had not yet been targeted for the rollout of the policy or had been targeted or allocated to development partners to implement the PNSC (i.e., funding or donor commitment had been obtained) but where CHWS/RECOs were not yet fully operational. In these communes, either CHWs/RECOs had not yet been recruited, or they had been recruited but not yet trained and equipped.

5. Methods

5.1. Study Design

This implementation research used a realist evaluation approach[18] based on a sequential explanatory model with mixed methods, including the use of quantitative and qualitative methods. Mixed methods combine the strengths of qualitative and quantitative research methods, facilitating the examination of differences and depths of perspective on the same topic while ensuring flexibility. The quantitative component of the implementation research was based on a survey questionnaire and analysis of routine MCH data. Its results were used to develop the interview guides for the qualitative component, to provide more in-depth exploration and analysis of the initial quantitative results.[19] The sequential design of the study made it possible to use the data from the qualitative study to explain and deepen the initial quantitative results.

[18] Marchal, B., van Belle, S., van Olmen, J., Hoerée, T. & Kegels, G. Is realist evaluation keeping its promise? A review of published empirical studies in the field of health systems research. *Evaluation* **18**, 192–212 (2012).
[19] Shorten, A. & Smith, J. Mixed methods research: expanding the evidence base. *Evid Based Nurs* **20**, 74–75 (2017).

The quantitative component, based on a survey questionnaire, aimed to analyze decision space among stakeholders, including their knowledge and implementation of their responsibilities of the PNSC and related decentralization policies; capacities to implement the PNSC, and accountability. As part of our analysis, we explored associations between commune type and routine MCH service delivery data using interrupted time series analysis. The qualitative component included structured, in-depth interviews with key informants at the national and regional levels and focus groups with commune-level actors and CHWs/RECOs. The complete study protocol with additional details on the study's methodology and sampling as approved by Guinea's Health Research Ethics Committee is available upon request, and a shortened version of the protocol was published and is publicly available.[20]

5.2. Survey Sample

5.2.1. Quantitative Component

5.2.1.1. Decision Space Survey of Decision-Makers and Implementers

The quantitative decision survey was conducted among stakeholders involved in implementing the PNSC at various levels, from the national to the commune level. The profile of survey respondents is summarized in **Table 1** below.

Out of Guinea's 343 total rural communes, our study sample included six fully implemented communes, 9 partially implemented communes where the PNSC is functional, and 12 control communes where the PNSC is not functional. Additional details on sampling are available in the study protocol.[21]

[20] Delamou, A., Grovogui, F. M., Miller, L., Nye, A., Kourouma, M., Kolié, D., ... & Bossert, T. J. (2023). Implementation research protocol on the national community health policy in Guinea: A sequential mixed-methods study using a decision space approach. *PLOS ONE*, *18*(1), e0280651.

[21] Delamou, A., Grovogui, F. M., Miller, L., Nye, A., Kourouma, M., Kolié, D., ... & Bossert, T. J. (2023). Implementation research protocol on the national community health policy in Guinea: A sequential mixed-methods study using a decision space approach. *PLOS ONE*, *18*(1), e0280651.

Table 1. Target Population for Quantitative Survey (n=522) 22

Target Group	Sample Size
Central and Regional Level ● Ministerial departments (Finance; Budget; Agriculture, Vocational High Schools; Social Action; and Mining) ● Ministry of the Civil Service and Administrative Reform *(Ministère de la Fonction publique et de la Réforme de l'administration* - MFPREMA), Ministry of Territorial Administration and Decentralization (MATD), and technical and financial partners of the Ministry of Health ● NGOs ● Members of Parliament ● Technical and financial partners ● Regional and district health and administrative officials ● Civil society organizations	N=115
Commune Level ● Sub-prefects ● Mayors ● Neighborhood leaders ● Religious leaders ● Traditional healers ● Health and Hygiene Committee members ● Grassroots community organizations	N=239
CHW/RECO ● Fully implemented communes (26.1%) ● Partially implemented communes (32.2%) ● Control communes (41.7%)	N=168

Overall, 522 participants participated in the survey. 11 (2.1%) were from Conakry, 127 (24.3%) were from Kindia, 92 (17.6%) were from Labé, 121 (23.2%) were from Mamou, and 171 (32.8%) were from Nzérékoré.

5.2.2. Qualitative Component

Qualitative data collection involved commune, regional, and central-level actors, and technical and financial partners. Commune-level stakeholders included health workers (health center managers), community members (Health and Hygiene Committees, local development agents, religious leaders, CBO representatives, etc.), and local authorities (the secretary general of the mayor's office and the sub-prefect) as community stakeholders. Other stakeholders included central- and regional-level actors (including actors at national, regional, and district levels) representing relevant government Ministries (e.g., Ministry of Health and Public Hygiene, Ministry of Finance, Ministry of Territorial Administration and Decentralization, etc.) and technical and financial partners (multilateral institutions and international NGOs).

[22] Stakeholders at the national level are only minimally targeted by the survey, as they correspond more with the qualitative component, where in-depth interviews are more suitable to capture a wealth of information on the policy design and rollout.

Table 2. Target Population and Sample for Qualitative Study

Target Group	Data Collection Techniques	Sample Size
At national level ● Ministry of Health: director, deputy directors, heads of departments involved in the PNSC ● Ministry of Territorial Administration and Decentralization: divisions and departments involved in the PNSC ● Ministry of Social Affairs: divisions and departments involved in the PNSC ● Development partners: UNICEF, CRS, Jhpiego, World Bank/GFF, USAID, GIZ, Global Fund, and the European Union ● Religious leaders ● Civil society leaders	IDI	25 IDIs at all levels
Regional level ● Regional health team (Regional Health Inspector (RHI)). ● Governor's Office (Regional Director of Decentralization and Local Development (RDDLD)) ● NGO regional offices ● Regional offices of the Ministry of Social Affairs and ANAFIC	IDI	
Prefectural level ● Prefectural health team (Director of micro-projects (DMR), Prefectural Health Director (DPS)) ● Prefectural authority (Secretary General in charge of local authorities (SGCL), Community-based Services Officer (SBC)) ● Prefectural office of the Ministry of Social Affairs and ANAFIC	IDI	
Local level (Rural Commune) ● Health center manager ● Mayor of the rural commune ● Health and Hygiene Committee ● CHW/RECO ● Healthcare personnel ● Community members	Focus Groups	12 Focus Groups

5.3. Data Analysis

5.3.1. Quantitative Component

5.3.1.1. Survey of Decision-Makers and Implementers

Analysis was done using Stata software (version 17). Descriptive statistics were generated summarizing actors' knowledge of the PNSC, roles and responsibilities, decision space, and accountability, using proportions (with 95% confidence intervals) and means (with one standard deviation) or medians (with interquartile ranges), as appropriate. Analyses were stratified by level: (i) central- and regional-level actors, including the various ministries and their divisions, technical and financial partners, and management teams and administrators at the regional and district level; (ii) commune-level actors, including mayors and sub-prefects, civil society organizations (CSOs), Health and Hygiene Committees and community leaders; and (ii) implementation actors, i.e., CHWs and RECOs.

Based on pre-existing literature and theory, we created indices for *de jure* decision space, *de facto* decision space, accountability, and capacity, using summative scores combining variables from the section on the actors' policy knowledge, roles and responsibilities, and decision space.

5.3.1.2. Analysis of Changes in Routine MCH Service Delivery Indicators

We explored the associations between the implementation of the policy and MCH indicators through a comparative analysis between areas where the policy was fully implemented, partially implemented, and control communes. The analysis and interpretation of the results were guided by the theory of change proposed above (**Figure 1**).

We sought to understand the effect of the PNSC on the changes (level and trend) in the average monthly numbers of users of each routine MCH service. To obtain that effect, we did first an analysis of variance and then performed an interrupted time series analysis[2] with reference to two breakpoints in the analysis: the start of PNSC implementation in each type of commune, which we anticipated as being associated with an increase in the level and trend of MCH service use in fully implemented communes, and the outbreak of the COVID-19 pandemic in March 2020 in Guinea, which we anticipated as being associated with a reduction in the level and trend of MCH service use. These breakpoints enabled us to define three distinct periods: (i) the pre-PNSC period, which spans the 15 months prior to the start of policy implementation; (ii) the PNSC implementation period; and (iii) the COVID-19 period, which began in March 2020. By change in level, we refer to an increase compared with the baseline value before the start of PNSC implementation in that commune. By change in trend, we refer to a change or no change in average monthly service usage over time. We also did disaggregated analyses by type of commune.

We first aggregated the MCH indicators at the commune type level before comparing the average monthly numbers of users of each service between the three periods defined above using the analysis of variance established under Stata's oneway command. When the *p*-value was significant (Bartlett's *p*-value ≤ 0.05), we did a pairwise mean comparison (period before versus period during; period during

versus COVID-19 period and period before versus COVID-19 period) using Tukey's test to detect a general difference in average monthly numbers of users of each MCH service between those periods.

For the final stage of quantitative analysis, we did an interrupted time series analysis of the routine data. Analyses grouped by commune type were done to measure changes in levels as well as trends following policy implementation in the intervention group. Given the difference in indicator trends among the three types of communes before the implementation of the PNSC, we were unable to construct multiple models in line with the rule that, in comparison models (multiple groups), the outcome variable should have a similar trend in the intervention and control groups in the pre-intervention period before continuing with the analyses. Analyses by commune were then done to see if there were any communes that stood out in terms of increased level and/or trend in indicators with the implementation of the PNSC. Overall, the aggregated monthly data for each outcome were considered as points in the sequence of observations. The general Cumby-Huizinga error autocorrelation test (actest) was performed to assess the specification of the series of each model. The null hypothesis of this test is that there is no autocorrelation in the error distribution. The validity of each model was assessed using the overall p-value.

All statistical analyses were performed at the 5% level, and differences in levels and trends were considered statistically significant at a value $p<0.05$.

5.3.2. Qualitative Component

The IDI and FGD data collected were transcribed entirely in French for analysis. We analyzed the data using thematic analysis. The responses provided by the participants were thoroughly interpreted in order to identify their contextual meaning and their relationship to the data of the quantitative study. This was based on an understanding of the nuances and subtleties of the responses.

NVivo 14 software was used to facilitate and systematize the analysis. The transcribed data were imported into the software, which enabled us to organize, code and explore the data methodically. Our analysis process was guided by both a deductive and an inductive approach, thereby ensuring complete coverage of the emerging topics and specific objectives of the study.

When contradictory responses were identified, we established clear criteria to guide our decision-making. Those criteria took into account the relevance to the study objectives, the frequency of contradictory responses, the quality of the justification provided by the participants, as well as the consistency with the quantitative decision space survey data. Concurrently, we analyzed the responses of different types of respondents separately, taking into account their specific characteristics and roles in the study. This approach enabled us to examine variations and fully implemented communes among the responses of the different groups.

The findings of the study were classified into topics and sub-themes according to the specific objectives of the study. Emerging topics have also been presented. The main conclusions presented in this report are those supported by the majority or several stakeholders.

6. Results

6.1. Quantitative Component

This section presents the results of the quantitative research component on the implementation of the PNSC in Guinea. Detailed tables are provided in the Appendix.

6.1.1. Descriptive Analysis

6.1.1.1. Characteristics of Participants in the Quantitative Decision Space Survey

Overall, 522 participants who in the quantitative survey, including CHW/RECO, commune-level respondents, and central- and regional-level respondents. Among the respondents, 11 (2.1%) were from Conakry, 127 (24.3%) were from Kindia, 92 (17.6%) were from Labé, 121 (23.2%) were from Mamou, and 171 (32.8%) were from Nzérékoré region. CHWs/RECOs represented 32.2% of respondents, 45.8% were commune-level actors (sub-prefects, mayors, neighborhood leaders, religious leaders, traditional healers, health and hygiene committee members, grassroots community organizations), and 22.0% of participants were central- and regional-level actors (Ministries, technical and financial partners, regional and district health and administrative officials, and civil society members).

Among CHWs/RECOs, 26.1% were from fully implemented communes, 32.2% were from partially implemented communes and 41.7% were from control communes. The specific characteristics of the different actors by type of commune are presented in the Appendix.

