



AFRICAN STRATEGIES FOR HEALTH



COMMUNITY HEALTH WORKER INCENTIVES: LESSONS LEARNED AND BEST PRACTICES FROM MADAGASCAR

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Cover photo by Colin Gilmartin (January 2015)

Community Health Volunteer (CHV) consults with a mother and her baby in Sakaraha District

DISCLAIMER

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ACRONYMS

ASH	African Strategies for Health
3DS	Direction du Développement de Districts Sanitaires
Ar	Malagasy ariary
ASH	African Strategies for Health
ASOS	<i>Action Socio-sanitaire Organisation Secours</i>
BCC	behavior change communication
CCD	community development commission
CHV	community health volunteer
CHW	community health worker
CSLF	COSAN Saving and Loan Fund
COSAN	<i>comité de santé</i> (health committee)
CSB	<i>centre de santé de base</i> (public primary health center)
GOM	Government of Madagascar
iCCM	integrated community case management
IEC	information, education, and communication
IUD	intrauterine device
JSI	JSI Research & Training Institute, Inc.
LA/PM	long-acting and permanent method
Mahefa	USAID Mahefa project (<i>Malagasy Heniky ny Fahasalamana</i>)
Mikolo	USAID Mikolo project
MCDI	Medical Care Development International
MDG	Millennium Development Goal
MOH	Ministry of Health
MSH	Management Sciences for Health
NGO	nongovernmental organization
PBF	performance-based financing
PSI	Population Services International
SALAMA	Quasi-public national health commodities supply chain system
SantéNet2	A project implemented by Research Triangle Institute, International (RTI)
SILC	savings and internal lending communities
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	water, sanitation, and hygiene
WHO	World Health Organization

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I. EXECUTIVE SUMMARY

Background

Community health workers (CHWs) play a critical role in extending access to health services, especially in underserved and hard-to-reach areas. They are an important part of the frontline primary health care team and serve an essential role in integrated health systems. To maximize their impact, the design and implementation of CHW programs should be aligned with guiding principles that emphasize performance management. These include addressing CHW program leadership, health system integration, community engagement, financing, monitoring, health worker training, supervision, management, support, and the use of incentives.¹

In order for governments and organizations to adopt, implement, and scale up community health programs, knowledge of the wide typology of CHW models and their associated incentive mechanisms is critical. It is equally important for policymakers and program implementers to understand the impact of program design factors, like incentives, and how they may contribute to optimal CHW performance and the achievement of sustained health impact.²

In Madagascar, CHWs represent the foundation of the health system and are essential in addressing priority health areas, including maternal and child health; family planning and reproductive health; nutrition; tuberculosis; and water, sanitation, and hygiene (WASH). In the context of a weak public sector, a severe shortage of health workers, and high rates of under-five and maternal mortality, more than 34,000 trained CHWs are recognized as trusted members of their communities. They often serve as the first point of care, particularly for the 83% of the country's 22.9 million people living in rural areas.^{3,4}

Despite the political will of the Ministry of Health (MOH) and its commitment to standardize CHW recruitment, continuing education, and the package of community health services offered, the reality is that community-based approaches have not been considered a priority strategy and have often served as a palliative alternative to supplement the shortcomings of the health and social protection system.⁵ Community health programs remain fairly vertical (i.e. disease-focused), are often under-funded, and frequently lack harmonization between donors and implementing organizations.

Today, as the country recovers from its 2009 military-backed coup d'état and subsequent political and economic crises, the Government of Madagascar (GOM), the MOH, and implementing partner organizations have an opportunity to ensure the appropriate design, harmonization, and integration of CHW programs into the formal health system.

¹ Strengthening Primary Health Care through Community Health Workers: Investment Case and Financing Recommendations. July 2015. Joint Release from Partners in Health, Last Mile Health, and the UN Secretary General's Special Envoy for Financing the Health MDGs and for Malaria.

² Naimoli, J et al. "A community health worker 'logical model': towards a theory of enhanced performance in low- and middle-income countries." *Human Resources for Health* (2014), 12:56: 1-16.

³ President's Malaria Initiative, "Madagascar Malaria Operational Plan FY 2015."

⁴ *Institut National de la Statistique (INSTAT) de Madagascar, "Enquête nationale sur le suivi des objectifs du millénaire pour le développement à Madagascar." 2012-2013.*

⁵ *Madagascar Ministère de la Santé et du Planning Familial. "Politique Nationale de Santé Communautaire à Madagascar." January 2009.*

Objectives and Methodology

The United States Agency for International Development's (USAID) African Strategies for Health (ASH) project sought to examine the effects of various types of incentives on CHW performance and retention in Africa. In-depth studies in two countries—Malawi and Madagascar—aimed to identify the types of CHW cadres and incentives being used, and analyze the impact of incentives on CHW performance and program implementation.

Using a semi-structured questionnaire, 68 informants, including different types of CHWs, their supervisors, and selected partners were interviewed in January 2015 about intervention design factors influencing performance, including incentives. The data collection was aimed at determining the extent of the CHW programs, the types of services provided, service locations, coverage (actual and target), supervision and support, stock-outs of commodities, and expected CHW time spent on carrying out relevant duties. Implementing partner nongovernmental organizations (NGOs) also provided data, when available, on CHW supervision frequency; prices of equipment and medicines; and management, supervision, meeting, and training costs; as well as other financial and nonfinancial incentives.

CHW Programs Sampled

Interviews were conducted with 25 CHWs representing three community-based programs. They include the following:

- USAID Mikolo Project-supported community health volunteers (CHVs) who are unpaid but receive various financial incentives (e.g. user fees from the sales of commodities) and nonfinancial incentives (e.g. training and equipment).
- UNICEF Maternal and Neonatal Community Health Project-supported CHWs who receive quarterly performance-based incentive payments and other nonfinancial incentives, such training and equipment as well as quarterly supervision and assessments by staff from public primary health centers.
- Marie Stopes Madagascar-supported CHWs who receive financial incentives for client referrals for long-acting and permanent methods (LA/PM) of family planning to mobile health clinics and nonfinancial incentives such as training and quarterly supervision visits by mobile outreach teams.

Due to flooding and limited site accessibility, interviews were not conducted with CHVs supported by the USAID Mahefa Project; however, interviews were conducted with USAID Mahefa staff working at the central level in Antananarivo and programmatic information and data were included in this analysis. USAID Mahefa Project-supported CHVs are unpaid but receive various financial incentives (e.g. user fees from the sales of commodities, referral payments for family planning services, access to income-generating activities) and nonfinancial incentives (e.g. training and equipment).

Details on the programs and incentives, workload, and services provided by these CHWs are provided in this report.

Findings

Types of Incentives Being Used

The most common financial incentives across all interviewed CHWs included per diem for attending trainings and meetings, user fees from the sale of medicines and commodities, performance-based financing (PBF) incentives, and referral payments for family planning services. Some CHWs were also involved in program-supported savings and internal lending communities and income-generating

activities. High-performing CHVs supported by USAID Mahefa received bicycles and participated in exchange visits to share experiences with other CHVs.

Impact of Incentives on CHW-Level Factors

CHW performance can be measured through individual factors such as motivation, attitudes, competencies, guideline adherence, and job satisfaction.

Impact of Incentives on End-User/Community-Level Factors

CHW performance can also be measured through end-user or community-level factors. Analysis of interviews and programmatic data determined that incentives influenced CHW performance and community health programming in the following ways.

Population and Geographic Coverage: CHWs trained in the provision of a comprehensive, integrated package of services can help to achieve greater population coverage as they are able to provide additional services targeting priority populations (e.g. iCCM services for children and family planning and reproductive health services for women).