6.1.1.2. Analysis of Knowledge, Capacities, Implementation of Responsibilities, and Accountability of PNSC Stakeholders

Key Results

- ***Knowledge of community health responsibilities***
  - **CHWs/RECOs** demonstrated a high level of knowledge and performed most of their responsibilities (*de facto* decision space) compared to higher-level actors (commune-, regional-, and central-level actors) across all types of communes.
- ***Capacities to implement responsibilities***
  - CHWs/RECOs had relatively low levels of financial, institutional, and organizational capacities to implement their responsibilities.
- ***Obstacles to implementing the PNSC:*** Lack of motivation, absenteeism and poor collaboration with district management team members were the main obstacles to managing CHWs/RECOs reported by community actors.
- ***Implementation of responsibilities***
  - CHW/RECO had the highest levels of implementation of their responsibilities across all three types of communes, compared to other actors.
  - Commune actors (mayors, health and hygiene committee members, CBOs, etc.) and central- and regional-level actors and in the fully implemented communes were not very involved in implementation of the PNSC, particularly in terms of their responsibilities for supervision and fund-raising (de facto decision space). Specifically, they were less involved in supervising CHW activities and in participating in activities to mobilize additional material and financial resources.
  - Commune-level actors in the fully implemented communes had results similar to those of actors in the control communes, indicating that the implementation of the PNSC did not impact commune-level knowledge and implementation of responsibilities, an unexpected finding.
- ***Accountability:*** Accountability of actors to the health system was consistent across the three types of communes, with high levels of performance monitoring and mechanisms of rewards or incentives. All communes reported that there were equal opportunity policies for women and men.

6.1.1.2.1. Analysis of Knowledge, Capacities, and Implementation of PNSC Responsibilities

a) CHW/RECO

CHWs/RECOs had a high level of knowledge of their roles in implementing the PNSC. The average level of knowledge was 11.90 (SD=1.7) out of a total index of 13. That average was statistically similar across all three types of communes (p= 0.863). For example, at least 98% of CHWs and RECOs

in all three types of communes reported that health promotion and surveillance of diseases with epidemic potential were part of their responsibilities.

The level of organizational and financial capacity reported by CHWs and RECOs was relatively low and similar in all three types of communes (p= 0.986). Out of a total of 16 characteristics, the average capacity index was 8.35 (SD=2.61). Notably, only 47% of CHWs/RECOs owned a motorcycle as a means of transportation to carry out their activities. The distances to be covered are sometimes considerable, so the lack of independent transport likely hinders successful implementation of the community health policy. At least 69% of CHWs/RECOs across commune types reported that there was a gender equality policy as part of the community health policy.

The level of implementation by CHWs/RECOs of their responsibilities was high. Out of a total of 34 community health policy activities, an average of 20.48 (SD=6.26) were implemented by CHWs/RECOs. That average was similar among the three types of communes (p=0.766). For example, more than nine out of 10 CHWs/RECOs reported offering preventive or curative services (94.0%). At least 60% of them reported referrals to the health facility, malaria screening, community mobilization and promotion of impregnated mosquito nets as preventive care in the community (Figure 2 and 3).

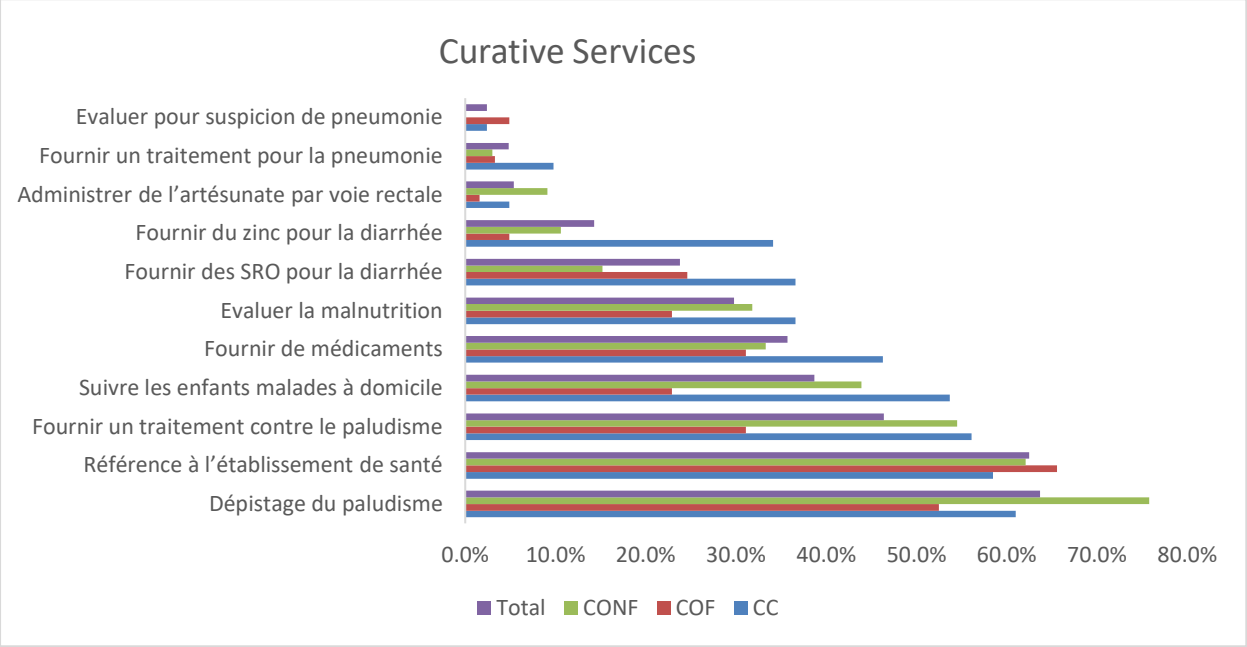


Figure 2. *Distribution of CHWs and RECOs according to the various curative services offered, by type of commune, February 2022*

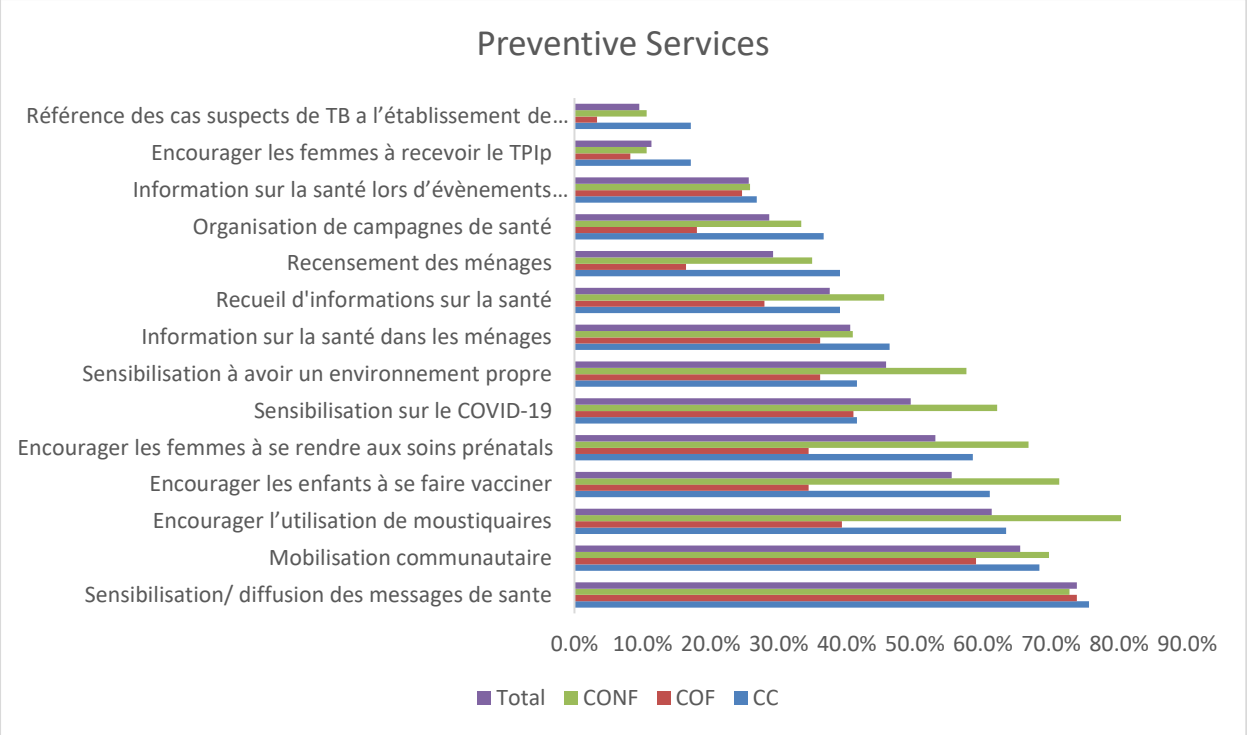


Figure 3. *Distribution of CHWs and RECOs according to the various preventive and curative services offered by type of commune, February 2020*

One difference by commune type was the proportion of CHWs/RECOs who said they had participated in drawing up their health center's annual budget plan, which was higher in fully implemented communes (29.3% [CI95%: 17.1-45.3]) than in partially implemented communes (13.1% [CI95%: 6.6-24.4]) and control communes (7.6% [CI95%: 3.1-17.2]).

Accountability

When looking across commune types using summative indices on the level of accountability of actors to the health system, there was largely no difference by the type of commune, with an average of 4.27 (1.56) out of a total of eight items. One notable area of difference was CHWs/RECOs who claimed to have received sufficient resources to carry out their responsibilities during the last quarter. The average across commune type was 33.3%, but that proportion was higher in partially implemented communes (60.7% [CI95%: 47.7-72.2]) compared to fully implemented communes (19.5% [CI95%: 9.8-35.0]) and control communes (16.7% [CI95%: 9.4-27.9]). 78.0% reported that there were equal opportunity policies for women and men.

Across all commune types, there were consistently high reports of performance monitoring and mechanisms for incentives. 91.1% of RECOs reported that their work performance had been monitored during the last quarter, largely by center managers (57.5%), the CHWs (24.8%) and the implementing NGOs (9.8%). 72.6% of CHWs/RECOs across all commune types reported that there was a mechanism of rewards or incentives for good performance.

Mayors often play a significant role in accountability, particularly among fully implemented communes. Specifically, 50.6% of CHWs/RECO said that it was the mayors who controlled salary decisions (73.2% in fully implemented communes, compared with 50.8% in partially implemented communes and 36.4% in control communes. Additionally, in partially implemented communes,

93.3% [CI95%: 83.2-97.5] of CHWs/RECOs stated that it was the mayor who made decisions concerning the recruitment and/or travel of CHWs/RECOs (70.7% in fully implemented communes compared to 47.0% in control communes.

Effect of Commune Type on Decision Space

This analysis showed that the type of commune was not the primary predictor of the decision space of CHWs and RECOs in the implementation of the PNSC. For this analysis, we used ordinary least squares (OLS) regression to explore the association between the type of commune and the indices we created of de jure decision space, de facto decision space; capacity, and accountability. Regarding the de jure space, there was no significant association between types of commune and the event of interest. Regarding the index of the de facto decision space, univariate analysis did not show an association, while multivariate analysis revealed a negative association between partially implemented commune and the index of the de facto decision space compared to control communes ($p = 0.003$). Regarding the capacity index of communes, the results show that partially implemented communes were positively associated with a higher capacity compared to control communes. Furthermore, there was no difference between control communes and fully implemented communes.

Compared to RECOs, the presence of CHWs was also positively associated with a better de jure space, de facto space, and better capacity ($p =0.050$). We also observed that the increase in rural population was negatively associated with the index of the de facto decision space ($p < 0.001$). This result implies that the larger the population of rural communes, the less CHWs/RECOs could deploy the entire minimum package of activities.

We also observed that the increase in BCG vaccination coverage ($p = 0.041$) in univariate analysis and Penta 3 in bivariate analysis ($p = 0.014$) and multivariate analysis ($p = 0.011$) were associated with a larger de jure space. Likewise, the increase in the number of malaria cases detected by CHWs/RECOs was associated with both a de facto decision space and higher accountability.

b) Commune Level

Actors in fully-implemented communes had a lower level of knowledge of their official PNSC responsibilities than actors in partially implemented and control communes. For example, 67.9% of commune-level actors in partially implemented communes (CI95%: 54.0-79.3) compared with 36.5% in fully implemented communes (CI95%: 24.4-50.6) reported that recruiting or selecting CHWs/RECOs was part of their responsibilities. Likewise, the proportion of participants who said that resource mobilization was part of their responsibilities (66.2%) was relatively lower in fully implemented communes (55.2% [CI95%: 42.0-67.6]) compared to partially implemented (70.4% [CI95%: 58.6-80.0]) and control communes (69.3% [CI95%: 56.6-79.7]). Similarly, 45.3% [CI95%: 32.2-59.0] of actors in partially implemented communes reported that they had the **skills** to manage CHWs/RECOs in their district, compared with 32.2% [CI95%: 21.4-45.4] in control communes and only 28.9% [CI95%: 18.0-42.8] in fully implemented communes.

The level of organizational and financial capacities reported by commune actors was mixed. Over half of commune actors (55.4%) reported having received a week's worth of training in community health. In addition, 95.1% of all commune actors reported having a strategic health plan that

included community health. The proportion of commune actors who said they had been trained in forecasting drug or equipment needs for CHWs/RECOs and in procurement was at least 75%.

The results of the analyses showed that, overall, **the actors had little *de facto* decision space, i.e., they were not very involved in the implementation of their responsibilities under the community health policy**. Similar to knowledge results, actors in fully implemented communes reported less involvement in the implementation of their responsibilities than those in partially implemented communes or control communes. For example, a higher proportion of actors in partially implemented communes (37.7% [CI95%: 25.6-51.7]) and control communes (23.7% [CI95%: 14.4-36.5]) reported having the capacity to hire CHWs/RECOs to work without input from their superiors than in fully implemented communes.

c) Central and Regional Level

This study assessed the level of **knowledge** of central- and regional-level actors (those at the national, regional, prefectural, and district levels combined) about their official responsibilities (*de jure* decision space) under the community health policy. **The results show that central and regional level actors had moderate level of knowledge of their responsibilities for implementing the PNSC.** 68.5% reported that resource mobilization was part of their responsibilities, 51.1% reported that training CHWs/RECOs was part of their responsibilities, and 65.4% also reported that supervising CHWs/RECOs was also part of their official responsibilities. On the other hand, the recruitment or selection of CHWs/RECOs was mentioned by fewer than one in two central- and regional-level actors as part of their duties (45.5%).

The level of organizational and financial **capacities** reported by central- and regional-level actors was relatively low in all three types of communes, with no statistically significant differences. 50.9% of central- and regional-level actors (including district and regional level actors), reported to have received community health training for the management of CHWs/RECOs. At the district and regional levels, more than half of all actors reported receiving training in strategic planning (51.2%) and operational planning (66.3%).

However, actors at the central and regional levels reported a low level of **implementation** of their responsibilities under the community health policy (*de facto* decision space). For example, only 39.6% of participants reported having mobilized additional material and financial resources to support CHWs/RECOs in their areas of responsibility over the past year, and 67.9% reported that they were not involved in the financial management of activities related to PNSC implementation in their areas of responsibility. The survey results also showed that central- and regional-level actors are not sufficiently involved in supervision or recruitment. Only 13.9% of regional/national managers reported monthly supervision, 27.8% reported quarterly supervision, 25% reported semiannual supervision, and 13.9% reported annual from the regional or national level. Only 28.3% of central- and regional-level actors reported having been recently involved in the recruitment and/or selection of CHWs/RECOs. Specifically, actors at the district level had a low level of decision space regarding the recruitment or selection of CHWs and RECOs. Fewer than 20% reported that they had the possibility of hiring CHWs/RECOs to work without the approval of higher-level authorities (18.2%).

6.1.1.2.2. Factors Favoring or Hindering Implementation Capacities

a) CHW/RECO

The most significant obstacle to CHWs and RECOs fulfilling their mission responsibilities was insufficient funding or other resources for their various activities (36.9%). CHWs and RECOs in fully implemented communes mentioned salary arrears (33.3%), lack of motivation (33.3%), and insufficient supply of medications (33.3%). Lack of financial and material resources was the main reason cited by 100% of CHWs/RECOs in the fully implemented communes as obstacles to fulfilling their responsibilities. It should be noted that at the time of this study, the financial partner of the fully implemented communes was no longer supporting CHW/RECO salaries.

In addition, 62.5% of CHWs/RECOs in all communes reported transportation difficulties in getting to work.

b) Commune Level

At the commune level, actors cited a lack of involvement and the challenges of mobilizing financial resources as the main factors hampering the performance of their responsibilities. Of those who said they had not been involved in resource mobilization over the past year, around 15% cited their inability to secure funding at the local level (14.8%). That proportion was 16.2% [CI95%: 7.3-32.4] in fully implemented communes, 14.9% [CI95%: 7.1-28.5] in partially implemented communes, and 12.5% [CI95%: 5.6-25.6] in control communes. Actors who reported not having taken part in the recruitment process of CHWs/RECO reported that their immediate supervisor had not involved them in the process (20.5%) or the lack of a clear definition of the roles and responsibilities of the actors (10.3%). Furthermore, there was a lack of motivation (34.9% [CI95%: 28.5-41.9] with similar results by type of commune) and a lack of equipment (24.1% [CI95%: 18.6-30.6]) required for managing CHWs/RECO.

c) Central and Regional Level

According to central- and regional-level actors (i.e., prefectural, regional, and national-level actors), non-involvement on the part of their superiors and budgetary challenges were the main factors hindering the performing of their responsibilities. Of those who reported difficulties in performing their responsibilities, 25.0% reported the absence of a budget line dedicated to CHWs/RECOs, 12.5% reported the lack of funding from the central or regional level or from the Agency for the Funding of Local Governments (*Agence Nationale de Financement des Collectivités Locales* - ANAFIC), and 9.4% reported an inability to obtain funding at the local level. Actors did not mention the COVID-19 pandemic as a critical factor affecting their ability to carry out their responsibilities.

According to some central—and regional-level actors, the other factor hindering the proper implementation of the PNSC was the lack of involvement by higher-level actors in PNSC activities, particularly in the selection or recruitment of CHWs/RECOs (49.2%).

6.1.1.2.3. Factors Facilitating or Hindering Implementation of Roles and Responsibilities

a) CHW/RECO

Overall, 34.5% of CHWs/RECOs reported having the impression that other **CHWs/RECOs had a problem with absenteeism from their work**. That proportion was similar in the various types of communes. Moreover, 71.4% [CI95%: 41.0-90.0] of CHWs/RECOs in fully implemented communes cited a lack of motivation as the main reason for absenteeism. That proportion was 36.4% [CI95%: 18.5-59.0] and 54.5% [CI95%: 33.0-74.5], respectively, in partially implemented and control communes.

b) Commune Level

At the commune level, the main factor hindering the implementation of the actors' responsibilities was the **low level of knowledge of those responsibilities**. The second impediment could be the low level of funding for community health policy, but also the low level of involvement of commune actors in resource mobilization. The proportion of actors who claimed to have received funding for community health-related activities from any source was 38.9% in fully implemented communes. That proportion was similar in the other types of communes.

The main facilitating factor is **the support of the commune's team for community health policy activities**. Overall, 73.7% of these actors said they had benefited from the support of the commune's team, without giving any further details. That proportion was relatively higher in fully implemented communes (83.3% [CI95%: 23.0-98.8]) compared with control communes (80% [CI95%: 15.2-98.9]) and partially implemented communes (50.0% [CI95%: 10.9-89.1]).

c) Central and Regional Level

The main factor hampering the implementation of responsibilities at the central and regional levels was the **sub-optimal level of knowledge of those responsibilities**. Specifically, lack of motivation (34.6%), lack of equipment (23.3%) absenteeism (33.0%) for CHWs/RECOs, and under-funding of policy activities in general. Of those who reported having received even partial funding, respondents reported receiving it from the central and regional level (11.1%), the prefectural level (30.6%), the commune (30.6%), or implementing NGOs (33.3%). Respondents also reported a low involvement of central- and regional-level actors in policy governance, which is a demotivating factor for local actors, who note the lack of interest shown by the national level. According to 36.1% of district-level actors, national or regional-level actors rarely or never issued directives, memos, or instructions for the community health strategy. This indicates a low level of involvement on the part of those actors in coordinating the PNSC with district management teams.

On the other hand, a favorable factor was the relatively high level of district-level actors making use of CHW/RECO recruitment or selection committees in their areas of responsibility. About 62.3% of those who said they were aware of the existence of a CHW/RECO selection or recruitment committee reported having consulted that committee during the previous year.

6.1.1.2.4. Perceived Impact of National Decentralization Policy on Implementation and Results of PNSC

a) CHW and RECO

CHWs/RECOs in partially implemented communes had better levels of perception of the impact of the national decentralization policy on the implementation and results of the PNSC than those in the other two types of communes, an unexpected finding. Across all three types of communes, 67.3% CHWs/RECOs reported that the national decentralization policy had brought about a positive change in the implementation of the PNSC. Overall, 62.5% CHWs/RECOs said that the national decentralization policy had brought about a positive change in the level of performance of CHWs in the community, and 63.1% reported that the national decentralization policy had had a positive impact on the results achieved in implementing the PNSC.

b) Commune Level

Overall, 62.3% of commune-level actors reported that the **national decentralization policy had a positive impact on the implementation of the PNSC.** By type of commune, partially implemented communes (71.0% [CI95%: 58.3-81.0]) and control communes (60.6% [CI95%: 48.6-71.4]) reported a more positive impact of the national decentralization policy on PNSC implementation compared to fully implemented communes (55.2% [CI95%: 42.0-67.6]).

Overall, 55.5% of commune-level actors reported that the **national decentralization policy had a positive impact on CHW performance**. The positive impact was relatively higher in partially implemented communes, 64.5% [CI95%: 51.7-75.6] compared to control communes (53.5% [CI95%: 41.7-64.9]) and fully implemented communes (48.3% [CI95%: 35.5-61.2]). 54.5% of commune-level actors reported that **the national decentralization policy had had a positive impact on the results achieved through implementing the PNSC**. By type of commune, 62.9% [CI95%: 50.1-74.2] of actors in partially implemented communes reported a higher impact compared to control communes (54.9% [CI95%: 43.1-66.2]) and fully implemented communes (44.8% [CI95%: 32.4-58.0]).

c) Central and Regional Level

71.1% of central- and regional-level actors reported that the national decentralization policy had a positive impact on the implementation of the PNSC. 66.7% of central- and regional-level actors said that the national decentralization policy had a positive impact on the performance of CHWs, while 69.8% also reported that the national decentralization policy had a positive impact on the results obtained from implementing the PNSC.

6.1.1.3. Perceived Effectiveness of Community Health Services and Changes in Service Availability, Acceptability, Quality, and Affordability

Key Results

- ***Effectiveness of CHWs/RECOs in providing community health services***: Actors at all levels reported a positive perception of services provided CHW/RECOs. In all communes, CHWs/RECOs were reported to have improved the provision of basic health services in the community.
    - According to actors at the commune, regional, and central levels, the three main services that were improved by CHWs/RECOs were vaccination coverage, antenatal care visits, and malaria care. On the other hand, respondents were less likely to report that family planning (24%) and nutrition (13%) had substantially improved. Those proportions were similar across all three types of communes.
- ***Changes in health service availability, acceptability, quality of care, and affordability:***
    - According to commune actors across all types of communes, the availability, acceptability, and quality of services improved due to the work of CHWs/RECOs. About 60% central- and regional-level actors interviewed said that CHWs had improved health services for the commune.
    - Conversely, affordability of services was mentioned by all respondents as not having substantially improved despite the use of CHWs/RECOs.

6.1.1.3.1. Perceived Effectiveness of Services Provided by CHWs/RECOs

a) CHW and RECO

CHWs and RECOs consistently reported that services were meeting the community health needs.

Overall, 100% of CHWs and RECOs reported that the integrated services they provide meet the health needs of the population. Similarly, over 99% of CHWs/RECO reported that CHWs/RECO treat their clients with respect, without judgment and in a professional manner; respect the confidentiality of their clients; and are sensitive to health issues affecting women and men differently (99.4%), and 97.6% of CHWs/RECOs reported sensitivity to health issues affecting adolescents and young people differently. There were no significant differences by commune.