Numbers of Services Provided: CHW cadres receiving regular support through financial and non-financial incentives and are regularly assessed are able to maintain competency and provide health services to their communities.

Estimated Demand Met: The uptake of community health services depends on a number of supply- and demand-side factors. However, for CHWs to be effective and able to meet the health needs of their communities, they should be sufficiently supplied with equipment and medicines, frequently supervised, and adequately incentivized.

Quality of Services Provided by CHWs: Frequent supervision and support, as well as assessments of CHWs' skills and knowledge, can improve CHW adherence to service delivery protocols and can result in higher quality of services and reporting. Client feedback is also important in improving CHW service provision.

Recommendations

The findings of this study demonstrate that CHW performance in Madagascar is influenced by the provision of both financial and nonfinancial incentives. Variations in design of CHW programs and the use of incentives can have considerable influence on CHW performance. Reported experiences of CHWs in Madagascar suggest the following recommendations:

1. Programs must ensure that incentives reflect the context of CHWs' workload, opportunity costs (i.e. time commitment), and the environment in which they work. Financial incentives are important motivators for CHWs and help to encourage accountability and commitment to the provision of quality services in hard-to-reach areas. Consistency in the timing and amount of financial compensation—such as from per diem and user fees—is essential in sustaining CHW motivation and, in many cases, maintaining the availability of services.
2. Nonfinancial incentives such as regular training, supervision, public recognition, and opportunities for advancement and professional development must be included as essential components of any community health program. These incentives not only motivate CHWs but also serve to improve their capacity and ensure high-quality service provision.

3. Community health programs must harmonize their incentives, training, reporting, and supervision to reduce duplicative costs and improve CHW capacity, use of services, and limit CHWs' frustration related to inconsistent incentives.

This study aimed to identify and analyze the impact of incentives on CHW performance in Madagascar. The findings and recommendations may be useful for countries that are considering introducing, modifying, or scaling up a community health program. As governments analyze efficiencies in the allocation of resources across health systems components, it is important to improve the planning of community health activities and optimize existing human resources for health. By understanding how design features of community-based programs affect CHW performance, interventions can be shaped and adjusted to achieve optimal health impact.

2. BACKGROUND

CHWs play a critical role in extending access to health services, particularly in underserved and hard-to-reach areas. In many developing countries, where there is a significant unmet need for basic health services, it is unlikely that universal health coverage can ever be attained without functional, high-quality, and extensive community health services. Recent estimates have suggested that investments in CHWs in sub-Saharan Africa can result in economic returns of up to 10:1 due to increased productivity from a healthier population and economic impacts of increased employment.⁶ Various guiding principles support CHW program development and implementation. These include: addressing program leadership, health system integration, community engagement, financing, monitoring, health worker training, supervision, management, support, and incentives. Programs seeking financing should ensure they are aligned with these principles. The effectiveness and impact of CHWs are therefore crucial and depend, in part, on the incentives that CHWs receive as a *reward* or *motivation* for the services they provide to their communities.

Documented evidence highlights the benefits of CHWs, including volunteers, as a link between the formal health system and the community, the contribution to improved population health, their cost-effectiveness and their roles as part of the solution to health worker shortages, increased access to health care and community empowerment. However, evidence also shows that there are risks associated with the implementation of community health volunteer programs, such as placing unreasonable levels of health provision on volunteers, lack of management and resources, failure of community ownership, and unreal expectations.

Despite the variety of financial incentives and nonfinancial incentives that CHWs receive, available evidence on the effectiveness and efficiency of such incentives remains limited.⁷ According to a recent report by the Global Health Workforce Alliance, “more information is needed about the effectiveness of paid versus voluntary CHWs and the underlying factors associated with this effectiveness.”⁸

Having a comprehensive understanding of the various CHW incentive mechanisms is important for governments and organizations currently implementing or considering adopting or scaling up community

⁶ Strengthening Primary Health Care through Community Health Workers: Investment Case and Financing Recommendations. July 2015. Joint Release from Partners in Health, Last Mile Health, and the UN Secretary General's Special Envoy for Financing the Health Millennium Development Goals (MDGs) and for Malaria.

⁷ Naimoli, J et al. “Community and formal health system support for enhanced community health worker performance: a US Government Evidence Summit.” Paper prepared following the USG Evidence Summit on Community and Formal Health System Support for Enhanced Community Health Worker Performance in Washington, DC, May 31- June 1, 2012.

⁸ Frymus et al. “Community Health Workers and Universal Health Coverage. Knowledge gaps and a need-based global research agenda by 2015.” Global Health Workforce Alliance. 2013.

health programs. With finite human and financial resources, program implementers and policymakers should understand the advantages and disadvantages of such incentives and how they might be combined to ensure both optimal CHW performance and sustained health impact.⁹

2.1 Objectives

The ASH project sought to examine the effects and impact of various types of incentives on CHW performance and retention in Africa. The key objectives of in-depth studies in two countries—Malawi and Madagascar—are to:

- map the various CHW cadres operating in selected countries;
- identify lessons learned and best practices from CHW programs providing varying incentives for CHWs and
- provide an understanding of how incentives can yield improved performance and motivation of CHWs using programmatic data.

This study is unique in that it examines specific incentives within CHW cadres in two different countries using programmatic data, and relates such incentives to CHW performance. If program implementers know how certain features of an intervention affect performance, such interventions can be shaped and adjusted to yield optimal CHW performance. The results of this study can be useful for countries considering introducing, modifying, or scaling up a community health program. This report outlines the detailed findings and analysis from the study conducted in Madagascar.

2.2 Defining CHWs

For the purpose of this analysis, the term “CHWs” is used to describe, in general, all cadres of community health agents. However, certain programs that were sampled, including USAID Mahefa and USAID Mikolo, refer to unpaid, volunteer community health agents as “community health volunteers” or “CHVs.” Therefore, when describing these two programs, the term “CHVs” is used. When describing the UNICEF and Marie Stopes Madagascar programs, the term “CHWs” is used.

All types of promotional, preventive, and curative community-based services were considered for the study, such as service provision for family planning, integrated community case management, malaria treatment, bed net provision, etc. In addition, the study aims to cover as many different types of CHW incentives as possible, recognizing that this may be limited by the degree that they exist in the literature and/or in the study countries.

For this study, most elements of this definition have been accepted—in particular, CHWs are (resident) members of the community where they work. Therefore, health extension workers, who are based in facilities and only visit a community periodically, have been excluded from this study. For the purpose of this study, it is important to limit the selection for greater comparability. According to the World Health Organization (WHO):

Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers.¹⁰

⁹ Naimoli, J et al. “A community health worker ‘logical model’: towards a theory of enhanced performance in low- and middle-income countries.” *Human Resources for Health* (2014), 12:56: 1-16.

¹⁰ World Health Organization. “Community health workers: what do we know about them? The state of the evidence on programmes, activities, costs, and impact on health outcomes of using community health workers.” *Evidence and Information for Policy*, Department of Human Resources for Health. Geneva, Switzerland. January 2007.

2.3 Measuring CHW Performance

CHW performance can be measured at the individual CHW level as well as at the level of the community user receiving services. Various research conducted in this sphere has indicated that optimal CHW performance is a function of high-quality CHW programming, which is often reinforced and scaled up by robust, high-performing health and community systems.¹¹ While a definitive causal pathway to improved CHW performance does not yet exist, these health and community systems mobilize various inputs, such as technical support, social support, and the use of incentives to improve performance. End-user outcomes can help ascertain CHW performance through improved use of services, health-seeking behavior, and adoption of practices that promote health and community empowerment. At the CHW level, factors such as motivation, attitudes, guideline adherence, and job satisfaction can provide valuable insights into measuring CHW

performance. CHW program design can influence CHW performance, particularly through intervention design factors such as CHW workload, human resource management, a mix of financial and nonfinancial incentives, quality assurance, resources and logistics, and community and health system links. It is important to note that nonfinancial incentives undermine rather than sustain motivation if they are perceived as lacking, insufficient, or unfair.

If program implementers know how certain features of an intervention affect performance, interventions can be shaped and adjusted to yield optimal CHW performance. A review conducted by Kok et al in 2014 found that a mix of financial and nonfinancial incentives, predictable for the CHWs, was an effective strategy to enhance performance, especially of those CHWs with multiple tasks.¹² Eighty-one studies presented information on incentives given to CHWs, including fixed salaries for those CHWs who were government or nongovernmental organization (NGO) employees, regular and irregular allowances, performance-based financial (PBF) incentives, income from selling services (fees), income from selling commodities, and nonfinancial incentives such as goods or rewards, access to training, supervision and supplies, preferential treatment, and community trust and respect. It was also determined that satisfaction related to incentives could lead to lower or higher motivation and influence CHW performance. Some sample conceptual frameworks of factors influencing CHW performance are shown in Annex I.

The Evidence Summit on Community Health Worker Performance was hosted by USAID in 2012 and focused on community and formal health system support for enhanced CHW performance. The summit demonstrated that the capacity of communities to contribute positively to CHW performance depends on health system support and government policies recognizing community engagement and providing

Measuring CHW Performance

The design of CHW programs influences CHW performance. Important program design factors include CHW workload, human resource management, financial and nonfinancial incentives, quality assurance, resources and logistics, and community and health system links. This study examines the influence of incentives (financial and nonfinancial) on performance.

CHW performance can be measured at two levels: the individual CHW level and the end-user or community level.

- At the CHW level, measurable factors include CHW motivation, competency, guideline adherence, and job satisfaction.
- At the end-user/community level, CHW performance can be measured through coverage, number of services provided, use of services, quality of services, health-seeking behavior, and adoption of practices that promote health and community empowerment.

¹¹ Naimoli, J et al. "A community health worker 'logical model': towards a theory of enhanced performance in low- and middle-income countries." *Human Resources for Health* (2014), 12:56: 1-16.

¹² Kok, MC, Dieleman, M, Taegtmeier, M, et al. Which intervention design factors influence performance of community health workers in low- and middle-income countries? A systematic review. *Health Policy and Planning*. 2014.

formal linkages to the health system. In defining the measures and determinants of CHW performance, this study borrowed from the framework for CHW performance developed by the USAID working group for the Evidence Summit.¹³ In particular, CHW performance indicators were outlined by an evidence review team according to various factors; for the purposes of this study, CHWs, their supervisors, and various partners were queried on various dimensions of these factors (see box above).

A separate literature review conducted as part of a background activity for the in-country exercise of this study confirmed that a mix of both financial and nonfinancial incentives for CHWs has the greatest impact on performance.¹⁴ The most common financial incentives include fixed salaries, irregular monetary allowances, performance-based payments, income from selling services, and income from the mark-up of commodities. The most commonly cited nonfinancial incentives include community recognition and respect, acquisition of valued skills, identification (t-shirt, badge), training opportunities, status within communities, and peer support. A consistent theme emerging from the literature is the need to consider various contextual factors upon designing and planning an incentive scheme for a CHW program. Such factors include CHW workload and type of services provided, their status as employees versus volunteers, cultural norms, remuneration expectations, demand for services, and the level of community engagement.

3. COUNTRY CONTEXT: MADAGASCAR

For the 83% of the Madagascar's 22.9 million people living in rural areas, access to quality health services remains limited in the context of a weak public sector and a severe shortage of trained health care workers.^{15,16} Ranking 155 out of 187 countries on the Human Development Index, Madagascar remains off track in achieving its Millennium Development Goal (MDG) targets and has a long road ahead to reaching these goals and improving the health of its population, as indicated by its high rates of infant and maternal mortality.^{17,18}

The country's under-five mortality rate remains at 62 deaths per 1,000 live births, most of which are attributed to largely preventable causes, such as acute respiratory infections, diarrhea, malaria, and neonatal sepsis. Despite efforts to increase the uptake of family planning and reproductive health services, the maternal death rate has stagnated at 478 deaths per 100,000 live births – far from its 2015 target of 127 deaths per 100,000 live births – while only 43.9% of births are attended by a skilled worker.^{19,20}

Organized according to the country's administrative levels, Madagascar's health system is divided into 22 regions, 119 districts (112 health district offices), 1,579 communes, and an estimated 17,845 fokontany (villages).²¹ In total, there are six university teaching hospitals; 16 regional hospitals; 150 referral

¹³ Final Report of Evidence Review Team I: Which Community Support Activities Improve the Performance of CHWs? A Review of the Evidence and of Expert Opinion with Recommendations for Policy, Practice, and Research. Fall 2012. USAID.

¹⁴ This review can be found in the Annex section of the combined report of this study.

¹⁵ World Bank. "Madagascar." <http://www.worldbank.org/en/country/madagascar>

¹⁶ Institut National de la Statistique (INSTAT) de Madagascar, "Enquête nationale sur le suivi des objectifs du millénaire pour le développement à Madagascar." 2012-2013.

¹⁷ United Nations Development Programme, "Human Development Report - Madagascar." 2014.

¹⁸ World Bank. "Madagascar."

¹⁹ INSTAT, "Enquête nationale."

²⁰ United Nations Economic Commission for Africa, African Union, African Development Bank and United Nations Development Programme, "MDG Report 2014: Assessing Progress in Africa toward the Millennium Development Goals."

²¹ INSTAT, 2012 as quoted in the President's Malaria Initiative (PMI), "Madagascar Malaria Operational Plan FY 2015."

hospitals; 2,509 *centre de santé de base*, or public primary health centers (CSBs); as well as 630 private health facilities.²²

At all levels of the health system, there is a significant shortage of trained health care workers. The national average ratio of doctors to population is one doctor per 7,201 persons while rural areas have an average of one doctor per 10,000 persons.²³

Table 1: Overview of Madagascar’s health system²⁴

Level	Description
National	The Ministry of Health (MOH) provides overall health sector leadership and management and is represented by the cabinet of the MOH. The national directorates report directly to the MOH Director General under the Secretary General of the MOH.
Regional	Each region has a regional health directorate and a regional hospital. Regional directors oversee health teams that implement integrated health interventions.
District	The district hospital is the first referral structure for CSBs; the district health team is led by a medical chief (<i>médecin inspecteur</i>), responsible for the technical supervision of all CSBs in his or her jurisdiction.
Commune	At the commune level, there is at least one public CSB serving each commune. There are two levels of CSB: CSB Level I (staffed by a nurse or paramedic) and CSB Level II (staffed by at least one doctor). CSB staff are responsible for assisting in CHW supervision, often in conjunction with program-supported supervisors.
Fokontany	At the fokontany level, CHWs are responsible for providing both promotional and curative services to members of their communities as well as patient referrals to the CSB. The National Community Health Policy (<i>Politique Nationale de Santé Communautaire</i>) indicates that there should be two CHWs per fokontany.