Overall, vaccination coverage (81.5%), antenatal care visits (61.3%) and institutional delivery (36.9%) were the top three health services that CHWs/RECOs reported to have been improved in their health districts. Across all communes, the main services reported by CHWs/RECOs not to be improved were family planning (36.3%), followed by nutrition (16.7%).

b) Commune Level

Overall, at least 90% or more of commune-level actors had positive perceptions of the effectiveness of all integrated services provided by CHWs in meeting people's health needs. For example, regardless of the type of commune, 93.1% of commune actors reported that CHWs/RECOs treat their clients with respect, without judgment and in a professional manner. CHWs/RECOs were reported to be relatively more sensitive to health issues affecting women and men differently in

control communes (97.2% [CI95%: 89.2-99.3]) and partially implemented communes (91.9% [CI95%: 81.8-96.7]) than in fully implemented communes (86.2% [CI95%: 74.5-93.0]).

When asked about the top three services that were improved in their health district by CHWs/RECOs, from a list of all health services provided, the top three services that commune-level actors reported to be improved in health districts by CHWs/RECOs were vaccination coverage (76.4%), antenatal care visits (56.5%) and malaria care (38.7%).

Across all communes, the three main services that commune-level actors reported to not have been improved by CHWs/RECOs in their health districts were family planning (24.1%), followed by nutrition (12.6%), then health education (9.4%). Overall, commune actors' perceptions of services provided by CHWs/RECOs were positive, however, with more than 90% reporting that the use of CHWs/RECOs met the health needs of their district's population.

a) Central and Regional Level

Overall, 84.3% of central- and regional-level actors reported that CHWs/RECOs had improved health services for the community, and 86.2% of these actors reported that CHWs/RECOs treat their clients with respect, without judgment, and in a professional manner. Likewise, 84.4% reported that CHWs/RECOs respect their clients' confidentiality. Central- and regional-level actors also reported that 86.2% of CHWs/RECOs are sensitive to health issues that affect women and men differently, but also that they are sensitive to health issues that affect adolescents and young people differently (85.2%).

When asked about the top three services that were improved in their health district by CHWs/RECOs, from a list of all health services provided, the top three services that central- and regional-level actors perceived to be improved in the health districts by CHWs/RECOs were vaccination coverage (69.8%), antenatal care visits (46.5%) and malaria care (39.6%).

The top three services provided by CHWs/RECOs that central- and regional-level actors reported no improvements for were family planning (22.6%), health education (17.0%) and nutrition (21.4%).

6.1.1.3.2. Perceived Changes in Health Service Availability, Acceptability, Quality, and Affordability

a) CHW and RECO

Positive changes observed in service delivery since the implementation of the PNSC were more frequently reported in fully implemented communes and control communes than in partially implemented communes. Overall, more than half the participants mentioned that the availability of services (68.5%), the quality of services (57.7%) and the acceptability of services (51.8%) had improved. However, we found that improved service quality was more frequently mentioned in partially implemented communes (55.7% [CI95%: 42.9-67.8]) than in fully implemented communes (51.8% [CI95%: 44.2-59.3]). While we would have expected that aspects of service delivery would be most improved in fully implemented communes, only service acceptability (65.8% [CI95%:49.8-79.0]) and affordability of services (31.7% [CI95%:19.1-47.8]) were significantly more reported as being improved in fully implemented communes than in the other two types of communes (partially implemented communes and control communes). As for aspects of service delivery that were not

improved using CHWs/RECOs, 44.3% [CI95%: 32.2-57.1] of CHWs/RECOs in partially implemented communes and 33.3% [CI95%: 22.9-45.7] of CHWs/RECOs in control communes mentioned the affordability of services, versus only 21.9% [CI95%: 11.6-37.6] in fully implemented communes.

b) Commune Level

In all communes, the main improvements observed in service delivery using CHWs/RECOs were service availability (70.8%), service acceptability (46.7%), and service quality (39.0%).

Reported improvements in the availability of services were relatively higher in partially implemented communes (82.3% [CI95%: 70.5-90.0]) than in control communes (70.4% [CI95%: 58.6-80.0]) and fully implemented communes (58.6% [CI95%: 45.4-70.7]). Over 50% of commune-actors in fully implemented communes (55.2% [CI95%: 42.0-67.6]) and in partially implemented communes (50.0% [CI95%: 37.6-62.4]) mentioned service acceptability as being one of the improvements brought about by the use of CHWs/RECOs, while it was mentioned by only 35.2% [CI95%: 24.9-47.1] of participants in control communes. 27.6% of commune-level actors in fully implemented communes reported that the quality of services had improved [CI95%: 17.5-40.7]. That proportion was 40.3% [CI95%: 28.7-53.1] in partially implemented communes and 47.9% [CI95%: 36.4-59.6] in control communes.

As for services that were reported not to have improved despite the use of CHWs/RECOs, 37.1% [CI95%: 25.9-49.9] of commune-level actors in partially implemented communes and 27.7% [CI95%: 21.8-34.4] in control communes cited service affordability, however only 20.7% [CI95%: 12.0-33.3] of commune-level actors in fully implemented communes cited service affordability as being a service not improved by the use of CHWs/RECOs.

a) Central and Regional Level

Overall, 57.2% of central- and regional-level actors surveyed said CHWs had improved community health services. The main aspects of service delivery improved using CHWs/RECOs were acceptability (50.3%) and the quality of services offered to the community (40.9%). Overall, 44.6% of participants felt they had no opinion on which services had not improved in the community. However, 23.9% cited affordability of services, and 17.0% cited availability of services as being the main aspects of service delivery that had not improved using CHWs/RECOs.

6.1.1.4. Perceived Sustainability

Key Results

Sustainability of the PNSC: More than half of all actors surveyed, including central- and regional-level actors (54%) and commune-level actors (60.1%), consider the use of CHWs/RECOs to be very sustainable. Similarly, CHW/RECOs themselves also largely reported that the PNSC is very sustainable (78.6%)

Among commune-level actors, the proportion who agreed that the sustainability of using CHW/RECO was highest in control communes (78%), followed by fully implemented communes (60%) and partially implemented communes (43%).

a) CHW and RECO

About eight out of 10 (78.6%) CHWs/RECOs reported that using CHWs/RECOs as part of the PNSC is very sustainable. That proportion was relatively higher in partially implemented communes (82.0% [CI95%: 70.0-89.8]) and fully implemented communes (78.0% [CI95%: 62.4-88.4]) than in control communes, at 75.8% [CI95%: 63.8-84.7].

b) Commune Level

Overall, in all communes, 60.1% of commune actors reported that the use of CHWs/RECOs as part of the PNSC is very sustainable; that proportion was higher in control communes (78.0% [CI95%: 65.4-86.9]) than in fully implemented communes (59.6% [CI95%: 45.6-72.2]) and partially implemented communes (43.4% [CI95%: 30.5-57.2]).

c) Central and Regional Level

Overall, 54.1% of central- and regional-level actors reported that the use of CHWs/RECOs is very sustainable, and 27.5% said that their use is somewhat sustainable; only 1.9% reported that it was not at all sustainable.

6.1.2. Interrupted Time Series

6.1.2.1. Analysis of Effects of PNSC and COVID-19 Pandemic on Use of Maternal and Child Health Services in Guinea from 2017 to 2021.

Key Results

- ***Effect of PNSC and decentralization on MCH indicators***: The use of maternal health services increased significantly in fully implemented communes after the joint implementation of the PNSC and decentralization, unlike in the other two types of communes.
    - In contrast to maternal health indicators, child health indicators did not increase significantly with the implementation of the PNSC.
- ***Effect of COVID-19 on MCH indicators***: The COVID-19 pandemic had a negative effect on the level and trend of use of MCH services in most of the sampled communes, particularly those that were experiencing an improvement in MCH indicators with the implementation of the PNSC and decentralization.

The purpose of the interrupted time series analysis was to assess the extent to which the implementation of the PNSC demonstrated evidence of improving the accessibility and use of MCH services through the work of CHWs/RECOs in the communes where the PNSC has been implemented, and how long the improvements lasted. In this analysis, we observed that the PNSC helped to improve select maternal health indicators, with variability between communes.

First, an analysis of variance was carried out (ANOVA) in the number of MCH service users over the three comparison periods (1-one year before the implementation of the PNSC in a given commune, 2-the start of PNSC implementation in a given commune, and 3-after the outbreak of the COVID-19 pandemic in March 2020) showed that the average monthly number of *maternal* health service users increased with the simultaneous implementation of the PNSC and decentralization in the fully implemented communes. For example, the overall average of ANC1 service users increased by around 80 consultations per month compared with the average before the PNSC ($p<0.001$). Likewise, ANC4 users, skilled birth attendants, and RDT (rapid diagnostic test)-positive malaria cases increased by 54, 38, and 506 consultations, respectively, compared to the pre-PNSC period ($p<0.05$).

The ANOVA results were confirmed with an interrupted series analysis, which is a more robust analysis for detecting changes induced by a specific intervention or event such as COVID-19. The interrupted time series results indicated that the implementation of the PNSC in the fully implemented communes led to an increase in the level of use of MCH services in the fully implemented communes. That increase was particularly significant across maternal health indicators, while child health indicators increased only for certain indicators. For example, ANC1 service utilization increased between 24 and 107 new consultations (β=65.4[CI95%:24.2-106.7]), ANC4 between 16 and 87 new consultations (β=51.7[CI95%:16.3-87.1]), and live births increased between 29 and 106 (β= 67.3[CI95%28.8-105.8]) ($p<0.05$) with the start of the simultaneous implementation of PNSC and decentralization in fully implemented communes. The higher level of

maternal service use was maintained throughout the policy implementation period. By contrast, the interrupted time series analysis indicated that there were no significant increases in maternal health service use in the other two types of communes (partially implemented and controlled). The significant increases in fully implemented communes reflect the effectiveness of the joint implementation of the two policies (community health and decentralization) versus the community health policy alone or no policy implementation.

Examining the trend in the use of maternal health services in the fully implemented communes over the three time periods demonstrates the trend in the number of maternal health service users was downward overall during the one-year period (2017) prior to the implementation of the PNSC and decentralization, whereas it increased after the joint implementation of the PNSC and decentralization, i.e. from the beginning of January 2018 (**Figures 4 to 7**). This significant finding suggests that the PNSC and decentralization reversed a negative trend that was likely the result of the Ebola epidemic (2014-2016), which had just ended, and that the two policies contributed to an increase in the number of maternal service users up until the outbreak of the COVID-19 pandemic, which had a negative impact on the level and trend of service users.

In contrast to maternal health services, there were no significant changes in the level and trend of use of child health services such as vaccination according to the results of the interrupted time series analyses. Furthermore, the joint implementation of the decentralization and community health policies did not have similar positive effects across all of the MCH indicators examined, and the effect of the joint implementation of the community health and decentralization policies also varied among indicators at times within the same commune. For example, the start of the PNSC had no immediate effect on the level of institutional deliveries in Djountou, a fully implemented commune in the Labé region, compared with the period before. However, it did induce a positive increase in the number of monthly assisted deliveries. That positive trend was compromised by the outbreak of the COVID-19 pandemic in Guinea in March 2020. Similar results were observed in other municipalities not implementing the PNSC. For example, assisted deliveries in Korbé, a control commune, saw an immediate significant increase in assisted deliveries compared with the previous period.

The COVID-19 pandemic negatively impacted health service utilization across the three types of communes (**Figures 4 to 7)**. These results may be explained by several factors, including prolonged fears linked to the experience with the Ebola epidemic, rekindled by the outbreak of a new epidemic, and the lack of specific community interventions such as information, education, and communication campaigns about COVID-19 during the pandemic to maintain the level and trend of routine service use, even though not all communes recorded cases of COVID-19 directly.

The interrupted time series also showed that partially implemented communes had results similar to control communes.

Overall, the variability of the effect of the PNSC on MCH indicators among the communes in the interrupted time series analysis suggests that **there may have been variations in the fidelity of implementation (level of training, supervision, insufficient supplies, delays in salary payments, etc.) of the PNSC in the different communes**.