Following the 2009 military-backed coup d’état and subsequent political and economic crises, Madagascar was suspended from the African Union and the Southern African Development Community, and most foreign donors rescinded direct assistance to the country’s public sector. Consequently, due to limited domestic funding and significant reductions to the country’s national health budget, the Government of Madagascar (GOM) closed 339 primary health care facilities. At this time, attendance rates of CSBs decreased by 20% and there were significant disruptions to SALAMA, the quasi-public national health commodities supply chain system, resulting in frequent stock-outs of essential medicines and the interrupted delivery of health services.²⁵ See Annex 2 diagram of the supply of health commodities for further details.

Given the restrictions put in place regarding working directly with the GOM, many foreign governments have provided foreign assistance for health and development initiatives directly to non-state actors such as local and international NGOs and non-public sector workers (e.g. NGO staff and CHWs).²⁶ For example, through a cooperative agreement, USAID funded the international NGO Population Services International (PSI) to establish a supply chain system for community health commodities. This USAID

²² President’s Malaria Initiative (PMI), “Madagascar Malaria Operational Plan FY 2015.”

²³ Annuaire des Statistiques du Secteur Sante 2012 as cited in PMI’s “Madagascar Malaria Operational Plan FY 2015.”

²⁴ Adapted from the President’s Malaria Initiative, “Madagascar Malaria Operational Plan FY 2015.”

²⁵ USAID, “Primary Health Care (PHC) Project in Madagascar.” Solicitation Number: SOL-687-13- 000001.

²⁶ Although total donor funding increased from \$92 million to \$160 million between 2008 and 2010, less than 10% of this funding was channeled through the public sector. As cited in: United States Agency for International Development (USAID). “Evaluation report: end-of-project evaluation of the PSI Social Marketing Project in Madagascar.” January 31, 2013.

initiative provided alternative sources and pricing structures for the same health commodities provided by the underfunded SALAMA supply chain system.²⁷ Other USAID programs excluded the participation of MOH staff as a result of these restrictions and leveraged NGOs to conduct CHW supervision and program implementation.

Following democratic elections in 2014, most foreign donors resumed direct foreign assistance to the GOM. However, the country continues to face significant challenges in reestablishing its health system and improving access to health care, particularly for the estimated 35% of the population living more than 10 km from a health facility.²⁸

3.1 Community Health in Madagascar

CHWs represent the foundation of Madagascar's health system and play a key role in improving access to quality health care. Recognized as trusted members of their communities, CHWs provide a variety of services addressing priority health areas, including maternal and child health; family planning and reproductive health; nutrition; tuberculosis; water, sanitation, and hygiene (WASH), etc. According to recent estimates, approximately 34,000 CHWs have been trained nationwide since 2009.²⁹ Recognizing the important role that CHWs play within the health system, in 2009, the MOH released its National Community Health Policy (*Politique Nationale de Santé Communautaire*) as a guide for community health stakeholders. In particular, the strategy seeks to empower communities to implement health and development activities, optimize the use of priority health and social protection services, and harmonize interventions at the community level.

Despite the MOH's political will and commitment to standardize CHW recruitment, continuing education, and the package of community health services offered, the reality is that community-based approaches have not been considered a priority strategy and have often served as a palliative alternative to supplement the shortcomings of the health and social protection system.³⁰ Certain community health programs remain fairly vertical (i.e. disease-focused), are often under-funded, and frequently lack harmonization among foreign donors and implementing organizations. For example, the packages of services offered by CHWs vary considerably (i.e. some CHWs provide promotional, preventive, and curative services) and there are significant differences among programs in terms of the expected CHW workload, incentives, training curricula, and supervision structure and frequency, etc. While there have been initiatives to harmonize CHW incentives, they typically only apply to specific donors and implementing partners.³¹

4. STUDY METHODOLOGY

4.1 Data Collection/Study Setting

In collaboration with the USAID Africa Bureau, ASH developed and finalized a study protocol in December 2014. Madagascar and Malawi were selected for the country case studies given the important role CHWs play within the health system, as well as evidence of numerous incentives used by

²⁷ USAID. "Evaluation report: end-of-project evaluation of the PSI Social Marketing Project in Madagascar." January 31, 2013.

²⁸ World Health Organization. "Madagascar country cooperation strategy at a glance."

²⁹ President's Malaria Initiative, "Madagascar Malaria Operational Plan FY 2015."

³⁰ Madagascar *Ministere de la Santé et du Planning Familial*. "Politique Nationale de Santé Communautaire à Madagascar." January 2009.

³¹ In 2014, USAID Madagascar standardized per diem rates for Government of Madagascar employees and community health workers collaborating with US government-funded projects.

community health programs in Madagascar. The data collection tools and a brief overview of the study were shared with respective USAID offices in each country and also with the relevant MOH partners to obtain their inputs prior to in-country data collection. The data collection visit in Madagascar took place in January 2015 at various levels of the health system including the following:

- Central level with staff from the MOH's *Direction du Développement de Districts Sanitaires (3DS)*, USAID Mikolo Project, USAID Mahefa Project, UNICEF, Marie Stopes Madagascar, and PSI
- Regional level staff from the MOH, USAID Mahefa project, UN Population Fund, PSI, and local organizations *Action Socio-sanitaire Organisation Secours (ASOS-Sud)* and *Service d'Appui à la Gestion de l'Environnement (SAGE)* in the Atsinanana and Atsimo Andrefana regions
- District-level MOH staff from Toliara II and Brickaville districts
- Selected CSBs with community health volunteers (CHVs), CHWs, their supervisors, CSB staff, and *comité de santé*, or health committee (COSAN) members

Figure I: Map of Madagascar



The purpose of this data collection was to determine the scope of each community health program, identify the types of community health services provided, and gather information and opinions on the financial and nonfinancial incentives that CHWs receive. The interviews also served as an opportunity to collect information on service locations, coverage (actual and target), supervision and support structures, stock-outs, and the estimated workload of and time spent by CHWs. When available, implementing organizations also provided data on CHW attrition rates, supervision frequency, prices of equipment and medicines, and costs related to management, supervision, meetings, and trainings. The researcher also conducted interviews with COSAN members and CSB staff to ensure the inclusion of qualitative feedback on the community's opinion of CHW performance and the perceived quality of services.

Using a semistructured questionnaire (see Annex 3), data were collected through interviews with CHVs, CHWs, program staff, and other stakeholders in the three regions. Programmatic staff and CHW supervisors served as translators for the interviews (translating from Malagasy to French) and responses were transcribed electronically using MS Excel. Interviews lasted between 30-60 minutes on average and took place at health facilities and the houses of CHWs. When indicated as appropriate, CHWs were provided with small monetary compensation not exceeding 3,000 Malagasy ariary (AR) to compensate for lost time and meals. Informed consent was sought before each interview, and respondents were informed that they could withdraw at any time during the discussion.

Table 2: Summary of CHWs interviewed

Region	Programs Sampled	CHWs
Atsimo Andrefana*	USAID Mikolo	7
	UNICEF	6
Analamanga (Antananarivo)	Marie Stopes	2
Atsinanana**	USAID Mikolo	14
	Marie Stopes	1
Total CHWs Interviewed		25
*In the Atsimo Andrefana region, 10 CHWs were interviewed; however, three CHWs were working for both the USAID Mikolo and UNICEF programs.		
**In the Atsinanana region, 14 CHWs were interviewed, one of whom was working for both the USAID Mikolo and Marie Stopes programs.		

4.2 Study Limitations

This study faced several limitations. Due to time, budgetary, and geographic constraints, only four community health programs were selected for the study sample: USAID Mikolo, USAID Mahefa, the UNICEF Maternal and Neonatal Community Health Project, and the Marie Stopes Madagascar mobile outreach clinic program. Due to flooding and limited site accessibility, interviews were not conducted with CHVs supported by the USAID Mahefa project; however, programmatic data on the services provided and program use were issued by the central office in Antananarivo and, therefore, information from USAID Mahefa was included in the study.

Another important limitation was the presence of only one study researcher, thus limiting the sample size and the extent to which the results reflect the community health programs. While the researcher intended on conducting only one-on-one interviews with CHWs, he did conduct several group interviews so as to limit the waiting time of CHWs. These focus group discussions may or may not have impacted or influenced the qualitative data that was reported by CHWs.

Several CHW supervisors served as translators for the interviews (translating from Malagasy to French). Their positions as supervisors could have influenced the responses of CHWs, particularly for questions related to the frequency of supervision, amount of per diem received at meetings and trainings, etc. Furthermore, respondents may have suffered from recall bias. For example, respondents may have failed to correctly remember the exact amount of per diem they received for attending a training. In some cases, respondents may have chosen not to answer certain questions.

While this study seeks to better understand the relationship between CHW incentive mechanisms and health impact, the analysis largely depends on the availability and quality of the programmatic data that is reported. Because detailed service delivery and population data was unavailable, it proved very difficult to assess the coverage and use of CHWs. Several implementing organizations do not track data related to CHW retention and attrition while other implementing organizations do not have reliable population coverage data, which is important in estimating program use and the demand of CHW services. In addition, the study did not fully assess the quality of CHW services and adherence to guidelines.

The reporting rate of certain program data, in most instances, was not 100%. It would be expected that nascent projects would experience low reporting rates compared to mature, at-scale projects. Also, partial program data (i.e. data not provided for the entire year) may be omitting seasonal trends in services provided. For example, malaria rates are expected to increase during the rainy season.

Moreover, to better estimate the use of CHW programs, it would be important to use regional or district incidence rates of diseases (e.g. diarrhea, malaria, pneumonia, etc.) and district estimates of contraceptive prevalence. The regional context between the Mahefa and Mikolo projects are very different and using national rates may not be accurate. In addition, information on the number of fokontany where there are one or more CHVs or CHWs working could provide useful insight into levels of use. For instance, in some fokontany, there are two CHVs or CHWs that provide all services, while, in other fokontany, there are still some specialized CHVs or CHWs. This could make a difference in how services are accessed or made available.

Furthermore, in assessing the financial incentives provided to CHWs, no interviews were conducted with CHVs enrolled in savings and internal lending communities (SILCs), COSAN Saving and Loan Fund (CSLF), nor program-supported income-generating activities and therefore the impact of these incentives on CHW performance and retention could not be assessed

Recognizing the importance of context on a CHW's performance, a thorough analysis examining the effects of various contextual factors (e.g. community, economy, environment, and health system) could help further guide potential policy changes and modifications to community health programs to achieve ultimate performance.³² Each of the four programs vary considerably in terms of their approach to service delivery, services provided, CHW roles and responsibilities, geographic area (and disease epidemiology), and context. A more precise analysis of the impact of incentives would have been possible among similar programs with slight differences in the provision of CHW incentives.

5. RESULTS: CHW PROGRAMS SAMPLED

Programs which provided salaries to CHWs were not sampled. The four community health programs were selected based on their geographic locations (i.e. areas of operation), required travel distances, and availability of data. Each of the four community health programs supports the delivery of various community-based health interventions and operates in several and, in some cases, different regions of the country, each with their own unique set of geographic and cultural differences. Therefore, direct comparisons across programs are not possible. Table 3 provides further detail, describing the four programs that were sampled.

Table 3: Overview of community health programs sampled

USAID Mikolo (2013–2018)
<ul style="list-style-type: none"> ▪ Geographic coverage: Implemented in six regions (Atsinanana, Vatovavy-Fitovinany, Amoron'i Mania, Haute Matsiatra, Ihorombe, and Atsimo-Andrefana), 32 districts, and 375 communes. In FY2015, the project expanded to three additional regions. ▪ Role of CHWs: CHVs provide integrated community case management (iCCM) treatment (diarrhea, malaria, and pneumonia) and short-acting family planning methods (pilplan, condoms, cycle beads, Depo-Provera) among other health promotional activities. ▪ Financial incentives: CHVs are considered unpaid volunteers but receive per diem for attending trainings and meetings and earn money from user fees from the sale of medicines and commodities. Selected CHVs also have access to credit through project-established SILCs. ▪ Nonfinancial incentives: CHVs receive training, equipment, and a start-up kit of medicines/commodities. CHVs are supervised regularly by a field technician and can be promoted to a higher level certification based on competency tests. CHVs indicate public acknowledgment, increased knowledge, and improved capacity as motivating nonfinancial incentives.

³² Kok et al. "How does context influence performance of community health workers in low- and middle-income countries? Evidence from the literature." *Health Research Policy and Systems* (2015), 13:13.

USAID Mahefa (2011–2016)

- **Geographic coverage:** Implemented in six regions (Boeny, DIANA, Melaky, Menabe, SAVA, and Sofia), 24 districts, and 279 communes
- **Role of CHVs:** CHVs provide iCCM diagnostic and treatment (diarrhea, malaria, and pneumonia) and short-acting family planning methods (pilplan, condoms, cycle beads, Depo-Provera) among other health and WASH promotional activities
- **Financial incentives:** CHVs are unpaid volunteers but receive per diem for attending trainings and meetings and earn user fees from the sale of medicines and commodities. Certain CHVs are selected to participate in income-generating activities (e.g. Eboxes and selling of WASH products).
- **Nonfinancial incentives:** CHVs receive training, equipment, and a start-up kit of medicines and commodities. CHVs participate in group supervision/meeting with the health center each month and receive on-site supervision visits by both health center staff and NGO field workers. All CHVs in the program receive feedback from their clients on the quality of their services via the community score card approach and also in the commune-level health review sessions. This is one source of motivation for the volunteers. High-performing CHVs receive bicycles, participate in exchange visits to share experiences with other CHVs, and sometimes travel to other regions and the national capital to disseminate good practices and participate in regional and national-level conferences and workshops. All CHVs also refer clients for long-acting/permanent methods (LA/PM) to Marie Stopes Madagascar mobile clinic each quarter basis as appropriate and receive 2,000 Ar per referral.

UNICEF Maternal and Neonatal Community Health Project (2012–2014)

- **Geographic coverage:** Implemented in two regions (Atsimo Andrefana and Anosy) three districts (Toliara II, Betioky Sud, and Amboasary), and 66 communes
- **Role of CHWs:** CHWs are tasked with raising awareness and increasing the uptake of priority maternal and neonatal health interventions, including encouraging early prenatal exams, prenatal exams, deliveries at the CSB, postnatal exams, and kangaroo mother care.
- **Financial incentives:** CHWs receive quarterly performance-based incentive payments based on the number of activities that they conduct. Incentive payments are based on the funding available and the importance of the indicator (i.e. high-impact services such as referring women for delivery at the CSB are weighted heavily).
- **Nonfinancial incentives:** CHWs receive training and equipment as well as quarterly supervision and assessments by CSB staff.

Marie Stopes Madagascar Mobile Outreach Clinics (2007–present)

- **Geographic coverage:** Implemented in all 22 regions of Madagascar, including 100 districts, and 828 communes
- **Role of CHWs:** CHWs conduct outreach education for family planning services. CHWs provide clients with a voucher to receive counseling and LA/PM from Marie Stopes Madagascar’s mobile health team during quarterly visits.
- **Financial incentives:** CHWs earn 2,000 Ar for each client they refer for a LA/PM.
- **Nonfinancial incentives:** CHWs receive an initial training and quarterly supervision visits by mobile outreach teams.