***Figure 4**. Effects of the PNSC and the COVID-19 pandemic on changes in the average monthly number of ANC1 users in fully implemented communes between 2017 and 2021.*

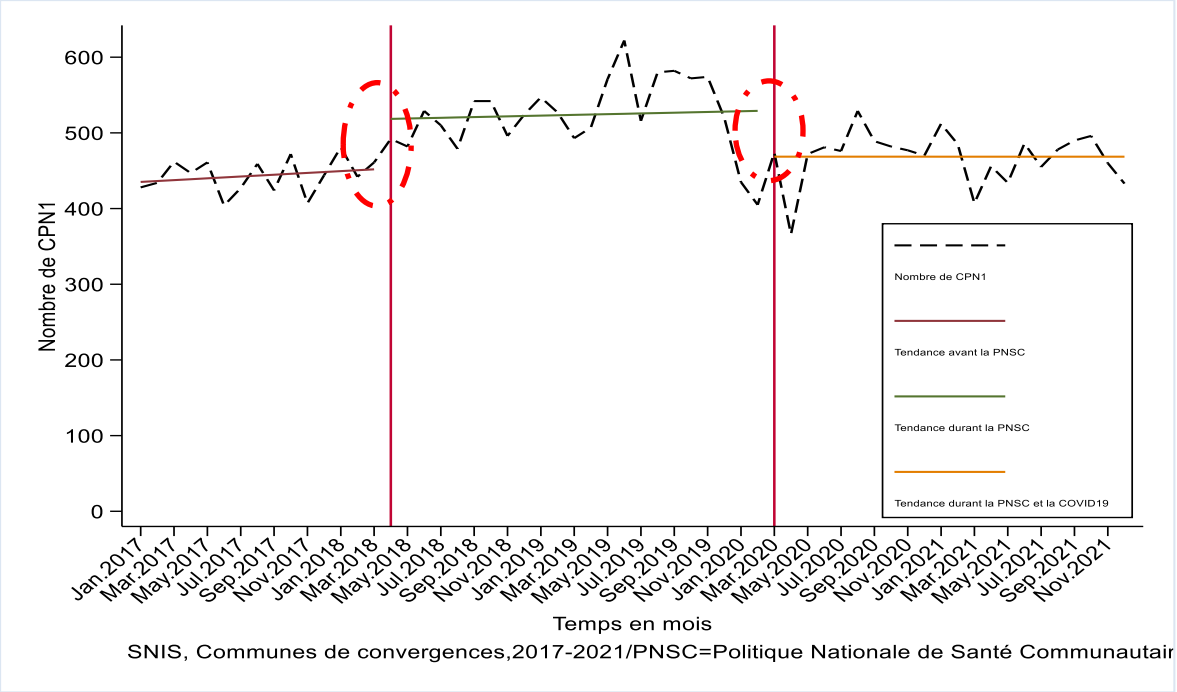


***Figure 55.** Effects of the PNSC and the COVID-19 pandemic on the average number of births attended by skilled personnel in fully implemented communes between 2017 and 2021.*

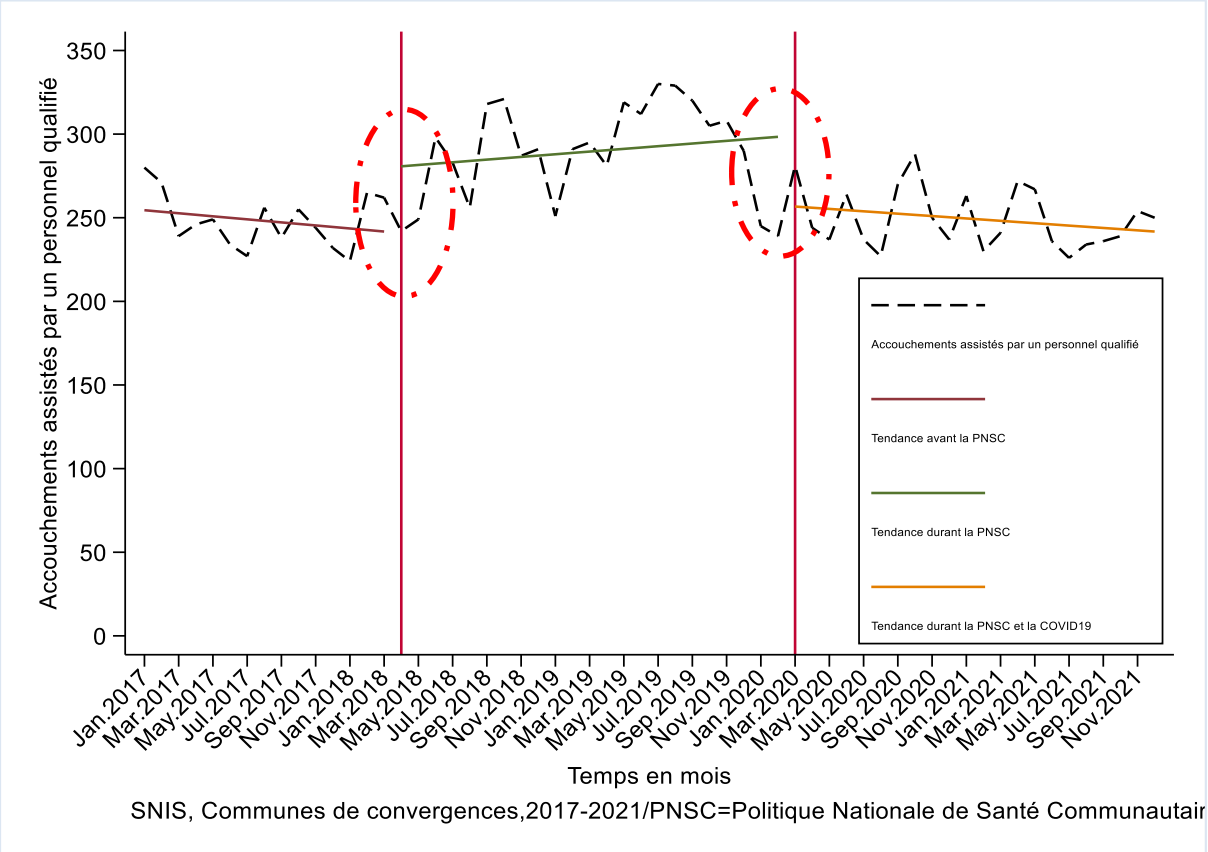


***Figure 6**. Effects of the PNSC and the COVID-19 pandemic on changes in the average number of ANC4 users in fully implemented communes between 2017 and 2021.*

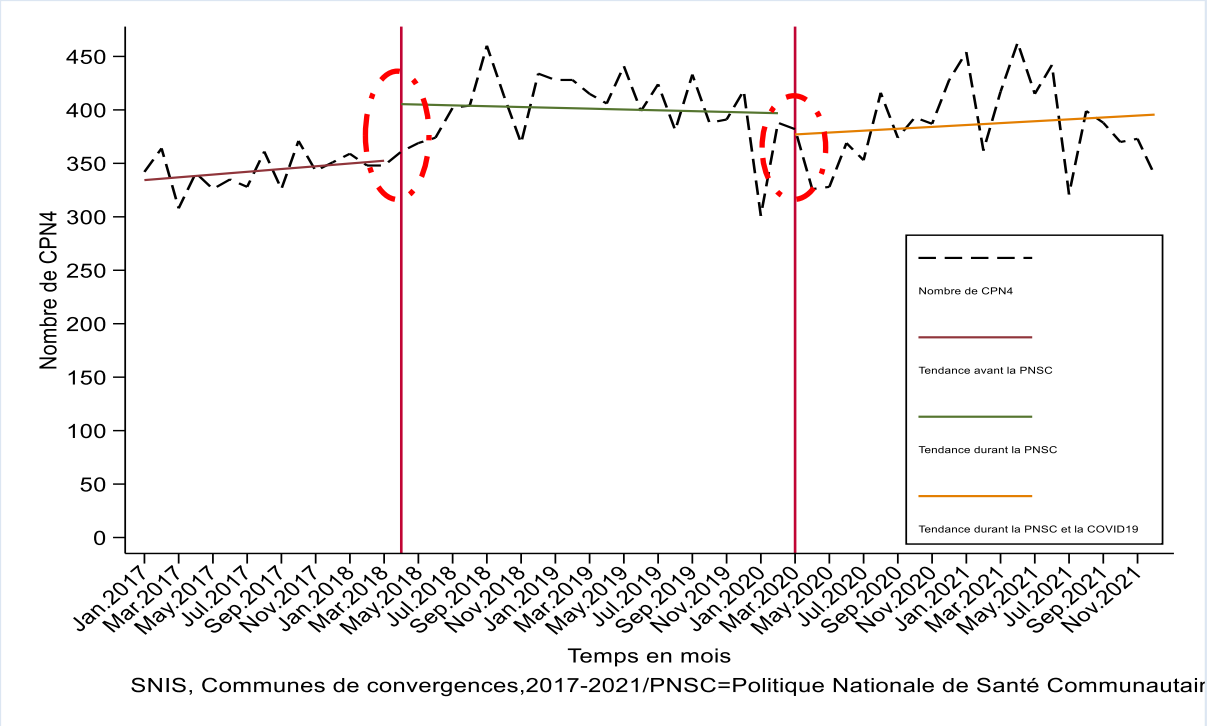
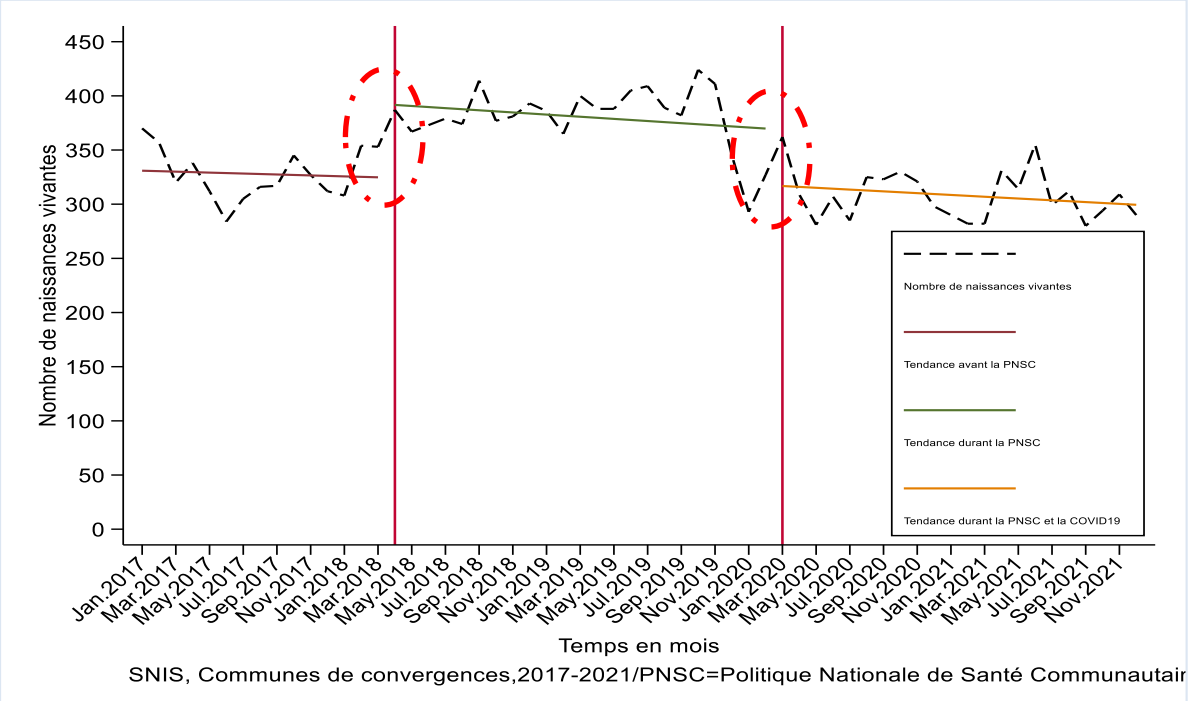


Figure 7. Effect of PNSC and COVID-19 on the average number of live births in fully implemented communes between 2017 and 2021.