5.1 USAID Mikolo Project CHVs

The five-year (2013–2018) USAID Mikolo Project, implemented by Management Sciences for Health (MSH) and a consortium of international and local partners, seeks to increase the use of community-based primary health care services and the uptake and adoption of healthy behaviors among women of reproductive age and children under the age of five years in six regions of Madagascar.³³

³³ Starting in 2015, the project will be scaling up activities in three additional regions.

Following the end of its predecessor project, USAID|SanteNet2, in March 2013, USAID Mikolo resumed support of community-based service provision by conducting comprehensive refresher trainings for 4,519 CHVs. CHVs selected to participate in the trainings:

- 1) lived in a community located more than five km from the nearest health facility;
- 2) previously trained and worked as a CHV with the USAID|SanteNet2 project; or
- 3) previously trained and worked in providing iCCM services through the World Fund Program (NSA2) project; or
- 4) previously trained and were supported by other donors or health projects.

Most of the CHVs supported by USAID Mikolo had not received formal training since 2011 nor had they received any technical support or supervision since March 2013 when USAID|SanteNet2 discontinued its project activities. According to a situational assessment conducted in December 2013 of CHVs in 360 communes, most CHVs previously supported by USAID|SanteNet2 continued to provide services during this gap period and 80% of CHVs were functional and continued to send monthly activity reports to the CSB.³⁴ The lack of NGO supervision during this period could have affected the quality of services provided as CHVs were not assessed on their performance nor did they receive refresher training. In total, 22% of CHVs that were active during the USAID|SanteNet2 project did not attend the meetings when the survey was conducted and only 71% of CHVs continued working with the USAID Mikolo Project.

CHVs supported by the USAID Mikolo Project are categorized into the following:

- *Child health CHVs* provide iCCM treatment (diarrhea, malaria, and pneumonia) as well as referrals to the health center; growth monitoring and malnutrition screening; and information, education, and communication (IEC)/behavior change communication (BCC) activities (promotion of immunizations, seeking early treatment, use of insecticide-treated bed nets, safe water, etc.).
- *Mother health CHVs* provide family counseling and contraceptive commodities (pilplan, condoms, cycle beads, Depo-Provera) and promotion of good nutrition for women and children and other IEC/BCC activities.
- *Polyvalent CHVs* offer both child and maternal health services

To improve the ownership of health interventions and the capacity of local stakeholders, the project trains both COSANs (health committees) and community development commissions (CCDs) and supports them in their activity planning. The COSANs are responsible for providing technical supervision to CHVs through group and individual monitoring visits, and the CCDs are responsible for coordinating health interventions and developing local action plans in each commune.

The project also strengthens the capacity of local NGOs to support quality community health services by providing transition grants. NGOs use the grants for hiring and training field agents to assist with data collection and assisting with the monitoring and reporting of results. Field agents are responsible for supervising CHVs through various meetings and group monitoring sessions. These include:

- on-site, quarterly supervision visits focused on the observation of case management and commodity stock management;
- monthly reviews/group monitoring sessions with the heads of CSBs and COSANs; and
- quarterly group monitoring sessions to evaluate and certify CHVs performance.

³⁴ USAID Mikolo, "Situation assessment in 375 communes." February 27, 2014. USAID Mikolo. Situation Assessment in 375 Communes. February 2014.

At each quarterly group monitoring session, CHVs take a written competency test. Based on their test grade and their performance (i.e. submitting reports on time), CHVs receive a certification rating according to the following levels:

- Level 0: CHV has not sent reports within the last three months
- Level 1: Average
- Level 2: Certified
- Level 3: CHV peer supervisor, responsible for providing community-based services and the supervision and mentorship of CHVs³⁵

While CHVs are unpaid volunteers, they are supplied with materials and equipment to facilitate their work. CHVs also receive per diem (approximately 10,000 Ar per day) for attending group meetings and both per diem and transport reimbursement for attending trainings. CHVs also earn small profits from the sale of PSI-branded medicines and commodities, including contraceptives, water treatment tablets, mosquito nets, rapid diagnostic tests, and treatment for diarrhea, malaria, and pneumonia. CHVs procure these items through PSI supply chain distribution points (*points d'approvisionnement*) which are located at the commune level to ensure improved access to products at the community level, particularly for those living in hard-to-reach areas.

Funded by USAID (2007–2017), PSI supports approximately 1,333 supply chain distribution points throughout the country.³⁶ Local community members serve as supply chain distribution point managers at the commune level and are responsible for procuring subsidized commodities from PSI's regional warehouses and distributing them to 12-20 CHVs at a subsidized price (see Annex 2); the commodities are then sold at the fokontany level. According to PSI, supply chain distribution point managers, which are located in rural areas (and face challenges of inaccessibility at certain times of the year), are provided with a 15% discount off normal sale prices. The profits reported by both CHVs and PSI supply chain distribution point managers are very minimal and therefore, PSI considers them both volunteer roles.



A CHV demonstrates how to provide Depo-Provera.

To motivate CHVs and community members, as well as improve their living conditions, USAID Mikolo has established SILCs and CSLFs. SILCs are established at the community (fokontany) level to improve access to financial services for the personal financial goals and benefits of all community members. CSLFs are established at the commune level to raise funds for communal health goals and priorities (e.g. building health huts, paying for emergency evacuation and surgeries, purchasing CHV commodities in bulk to avoid stock-outs, etc.); however, members can borrow money for personal purposes. Repayment of CSLF loans and interest are contributed directly to health funding. Both SILCs and CSLFs are designed to help improve community status and social cohesion. For those CHVs enrolled, SILCs

³⁵ USAID|Mikolo recently introduced the concept of CHV peer supervisors.

³⁶ 2015 estimates, based on a discussion with PSI Madagascar: Andriaherinosy, Solofo Robson (PSI Director of Distribution), interview by Colin Gilmartin, January 15, 2015.

and CSLFs are seen as a promising intervention for reducing attrition, increasing meeting attendance of members, and improve linkages and communication among members through monthly meetings.

5.2 USAID Mahefa Project CHVs

The five-year USAID Mahefa project, also referred to as the Madagascar Community-Based Integrated Health Project, works in six north and northwestern regions of Madagascar to increase the use of proven community-based interventions and essential products among underserved populations.³⁷

Led by JSI Research & Training Institute, Inc. (JSI), the USAID Mahefa project supports, trains, and equips more than 6,000 CHVs to provide integrated promotional, preventive, treatment, and referral services, including short-term family planning methods; iCCM, which includes diarrhea, malaria, and pneumonia diagnostic and treatment; nutrition status assessments; as well as WASH interventions.³⁸ In 2013, selected CHVs in the program area also received training in administering chlorhexidine to prevent neonatal sepsis. Misoprostol was added in 2014 to the services provided by selected CHVs in the Mahefa area, as well as *Sayana Press*, a three-month, progestin-only injectable contraceptive (added in 2015).

Both USAID Mikolo and USAID Mahefa have very similar project objectives, and the CHVs supported by these programs play very similar roles in improving access to quality community-based health services. All Mahefa CHVs are trained in providing integrated services for child health, maternal health, family planning, nutrition, malaria, and WASH. Mikolo CHVs have largely specialized in either child health or family planning maternal health and are being trained to provide an integrated package of services. One other key difference is that all CHVs in the Mahefa program area were identified by the community and are supervised by the health center heads. The program provides technical training, work tools and materials, and on-site monthly supportive supervisions (jointly by technical staff of the health centers, NGO, and Mahefa team). The CCDs are also trained by the program to provide support to the COSAN (including CHVs who are also members of the COSAN) to manage and provide integrated basic health services at the community level.

USAID Mahefa-supported CHVs are also considered volunteers and procure PSI-branded commodities through the PSI supply chain distribution points and from CSBs. Despite these parallels, the projects have marked differences related to CHV interventions, the CHV motivation schemes used, as well as the supervision frequency of CHVs. Furthermore, the USAID Mahefa implementation regions had never received prior external assistance in integrated health areas including USAID support. Therefore, almost all of the CHVs had never received training in all of the health topics they were expected to cover, nor had they previously completed monthly project reports for USAID partners, for example. In some technical areas, such as family planning, CHVs in the Mahefa program have to complete practical training, or *stages pratiques*, at the health centers. Only after they pass the practicum with a certification from their health center supervisors can they provide that service. This practice is in line with the national policy. USAID Mahefa-supported CHVs receive a fully stocked toolkit upon training completion so they are ready to provide services immediately upon their return to the community. The CHVs also receive a training in managing their stocks, including reporting their stock use.

In addition to the on-site and monthly supervisions, USAID Mahefa has also implemented additional activities to improve the quality of services provided by CHVs. As CHVs started to provide services,

³⁷ The project is implementing activities in the following six regions: Boeny, DIANA, Melaky, Menabe, SAVA, and Sofia.

³⁸ 5,377 MAHEFA-supported CHVs previously received training in iCCM from the World Fund Program (NSA2) project in 2012. In FY13, selected CHVs received training in administering chlorohexidine to prevent infections and neonatal sepsis.

USAID Mahefa introduced group supervision sessions to update technical skills, review reports, and share experiences. This monthly supervision session was moved to be conducted by the health centers when the restriction was lifted in May 2014. Since then, all CHVs in the Mahefa program districts meet every month at their respective health centers. They also use this opportunity to re-stock their health products either at the CSB (health centers) or with the PSI's provision point (PA), who often participate in the monthly meeting with the CHVs.

USAID Mahefa also used the *Champion Communes for Health* approach, which is recommended in the National Community Health Policy to assist the commune (CCDs and COSAN) to define targets and goals for health performance and participate in health planning, self-monitoring, and community-level evaluations. The Champion Commune was first introduced in Madagascar by the JSI-led Jereo Salama Isika (1999–2003) project and is now recommended in the National Community Health Policy as an approach to assist communes to own and manage their own health activities. A community score card approach has also been adopted to evaluate community members' satisfaction with CHV services. Both the community (users) and CHVs score selected indicators and review these ratings with members from the COSAN, CCDs, and other local leaders. The results are then shared and an action plan is developed to improve the quality of services provided. All of the 279 communes in the Mahefa program completed their health goals and are all now declared "champion communes."

According to Mahefa, an estimated 10% of CHVs left their positions between September 2012 and 2014 (5.08% annual attrition rate). To mitigate CHV attrition, Mahefa has introduced several incentive mechanisms for supporting and retaining CHVs. Although CHVs work on a volunteer basis, they do receive materials and equipment (e.g. backpacks, name badges, medicine kits, job aids, management and work tools, BCC materials, health information system tools, and a start-up supply of commodities) to facilitate their work as well as per diem and transport reimbursement for attending meetings and trainings. USAID Mahefa CHVs also earn minimal profits from the sale of medicines. USAID Mahefa also encourages communities to build a permanent work place, called a "Toby" for CHVs to work, and to provide equipment (e.g. table, chair, bench, and shelf) to demonstrate their commitment to improving health services. According to the information provided by project staff, 61%, or 1,234 USAID Mahefa-supported communities, have constructed a health hut. Project staff have also cited public acknowledgement as a source of motivation. One mechanism for acknowledging the efforts of CHVs is through USAID Mahefa's quarterly newsletter which features stories and pictures of CHVs.

The CHVs in the Mahefa program also benefit from enrollment into community health insurance schemes, known as *mutuelles de santé*, which, according to Mahefa, are functional. CHVs are eligible to use the *mutuelle* services should they become members and regularly pay for their membership fees. To incentivize CHVs, USAID Mahefa provides them with access to income-generating activities and other rewards. For example, USAID Mahefa provides CHVs with materials to construct tippy tap hand washing stations and other hygiene and sanitation products which they can sell to community members. Notably, USAID Mahefa has also provided high-performing CHVs with bicycles so they can easily follow up with patients, procure medicines at PSI supply chain distribution points or CSB, and submit monthly reports at the CSB. All CHVs who have received bicycles have also participated in trainings on bicycle maintenance and repair. Training participants are encouraged to form small business cooperatives which are then provided with Enterprise Boxes (Eboxes), an activity led by JSI's international NGO Transaid. Eboxes are large containers of donated, recycled bicycles which are provided to four cooperatives to repair and sell. USAID Mahefa encourages cooperatives to contribute a portion of the revenue from the bicycle sales and repairs to sustain community health activities including the *mutuelles*. To date, two of the earlier cooperatives in the Sofia Region already provided 5% of their benefits to the *mutuelle* in the same district. USAID Mahefa has also organized exchange visits for high-performing CHVs and their COSAN members to visit Ebox cooperatives as well as CHVs in other communes and districts. These

exchange visits are designed for CHVs to share experiences and best practices in community health and setting up Ebox activities.

Additionally, high-performing CHVs continue to receive performance certificates from their regional or district health offices on the International Health Day events organized by the government. Mahefa's supported CHVs and other community actors also participate in the regional and national dissemination events. These events are another source of motivation for CHVs.

5.3 UNICEF Maternal and Neonatal Community Health Project CHWs

In response to the high rates of maternal and neonatal mortality in Madagascar, the MOH, in partnership with UNICEF, launched a multiyear maternal and neonatal community health pilot project (*projet pilote de santé maternelle et néonatale communautaire*) in 2012 in three districts: Toliara II, Amboasary, and Betioky. Based upon the successes of similar projects in Rwanda, the Democratic Republic of Congo, and Burundi, a key approach of this pilot project was to use PBF payments to incentivize health providers and communities for achieving better health outcomes for mothers and newborns. In particular, the project sought to demonstrate the impact of home visits on reducing maternal and neonatal mortality in the three districts.

Recognizing that most maternal and neonatal deaths occur during childbirth and the first days of life, the priority interventions of this project included early prenatal exams and prenatal exams (one and four), deliveries at the CSB, postnatal exams, and kangaroo mother care. Specific targets for the scale up of these interventions were defined based on the current performance and coverage levels of the district. At the start of the project, UNICEF and Medical Care Development International (MCDI), an international NGO, conducted initial meetings with the regional MOH (*Direction Regionale de la Santé*) to review the PBF approach and the criteria for selecting certain intervention districts. UNICEF and MCDI carried out subsequent meetings with district authorities (e.g. the mayor, *médecin inspecteur du district*, and the district health management team) to discuss project roles and expectations and to understand the functionality of the health system, including the referral system. UNICEF held working sessions with the district health management teams to evaluate the feasibility of implementing PBF, to understand existing health infrastructure and community health service approaches, and to collect data on district-level indicators of maternal and neonatal health interventions (e.g. number of prenatal consultations, deliveries at the health center, women referred for complications during childbirth, etc.). In addition, these meetings facilitated the sharing of lessons learned from past experiences in contracting health services at the district level.

At the community level, UNICEF and MCDI also carried out advocacy workshops with key authorities, including the COSAN, CSB health agents, and community health workers. These workshops were aimed at leveraging local actors to raise awareness among the population of available maternal and neonatal health services at both public and private CSBs and also to define the target deliverables of the project. In each fokontany, the community appointed one community health worker and provided a weigh scale, thermometer, a timer, notebooks, a blouse, and reporting tools. Welcome centers (*cases d'accueil*) at the CSBs were constructed and equipped with mattresses, cooking pots, and a padlock.