6.2. Qualitative Component

6.2.1. Study Participants

The aim of the qualitative component of this study was to deepen understanding of the quantitative analyses, to provide possible explanations for the results we observed that were contrary to our initial hypotheses, and to further explore unexpected findings. A total of 21 individual In-depth interviews (IDI) with key informants and 12 focus group discussions (FGDs) were conducted. We conducted 7 IDIs with national government officials and partners/donors in Conakry and 26 IDIs with government officials and partners at sub-national levels, totaling 33 IDIs. We also carried out a total of 12 focus group discussions with commune-level actors and CHW/RECO in each type of commune.

The qualitative thematic analysis findings are organized into sections identifying factors that motivated or facilitated CHWs/RECOs, challenges faced by CHWs/RECOs, and perceived effectiveness of their work.

6.2.2. Factors Motivating CHWs/RECOs

Three main factors were identified as motivating CHWs/RECOs to perform their roles: their desire to serve their communities, their non-financial incentives, and their training.

The Desire to Serve One's Community

In both the fully implemented communes and control communes, the **desire of CHWs/RECOs to serve their communities facilitated the fulfillment of their roles in implementing the national community health policy.** CHWs/RECOs expressed that they have a moral responsibility to take on the mission assigned to them to help their own communities, which is a source of pride for them.

> *"The fact that we help our community is a source of pride for us. We don't look at our stipends. The essential thing is for our community to be proud of us." Participant 1, Focus group discussion, CHW/RECO, fully implemented commune*

Non-Financial Incentives

According to commune actors (Mayor, Health Center Manager, Health and Hygiene Committee), **when a RECO achieved satisfactory results, or sometimes did better than expected, social encouragement and recognition were given.** The RECO was publicly congratulated and encouraged by commune actors at monthly meetings in the commune, or sometimes in his/her own community during supervision by the district management team. **Recognition served as a factor motivating RECOs to improve the activities s/he carried out in the community**.

> *"Well, we don't have any rewards other than thanks... if we see such a RECO, we thank him [or her] and encourage him [or her] publicly during the monthly meeting... we publicize that achievement among his [her] RECO friends..." Participant 1, Focus group discussion, Commune actors, fully implemented commune*

Training Opportunities for CHWs/RECOs

In fully implemented communes, training opportunities were identified as a factor that facilitated CHW/RECO performance**.** According to community actors, training increased CHW/RECO knowledge, enabling them to be more effective in carrying out community activities in their respective areas.

> *"...we've trained the CHWs/RECOs, which has raised their level of knowledge. That has enabled us to have figures for counting pregnant women and vaccination of children aged 0-59 months. Later, through the Regional Health Department, UNICEF came to the rescue and trained them further. That's what all the testimonials are about, about going to health posts and health centers," Participant 3, Focus group discussion, Commune actors, fully implemented commune.*

6.2.3. Challenges in Implementing the PNSC

6.2.3.1. Challenges Explaining the Lack of Improvement in Child Health Indicators

The quantitative component of this study indicated that the PNSC did not significantly increase child health indicators (identified and treated cases of malaria, treated cases of diarrhea, vaccination coverage) in the fully implemented communes, while maternal health indicators (e.g., antenatal consultations) improved. Four main themes emerged from the qualitative analysis to explain the lack of improvement in child health indicators: **the shortage of commodities, the mobility of certain mothers, the unavailability of EPI workers, and the discontinuation of financial support for CHWs/RECOs**.

Shortage of Commodities

Commodity stockouts were reported as a factor affecting child health indicators in fully implemented communes. These commodities included rapid diagnostic tests (RDTs), Artemisinin-based combination therapy (ACT), antibiotic and zinc tablets, and vaccines for measles, oral poliovirus vaccine (OPV), and Bacillus Calmette-Guérin (BCG) vaccines. In these communes, after the first few months of implementation (one to three months), according to these respondents, the supply of commodities was marked by interruptions. These stockouts interfered with managing uncomplicated malaria, uncomplicated diarrhea, and vaccination of children under five.

> *"They only gave us medicine for a month. After that, we don't see [we don't get medicine for a while]" Participant 5, Focus group discussion, CHW/RECO, fully implemented commune*

> *"At one point, there was a shortage of measles vaccines... also recently we have seen a shortage of OPV and BCG, which may contribute to the variation in those indicators." Individual in-depth interview with key informant, Prefectural Health Department*

Mobility of Mothers

The low coverage of children by CHW/RECO services has also been attributed to the mobility of some mothers, specifically in certain fully implemented communes bordering the neighboring country of Guinea-Bissau. Because mahogany cultivation is one of the main income-generating activities, most mothers living in communes bordering Guinea-Bissau migrate there at harvest time to serve as laborers, and these mothers travel with their children under the age of five.

> *"...at that time [of mahogany] all the women travel to Bissau, so even if the EPI worker travels to go to the villages, it will be useless, and that affects the data." Participant 6, Focus group discussion, CHW/RECO, fully implemented commune*

Unavailability of EPI Workers

The low vaccination coverage of children and lack of improvement after policy implementation was attributed to the unavailability of EPI workers, who are health center staff responsible for vaccination. In some cases, EPI workers at health centers were unpaid volunteers or trainees who were inconsistently available to provide vaccination at the health centers, in spite of social mobilization and awareness-raising efforts of CHWs/RECOs to refer children for vaccination.

> *"...in my health center [the EPI] is in the hands of a trainee. And he isn't required to be there [all the time], he does two days for the center's activities, the third day he does his own activities because he doesn't have a contract with the commune. If he had a contract with the commune, we could put pressure on him..." Participant 1, Focus group discussion, Commune actors, fully implemented commune*

Discontinuation of CHW/RECO Financial Support

Participants mentioned that the end of UNICEF's financial support for CHWs/RECOs in 2020 disrupted the continuity of their activities. Because CHW/RECO were no longer receiving their stipends/salaries, they no longer felt obligated to carry out the daily tasks assigned to them as part of implementing the PNSC. As a result, they could go days without offering community health services in their respective communities, without their accountability being called into question.

> *"When UNICEF stopped paying the young people [CHW and RECO], there was nothing we could do. Although they [CHW and RECO] continued to provide their monthly reports, we couldn't demand certain things of them.... Ah! if you haven't paid someone, you'll be ashamed to ask them for certain things." Participant 4, Focus group discussion, Commune actors, fully implemented commune*

As a result, this had a greater impact on child health indicators, which depended directly on CHW/RECO services (for malaria diagnosis, and treatments), than on maternal health indicators, which depended more on the pregnant woman's decision whether or not to go to the health facility for ANC and labor and delivery services.

6.2.3.2. Challenges Explaining Low Level of Commune-, Regional-, and Central-Level Stakeholder Involvement in PNSC Implementation

Lack of Ownership of the Policy

The lack of ownership of the PNSC by certain Ministry of Health actors was mentioned by some of the donors and partners interviewed as contributing to the policy's low impact on certain health indicators. The partners and donors interviewed believed that MOH managers at national, regional, and prefectoral health department levels did not receive sufficient training to enable them to understand and take ownership of the PNSC implementation, in particular, their roles in ensuring coordination and supervision.

> *“...in the health districts, the managers who are there, either have not been [trained in PNSC] or they have not appropriated those activities before their implementation." Individual in-depth interview with key informant, Donor*

> *“...within the Ministry of Health, there are certain departments that have not understood the approach..." Individual in-depth interview with key informant, Donor*

These views of partners and donors were consistent with the perspectives of MOH respondents, who expressed the need for ongoing training to ensure that they fully grasp the policy's content and can perform their roles more effectively.

> *"It's a lack of upgrading; we really need to upgrade the main actors driving this policy every time, and we've always talked about that" Individual in-depth interview with key informant, Governor’s Office*

Lack of Dissemination of the PNSC

Lack of dissemination was mentioned by some PNSC actors as a factor explaining low involvement and ownership of PNSC implementation. In fact, the PNSC document has not been widely disseminated to central, regional, commune, and even implementing actors, according to some respondents. According to those respondents, this is the source of the lower involvement of PNSC actors, because they are only partially aware of their prescribed roles and responsibilities.

> *"There is hardly any dissemination of the strategic documents that have been produced. The circular letters or recommendations that follow in relation to those documents do not reach the actors who are involved in them." Individual in-depth interview with key informant, Governorate*

Lack of Financial Resources for Supervision

The lack of financial resources for the supervision of PNSC activities was reported by some actors as a factor explaining low levels of supervision. According to some respondents, the lack of financial resources for supervision at the commune level sometimes led to the cancellation of or reduction in the number of supervisors and/or supervision days planned.

"...at the commune level, center managers and mayor's offices must supervise these RECOs. But as you know, when the funding isn't there, commune actors think of everything; wherever they have to go, they have to have money. And all that is tied to a funding problem." Individual in-depth interview with key informant, Regional Health Inspectorate

6.2.3.3. Other Challenges in Implementing the PNSC

Late Payment of CHW/RECO Salaries and Stipends

In fully implemented communes, payment of CHW salaries and RECO salaries was supposed to be done monthly by the Mayor's office. After the Mayor's office receives the subsidy for these payments every month, the Mayor's office officials in charge of payment informed the CHWs and RECOs by word of mouth, either directly or through the center managers. Each CHW received a monthly salary of 1,200,000 GNF (around 120 Euros); the stipend for the RECOs was 450,000 GNF (around 45 Euros). Each CHW or RECO was paid based on the monthly report checked by the center manager.

In the control communes, the RECOs received monthly stipends of 400,000 GNF (around 40 Euros) through a local micro-credit agency (Crédit Rural). Receipt of those stipends was subject to the approval of the monthly report by the manager of the health center by affixing his/her signature onto the report.

However, while there was reported evidence of progress in having the Mayor's Office paying CHW and RECO as stipulated in the policy, instead of being paid directly via mobile transfers by technical and financial partners and donors, and in control communes, RECOs being paid by local micro-credit agencies, in both fully implemented as well as control communes, late payment of CHW/RECO salaries/stipends was highlighted as a recurring challenge which, according to some respondents, was demotivating. CHW and RECO are expected to be paid at the end of each month, just after submitting their monthly activity reports. However, the CHWs/RECOs reported that they sometimes received their salaries/stipends (1,200,000 GNF salary for CHWs and 450,000 GNF stipend for RECOs) with a delay ranging from a few weeks to four months.

"Again the delays in payment. We worked for several months and didn't get any stipend." Participant 5, Focus group discussion, CHW/RECO, fully implemented commune

Difficult Access to Some Villages for CHW/RECO Services

Another challenge highlighted in both areas was the difficulty of accessing certain villages to provide CHW/RECO services. Some of these agents spoke about their difficulty in reaching certain villages that were very remote and difficult to access due to the lack of roads, uneven trails, or flooded passages during the rainy season.

"... accessibility to certain villages is and remains difficult... and especially in winter, accessibility to certain villages becomes impossible...." Participant 6, Focus group discussion, CHW/RECO, fully implemented commune

Epidemic Context

CHWs/RECOs mentioned the COVID-19 pandemic as a factor hampering their activities at the level. Rumors led to community mistrust of health services during the pandemic, and some RECOs and CHWs said they had encountered difficulties sensitizing community members to using these services.

> *"In the time of COVID-19, we would go to families to [sensitize them so that their children would receive their doses of] vaccination. It was really difficult to approach them because they said we were bringing them disease...." Participant 6, Focus group discussion, CHW/RECO, fully implemented commune*

Lack of Transportation for Field Supervision

In the control areas, the CHWs mentioned the lack of transportation, particularly motorcycles, as a major difficulty in their supervisory activities. In fact, each CHW was responsible for supervising the activities of six to ten RECOs and had to travel to several villages to do so. However, according to the supervisors, some of these villages were several dozen kilometers from the health center. The lack of a motorcycle for those trips prevented them from providing regular supervision.

> *"With regard to the difficulties, namely what tires us out a lot is the means of transportation. If the means of transportation fail you because here sometimes you have to borrow someone's motorcycle." Participant 1, Focus group discussion, CHW/RECO, fully implemented commune*

6.2.4. Actors' Perceptions of the Effectiveness of PNSC Activities

Stakeholders involved in the implementation of the PNSC, including government officials and MOH, partners, and CHWs/RECOs, expressed their perceptions of the effectiveness of CHW and RECO services on community health indicators. The perceptions expressed were mostly all positive and related to how CHW/RECOs improved community knowledge about disease risks, increased attendance at health centers and health posts, decreased the rate of missing appointments for ANC and vaccination, reduced cases of childhood illness, increased number of children registered with the civil registry, and the scaling-up of the PNSC.

6.2.4.1. Improving Knowledge of Disease Risks

In the three focus group discussions with CHWs/RECOs in the fully implemented communes, participants expressed that CHW/RECOs activities under the PNSC had improved women's knowledge of the danger signs of pregnancy, the symptoms of certain childhood illnesses and what to do if those health problems were detected in their communities.

> *"...before they [women] weren't aware, but now women know the danger signs [of pregnancy], even if the RECO isn't there and a woman is sick, she'll be able to come to the health center... because she's understood that this danger sign has been explained..." Participant 6, Focus group discussion, CHW/RECO, fully implemented commune*

6.2.4.2. Increased Use of Health Centers and Health Posts

In three focus group discussions, CHWs/RECOs mentioned that, thanks to their activities under the PNSC, health centers and health posts had seen an increase in their attendance for maternal and child health consultations. Center managers, Health and Hygiene Committee members, and local elected officials also reported that influence during two focus group discussions.

> *“...today if we take ten caregivers, at least you'll have eight there who say the day of my child's vaccination has arrived, they come of their own accord..." Participant 5, Focus group discussion, Commune actors, fully implemented commune*

This increase is attributed by some of these respondents to the improvement in women's knowledge and perceptions of maternal and child health issues, thanks to the various awareness-raising activities carried out by CHWs and RECOs.

6.2.4.3. Reduction in Missed ANC and Vaccination Appointments

Three focus group discussions with CHWs/RECOs in the fully implemented communes reported a reduction in missed ANC and vaccination appointments. These respondents stated that they had noticed a reduction in the number of missed appointments for ANC or vaccinations as a result of their awareness-raising activities and the referral of women and children to the health centers.

> *"We had too many past-due appointments for pregnant women and for children, but now, since the RECOs started working, go check it out." Participant 4, Focus group discussion, CHW/RECO, fully implemented commune*

6.2.4.4. Reduction in Cases of Childhood Illness

Two commune actors from a fully implemented commune mentioned the reduction in cases of childhood illness as one of the results of CHW and RECO intervention. These actors said they had seen a reduction in cases of diarrhea among children in their localities.

> *"With the impact of the RECOs and CHWs, ... I myself feel that diarrhea diseases are tending to disappear. All this is thanks to the information from these workers....” Individual in-depth interview, Commune-level actor*

6.2.4.5. Reduction in Maternal and Child Deaths

During a focus group discussion with CHWs/RECOs in a fully implemented commune, two respondents mentioned that thanks to their interventions, the number of deaths among women and children had decreased. They attributed that reduction to their awareness-raising activities and their integrated care package services for children, which, in their opinion, enabled more women to show up on time for maternal health care and children to access vaccination services.

> *"Since [we started CHW and RECO activities in this village] the community has benefited a lot from things because it has reduced maternal deaths and child mortality..." Participant 5, Focus group discussion, CHW/RECO, fully implemented commune*

6.2.4.6. Increase in Number of Children Registered with Civil Registry

Increases in the number of children registered with the civil registry were mentioned during FGDs with commune actors and CHWs/RECOs and by some intermediary actors in IDI. FGD participants explained that CHWs and RECOs contributed to increases in the number of children registered with the civil registry. As part of their integrated package of services, at each birth, these CHWs and RECOs use a referral slip to refer the child's parents to civil registrars for registration and to obtain a birth certificate. To maximize the registration rate, local health system actors and civil registrars in each fully implemented commune have organized themselves so that a civil registrar is present at the health center on busy days to register newborns and issue birth certificates.

> *"...CHWs and RECOs again played a very significant role... as soon as a child is born, we [urge] the father to go and get the child's birth certificate at the registry office..." Participant 6, Focus group discussion, CHW/RECO, fully implemented commune*

6.2.4.7. Scaling up the PNSC

Donor/partners interviewed stated separately that the activities of the CHWs and RECOs have been effective in improving community health indicators and scaling up the PNSC from 40 fully implemented communes to 258 communes nationwide. In fact, according to one respondent, it was in due to the reported improvements in health indicators in the fully implemented communes that development partners committed to supporting the government in scaling up the PNSC to additional communes.

> *"...The fact that it was starting to generate a certain buzz [positive effect], other partners also decided to get involved... So today we can really be proud that, though we started in 40 fully implemented communes, today we're in 258 communes doing community health..." Individual in-depth interview, Partner Institution*

7. Discussion

This study aimed to explore the process of implementing the community health strategy in Guinea using the conceptual framework of decision space. The study sought to assess the extent to which local public actors are aware of their roles and responsibilities in the context of community health policy and their capacity to implement them. The study used a mixed-methods sequential approach, including a cross-sectional quantitative survey of the actors responsible for implementing community health policy and national decentralization policy in Guinea, an interrupted time series analysis of routine maternal and child health service indicators, and qualitative IDIs and FGDs. The multiple methods used in the study enabled the identification of the main factors facilitating or hindering those actors' ability to assume their roles and responsibilities. In addition, these diverse methods enabled us to assess the associations of community health and decentralization with maternal and child health indicators.

Summary of Knowledge, Capacities, Accountability, and Decision Space Findings

The results of the study revealed that all actors (CHW/RECO, commune, regional, and central levels) had limited knowledge of the PNSC and decentralization policies and strategies. Moreover, levels of knowledge were similar across all types of communes. Knowledge of policy and strategy documents relating to community health, as well as their integration by all actors, are essential for understanding their responsibilities, improving the quality of services, ensuring consistency and standardization of procedures, building actors' capacities, advocacy, and mobilizing the necessary resources for implementation.

CHWs/RECOs, who implement the minimum package of community health activities, had higher levels of knowledge of community health activities and higher involvement (greater de facto decision space) than commune-level actors or central- and regional-level actors. The encouraging results observed among CHWs/RECOs in terms of their knowledge and implementation could be explained by the contents of their training program, which includes activities linked to the community health policy and decentralization. However, it is important to note that even though CHWs/RECOs reported a high level of involvement, this did not necessarily translate into consistent implementation of community health activities in the field. Consistent with these findings, an evaluation of the Health Service Delivery Activity in Guinea in 2020 indicated that CHWs were providing inconsistent and variable services depending on the implementation regions.[23] Those gaps between theory and practice are consistent with the conclusions of the qualitative study, which showed several challenges to the proper implementation of responsibilities for all actors at all levels, in other words, issues with **implementation fidelity**.

Commune actors (health center managers, mayors, sub-prefects, community leaders, etc.) had **limited knowledge** of their responsibilities and **little involvement in their implementation**, including in the mobilization of local resources. FGDs highlighted the fact that those actors were not directly involved in the design and drafting of the PNSC and related documents. However, as the main actors in the deployment and use of community health services, it is crucial to focus on improving their understanding of and adherence to the PNSC. **Central- and regional-level actors** (Ministries,

[23] Alison El Ayadi, Adriane Martin Hilber, Alexandre Delamou, Laura Buback, Samantha Ski. Final Evaluation of the USAID Guinea Health Service Delivery Activity: Integrated Health Service Delivery in the Post-Ebola Context.

technical and financial partners, regional health inspectorates, and prefectoral health departments) **had moderate levels of knowledge** of their roles in the health system, but **low levels of fulfillment of those responsibilities**, particularly with regards to training CHWs/RECOs and supervising the activities at the operational level. The qualitative interviews indicated that low awareness of the PNSC and decentralization policies was linked to the low or non-existent involvement of most central- and regional-level actors in PNSC activities, particularly in the development and validation of PNSC documents, as well as policy training. These results underscore the need to disseminate community health and decentralization strategy documents.

Actors at all levels reported a **positive perception of the effectiveness of services provided by the CHW/RECOs**. In all communes, CHWs/RECOs were reported to have improved the provision of essential health services in the community. A majority of respondents also reported that CHWs and RECOs were sensitive to the needs of women and issues affecting adolescents and youth, a promising finding for health equity.

Insufficient, inconsistent, fragmented financing, payment delays, and insufficient human resources were identified as major challenges to the successful implementation of the PNSC. These challenges are consistent with the literature on the fragmented nature of community health programs across other country settings[24], and the need for more coordinated and sustainable funding mechanisms.[25] In spite of these challenges, over half of respondents reported that the PNSC was sustainable, a promising indication.

Another main challenge identified by the study for implementation of the PNSC **was insufficient human resources both in terms of number and quality** (namely, adequate training). The results of both the quantitative and qualitative components of the study indicated that the number of CHWs/RECOs is often lower than the prescribed ratio of community health workers to the population covered. In addition, there are circumstances where the catchment areas to be covered by RECOs are vast, which impacts their ability to provide effective coverage. In addition, insufficient health staff in some health centers also affects the work of CHWs and RECOs. In the qualitative study, the lack of improvement in child health indicators was explained as being due to the fact that certain child health services, such as vaccination, are offered by volunteers in the health centers. Those volunteers offer vaccination services according to their availability and not according to the requirements of the health center.

Developing and implementing a capacity-strengthening plan for PNSC implementers, adapted to their specific roles and responsibilities, could help improve PNSC performance and related health indicators. This plan could include recruiting additional staff, such as CHWs/RECOs, as well as strengthening the capacity of existing CHW/RECO, to improve coverage of certain health services where gaps exist, such as reaching zero-dose or under-immunized children. Ensuring more consistent supportive supervision could also be a means to provide continuous capacity-strengthening for CHW and RECOs.

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[24] Tulenko, K., Mgedal, S., Afzal, M. M., Frymus, D., Oshin, A., Pate, M., ... & Zodpey, S. (2013). Community health workers for universal health-care coverage: from fragmentation to synergy. *Bulletin of the World Health Organization*, *91*, 847-852.

[25] *The Monrovia Call to Action*. Available at: https://chwsymposiumliberia2023.org/2023/03/27/the-monrovia-call-to-action-launched-by-the-liberia-ministry-of-health-at-2023-chw-symposium/

Strengthening and maintaining CHW and RECO accountability over time was also identified as a need. The quantitative results of the study indicated that CHW/RECOs' accountability was relatively higher in partially implemented communes that had just begun implementing the PNSC than in the other two types of communes.

To ensure greater accountability of CHWs/RECOs and other implementers toward community members rather than to partners and donors, it is necessary to **set up or strengthen mechanisms for funding salaries and stipends through local government**. At a workshop held to validate the results of the quantitative study to stakeholders in Guinea, these conclusions were presented to the DNSCMT, with the recommendation that the Federal Government should guarantee that CHWs/RECOs, who are the main implementing actors, would be paid, in order to strengthen their accountability to the community. That payment should also involve the community itself, so it can exercise greater oversight over the CHWs/RECOs. To date, a law has been passed to that effect, creating a local government position that guarantees payment of CHWs/RECOs.[26] According to the results of the qualitative component of this study, in some fully implemented communes, the salaries of CHWs/RECOs are now being paid by the mayor's office of the local community after approval of the reports by the manager of the health center, rather than through mobile transfers by partners/donors, consistent with the stipulations of the new law. This change in payment mechanism will hopefully strengthen the accountability of CHW/RECOs to their communities as well as sustainability.

Summary of Interrupted Time Series Analysis: Association of PNSC on Maternal and Child Health

The results of the interrupted time series indicated that**, unlike in the other two types of communes, the implementation of the community health policy had an immediate and positive impact on routine maternal health indicators in fully implemented communes**.

However, this positive **improvement was interrupted by the withdrawal of financial support from partners for the payment of CHWs/RECOs and the outbreak of the COVID-19 pandemic.** This finding underscores the importance of a reliable and sustainable funding mechanism to ensure that community health implementation is maintained. Ongoing financial support from the government and partners is crucial to maintaining the quality and continuity of community health services.

The lack of significant changes in the level and trend of use of child health services such as vaccination could be due to sociocultural factors such as reluctance to vaccinate and religious beliefs, particularly against a background of multiple epidemics since 2014 that may have eroded trust in immunization or increased vaccine hesitancy.[27]

7.1. Limitations

This study has a number of limitations that should be considered in the overall interpretation of its results. The decision space survey used self-reported, cross-sectional survey data from participants

[26] https://www.acceleratehss.org/2023/04/03/new-law-mandates-salaries-for-guineas-community-health-workers/

[27] Gil Cuesta, J., Whitehouse, K., Kaba, S., Nanan-N'Zeth, K., Haba, B., Bachy, C., ... & Venables, E. (2021). 'When you welcome well, you vaccinate well': a qualitative study on improving vaccination coverage in urban settings in Conakry, Republic of Guinea. *International Health*, *13*(6), 586-593.

at various levels of the health system in Guinea and these self-reported data could be influenced by social desirability bias, which could have contributed to some of the positive findings around the reported effectiveness of services provided by CHW/RECO in the quantitative survey as well as in the qualitative interviews and FGDs. This could partially explain why in the qualitative component, some CHW/RECO believed that the PNSC had significantly improved child health services, and even contributed to a reduction in maternal and child mortality (which this study did not assess), even though the interrupted time series analysis only found improvements in maternal and not child health indicators. To mitigate social desirability bias, we tried to ask specific, easily understandable questions geared towards what the actors were actually doing, rather than what they wanted or thought they should be doing. In addition, we trained and supervised field collection teams, for example, to avoid asking leading questions and to pay attention to body language, facial expressions, etc., to minimize social desirability bias on the part of respondents.

The routine, aggregate service delivery data from maternal and child health services we used in this study may have had missing data and other data quality issues. Although we took steps in the data collection and cleaning to improve data quality, prospective data collection, ideally through a household coverage survey, would have been preferable in terms of data quality, reliability, and validity. However, a prospective collection approach would have limited our ability to observe the initial effect of the community health policy and decentralization, as well as any changes that may have occurred prior to 2021. That is why we opted for data collection from the health centers responsible for producing those data. We then supplemented those data by cross-referencing them with data obtained from DHIS2, the routine database of the Ministry of Public Health and Hygiene. This triangulation of data helped to strengthen the reliability of the data.

Further, fluctuations in routine service utilization trends are likely the results of a combined effect of multiple factors that go beyond the implementation of the PNSC. These include socio-economic factors, the geographical and financial accessibility of services, or the effect of seasonality, as in the case of malaria. PNSC implementation mainly influences the demand for health services through health promotion, referrals and information, and social mobilization, education, and communication strategies. So, for example, the lack of more favorable socio-economic conditions could have contributed to the slow increase observed in the slope of the maternal health indicator trend during the implementation of the PNSC. Moreover, this observation is consistent with the findings of the "Evaluation of the Community Health Strategy in the Health Districts of Kindia and Télimélé, Republic of Guinea" report conducted between 2020 and 2021 by Gamal Abdel Nasser University of Conakry (UGANC) and LSHTM, which indicated that the number of contacts between community members and CHWs/RECOs increased considerably with the implementation of the PNSC in the Kindia region. However, the increase in the number of contacts did not necessarily translate into an increase in MCH indicators.

This study used OLS regression to analyze and model the relationship between decision space and certain covariates. OLS regression is potentially subject to confounding and omitted variable bias. Using theory and literature to select controls for the regression analyses may have helped to reduce, but not eliminate, the threat of omitted variable bias.

The results from the regression analyses indicate that contrary to our hypotheses, commune type (fully implementing, partially implementing, or control) was not the main predictor of CHW, **and**

RECO decision space in implementing the PNSC could indicate a spillover effect. For example, documents relating to the PNSC and decentralization are accessible to actors in all three types of communes. Secondly, of the 12 control communes sampled, seven (58%) are located in districts already implementing either the PNSC and decentralization or the PNSC alone, and this geographic proximity could have had a spillover effect in control communes.

Moreover, we also believe that the lack of difference between fully implemented communes and other communes is due to the fact that, at the time of data collection, the fully implemented communes were not receiving financial support for paying CHWs/RECOs, thereby influencing their performance. Further, new policies such as the PNSC often produce initial improvements that decline over time as focus, attention, and support decrease and other priority activities are introduced.

The results of this study might not be generalizable to regions of Guinea not included in the study. Also, this is a descriptive, observational study. Therefore, we are unable to draw causal conclusions regarding the study results and the results of this study should be treated as associational and not causal.

Beyond these limitations, this study provides novel evidence of the implementation of the PNSC in Guinea. Its findings can help to inform future community health evaluations in Guinea and other countries implementing community health programs, as well as for other researchers exploring decision space in the context of decentralized health systems.

7.2. Conclusions, Recommendations, and Implications for Policy and Programming

Based on the main results of this study and the suggestions, we have formulated a number of recommendations that may be useful for the continuity and success of the community health policy in Guinea. Several of these recommendations were co-created during earlier validation and dissemination workshops with stakeholders in Guinea and **have contributed to notable policy and programming changes.** For example, stakeholders reported that the study findings and recommendations facilitated **the adoption of Law L0017 in December 2022, which mandates government recruitment and payment of CHWs** through the National Community Financing Agency. Specifically, the study's findings were used to support **advocacy for the adoption of the new law on local civil service.**

The study findings also **informed the development of the 2023-2027 national community health strategy and the new 2024-2028 national immunization strategy**. In the revised community health strategy, the Ministry of Health and its partners were able to refine the roles and responsibilities of the actors that are involved in the community health program as well as include an activity related to identifying capacity-strengthening areas for actors at different levels of the health system and in the regions.

Recommendations:

- **Strengthen the knowledge of key central (Ministries and partners), regional, and commune players about the national community health policy and decentralization**

strategies, as well as their roles and responsibilities, through expanded training programs and more widespread communication about the policy. Given the relatively moderate levels of knowledge of roles and responsibilities among implementing actors in this study, in particular among national and sub-national government officials, including prefectoral and regional officials as well as mayors, we recommend strengthening their understanding of the National Community Health Policy, as well as decentralization, and their roles and responsibilities in supporting its implementation.

The PNSC and the documents associated with community health and decentralization (the National Strategic Plan for Community Health, the Operational Plan for Community Health, and the Community Health Strategy) should be widely disseminated to these stakeholders, for example, at participatory workshops, where the participants can examine hard copies of relevant policies and administrative and financial management manuals, ask questions and develop locally adapted implementation plans. The primary audience for those workshops could include the Regional Department of Decentralization and Local Development, Prefectural Health Departments, Prefectoral Departments of Micro-Development, center managers, mayors, and CHWs. These workshops could also include local civil society organizations or community-based organizations involved in community health, to strengthen accountability and responsiveness to local needs. More regular and continuous capacity building could contribute to updating stakeholders' skills regarding their key responsibilities in coordinating and supervising community health activities.

- **Strengthen capacity to improve the financing and supplies available for implementing the PNSC program.** Develop processes to ensure that donor and national financing do not experience fall-offs. In addition, explore programs to incentivize the mobilization of local financing.

- **Address human resources and staffing shortages** at the regional and commune levels that have hampered the administration of the PNSC program through capacity strengthening.

- **Improve the community health supply chain to ensure a steady supply of essential products**: Given the high levels of stock-outs of products for the treatment of malaria, diarrhea, pneumonia, and other essential MCH services, the Ministry of Health, through the Central Pharmacy of Guinea, should reinforce the regular and continuous supply of RDTs, anti-malarial drugs, anti-diarrheal drugs, antibiotics and other essential products to health centers, which in turn should reserve sufficient monthly allocations for CHWs and RECOs.

- **Continue advocacy initiatives led by civil society and other actors to ensure sustainable financing**: Based on the study findings that inadequate and inconsistent financing was a major challenge affecting the effective implementation of the PNSC, continued advocacy for sustainable financing is recommended. In December 2022, Law L0017 was passed, mandating the national government to recruit and pay CHWs as government employees, while communes are responsible for recruiting RECOs and paying their stipends. That new law was passed in part thanks to civil society advocacy initiatives led by the National Council of Civil Society Organizations of Guinea (*Conseil National des Organisations de la Société Civile Guinéenne* - CNOSCG), the NGO platform for health and vaccination support

(*plateforme des ONG pour le soutien à la santé et à la vaccination* - POSSAV), and other civil society organizations. To ensure its effective application, the new law should be more widely disseminated, particularly at the regional level, so that communes will be aware of their responsibility to allocate sufficient resources to cover RECO allocations. The Accelerator project supported the dissemination of the law in two regions (Kindia and Labé) in 2023, an approach that could be extended to the remaining eight regions. In addition, it is recommended that advocacy efforts directed towards the National Agency for Financing Local Governments (*Agence Nationale de Financement des Collectivités Locales* - ANAFIC) be intensified to ensure effective financial execution and transfer of the 10% of mining tax revenues that are supposed to be allocated to municipal development priorities, including community health. Donors and development partners are encouraged to continue their support for community health, as Guinea gradually transitions from full donor funding for the community health program toward partial or full national funding.

- **Strengthen community health coordination**: Many actors at the national, regional, commune levels are responsible for implementing the PNSC. However, in practice, there can be a fragmentation of efforts that hinders the effective integration of community health into the overall health system and decentralization processes. Existing advisory committees or new ones, as needed, could be set up at both the national and the municipal levels to develop sustainable approaches to funding community health support supervision and strengthening coordination and other program components. Those committees could be established as part of the existing multi-sectoral quarterly community health platform led by the National Department of Community Health and Traditional Medicine (*Direction Nationale de la Santé Communautaire et de la Médecine Traditionnelle* - DNSCMT).

- **Promote increased *de jure* decision space, skills, and accountability among stakeholders at the municipal and district levels**. Stakeholders at the municipal and district levels, including mayors, district executive teams, and health center managers, should have increased *de jure* decision space to make decisions in support of PNSC implementation with clear definitions of roles and responsibilities that each actor is expected to perform, with greater accountability and an obligation to act on those decisions. District-level stakeholders would also benefit from increased technical skills and competencies to effectively manage CHWs and RECOs, in consultation with commune stakeholders, in order to ensure that CHWs/RECOs also play their prescribed roles within the health system. The health teams and CHWs responsible for supervision also need sufficient financial resources to regularly supervise CHWs and RECOs in order to monitor the implementation of the PNSC and improve service delivery indicators. CHW and RECO responsible for large catchment areas should be provided with motorcycles or other means of transportation to supervise all the villages and communities in their catchment areas.

- **Strengthen recruitment, motivation, and retention of CHWs and RECOs, emphasizing local recruitment**: Recruitment of CHWs and RECOs should focus on recruiting those workers from the communities they serve, which can be associated with increased motivation and better retention. CHWs and RECOs should be hired as government employees, in accordance with Law L0017, and as was also recommended during the study's interviews with CHWs, RECOs and other commune stakeholders. Recruiting CHWs and RECOs as government

employees would guarantee long-term national financial support for CHWs/RECOs and strengthen their commitment to continuing their activities while reducing the turnover rate due to a lack of salaries and supplies. Having RECOs based in the villages they serve could also improve coverage of MCH services and other services for those communities. In addition, district health teams should identify health centers that lack paid staff responsible for routine immunization, and if hiring full-time staff is not feasible, provide stipends. That would help to ensure more regular and sustainable delivery of routine immunization services in those communities and hopefully improve coverage for children under five years of age.

To maintain motivation and retention beyond setting up regular, punctual salary payments and hiring the CHWs/RECOs as government employees, we recommend approaches such as awards and competitions, creating opportunities for community recognition, and training CHWs/RECOs to collaborate with community members to identify problems and develop their own solutions following the principles of total quality management.

- **Promote community participation in decision-making, accountability and ownership of the PNSC to ensure responsiveness to community needs**: Community members, including community and religious leaders, civil society organizations (CSOs) and health committees (COSAH), should be involved in discussions and decision-making with district-level government officials and CHWs/RECOs about policy design/revision, adapting to the local context, implementation, resource requirements, annual operational planning, and resolution of challenges such as lack of resources and stimulating demand for health services. That includes solving problems that have to do with insufficient geographical access to health services and the financial burden borne by households in the form of out-of-pocket expenses. Although essential health services for women and children are supposed to be free according to current policies, households still have to pay for certain services or products, reducing confidence in the healthcare system. Consequently, it is necessary to strengthen the implementation and enforcement of these policies to increase the community's confidence in its ability to access high-quality healthcare. Community members can also receive copies of the PNSC and be trained to disseminate it in their communities, to increase community awareness of available services and their right to free services.

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