In total, 150 public and private health agents as well as 944 CHWs were selected to participate in the PBF program. CHWs attended a two-day training at the commune level to review the project objectives and results-based approach and to receive training on concepts related to BCC, community outreach, and supporting the uptake of health services for women and newborns in accordance with MOH standards. CHWs also received quarterly supervision and assessments by the CSB in-charge to reinforce their capacity. As stipulated by UNICEF, CHWs were tasked with the following:

- Conduct awareness sessions with local leaders and groups (including women's groups once per semester)
- Visit each home and register all women of reproductive age (15-49) and all infants under five years of age
- Register all pregnant women
- Visit each pregnant woman at least four times during pregnancy (first trimester, seventh month, eighth month, and two weeks before the due date)
- Organize focus group discussions for pregnant women every four to six months and conduct health education sessions on identifying danger signs
- Educate and accompany pregnant women to deliver at the health center;
- Refer women (as soon as possible) who have given birth at home and those who present danger signs
- Share with mothers best practices for breastfeeding and caring for their child
- Regularly visit mothers and newborns, provide advice on vaccinations, and provide health education on how to care for a newborn during sickness (e.g. CHW to accompany and refer woman and baby to CSB)
- Educate and help mothers take care of their newborns
- Recognize the danger signs for newborns and mothers and, if present, refer to CSB quickly
- Collaborate with traditional midwives
- Report cases of maternal death
- Correctly complete management tools and reports and update materials

CHWs receive quarterly performance incentive payments based on the number of activities they conducted as they relate to the project's predetermined performance targets. The amounts of incentive payments are based on the funding available, the importance of the indicator (i.e. high-impact interventions are weighted more heavily), and the type of activities conducted. For instance, accompanying a woman to the CSB is weighted more than simply referring a woman to the CSB. At the end of each quarter, district and regional health officials conduct group monitoring and evaluation visits during which they verify the results by reviewing CHW registers and counter-referral forms. CHWs provide vouchers for client referrals which are then validated by CSB staff who stamp and validate each voucher upon receipt.

Of the total budget allocated for incentive payments, 40% is allocated to the CSB health agents (based on indicators for preventive and curative interventions), 40% is allocated to the COSAN and CHWs, and 20% goes toward making improvements to the health facility (e.g. purchasing materials and equipment).

Incentive payments for CHWs vary depending on the indicator. For example, conducting one IEC session will yield an average payment of 500 Ar and two sessions will yield 800 Ar. Accompanying a woman to the CSB for a postnatal consultation will yield an average payment of 4,000 Ar and accompanying a woman to deliver at the CSB will yield a payment of 7,000 Ar.

According to UNICEF, CHWs appreciate both the financial and nonfinancial aspects of the program. UNICEF did not report any issues related to CHW attrition during the pilot project.

5.4 Marie Stopes Madagascar Mobile Outreach Clinic CHWs

Through support from USAID and other donors, Marie Stopes Madagascar has contributed to improving national maternal health targets by increasing people's access to voluntary family planning services. In 2007, Marie Stopes Madagascar began a mobile outreach program in hard-to-reach areas. Comprised of a doctor, nurse, coordinator, and driver, the mobile outreach teams work in all 22 regions and provide family planning counseling and LA/PM. LA/PM, which are considered safe and effective in preventing unwanted pregnancies and promoting family planning, include intrauterine devices (IUDs), implants, tubal ligation, and vasectomy.



A team of health workers from Marie Stopes Madagascar counsel a client on available family planning methods.

The mobile outreach teams typically work three consecutive weeks per month, traveling to select communities each quarter and providing family planning services free-of-charge either at a health facility or in an inflated mobile pop-up clinic. Clients receive both group and individual family planning counseling to ensure they have received all of the necessary information before making an informed decision on which method, if any, is the best choice for their particular needs. All clients consent to the procedure and, in the rare case of a medical complication, can seek follow-up care at a local health center which would be reimbursed by Marie Stopes Madagascar.

Essential to its mobile health strategy, Marie Stopes Madagascar works with CHWs who are responsible for conducting outreach, educating community members about family planning, and informing them about the services Marie Stopes Madagascar provides. CHWs will provide potential clients with a coupon, indicating the date and location of the mobile health team's visit. For every referred client that receives a LA/PM at the mobile health clinic as a result of the referral, a CHW will earn 2,000 Ar as a financial incentive. At the end of the day, the mobile outreach team will tally the number of coupons that

each CHW was responsible for disseminating and issue cash payments. CHWs can earn upwards of 30,000 Ar per quarter (i.e. for referring 15 women for LA/PM). According to Marie Stopes Madagascar, CHWs have been selected by their respective communities and therefore are well-respected and rarely abandon their position.

All CHWs have received training on interpersonal communication, family planning methods, informed choice, as well as US Government family planning compliance. In addition, CHWs receive quarterly recurring supervision visits on the days that the mobile outreach staff travel to their commune.

6. SUMMARY OF FINDINGS: CHW INCENTIVES

The CHW programs sampled use a mixture of various financial and nonfinancial incentives to engage and retain CHWs.

- **Financial incentives** may be direct or indirect. Direct financial incentives include pay (salary), pension and allowances for accommodation, travel, childcare, clothing and medical needs, and mark-up or performance payments based on medicines sold. Indirect financial benefits include subsidized meals, clothing, transport, childcare facilities, and support for further studies. These monetary factors can contribute as an incentive for CHWs if they are considered as satisfactory remuneration by the CHWs and if there is a possibility of future paid employment. On the other hand, they may be a disincentive for the CHW if they are considered to be inconsistent with expected remuneration or a change from tangible incentives, or if there is an inequitable distribution of incentives among different types of CHWs.³⁹
- **Nonfinancial incentives**, such as badges, uniforms, special kits, community recognition and support (e.g. construction of health huts), preferential access to health services, regular supervision and training, can give volunteer CHWs who work only a few hours a week a sense of appreciation needed to stay motivated to continue their work. In addition, the possibility of future paid employment, community respect, acquisition of valued skills, and opportunities for personal growth and development can all motivate CHWs. Peer support, opportunities to participate in CHW associations, flexible work hours, witnessing improvements in health as a result of their efforts, and contributing to community empowerment are also strong motivators. Lack of appropriate remuneration relative to the assigned workload leads to poor quality of services, loss of motivation, and attrition. Nonfinancial incentives can also be disincentives if the refresher trainings or supervision are inadequate or if health facility staff members do not respect volunteers.

These incentives function to not only improve CHW performance by influencing determinants of performance at the CHW level (e.g. with improved attitudes, motivation, and self-esteem) as discussed in Section 2.3, but they can also result in improved quality and access to key health services for community members, while ultimately influencing adoption of practices that promote health and improve health-seeking behavior.

An overview of the financial and nonfinancial incentives reported during the data collection are provided in Table 4 and further analyzed in the narrative.

³⁹ Bhattacharyya, K, Winch, P, LeBan, K, Tien, M. Community Health Worker Incentives and Disincentives: How They Affect Motivation, Retention, and Sustainability. Arlington, VA: Basic Support for Institutionalizing Child Survival Project (BASICS II) for the United States Agency for International Development; 2001.

Table 4: Overview of CHW incentives by program

	USAID Mikolo	USAID Mahefa	UNICEF	Marie Stopes
Financial Incentives				
Per diem for trainings and meetings	✓	✓	✓	✓
User fees	✓	✓		
PBF incentives			✓	
Referral payments		✓		✓
Savings and internal lending communities and insurance groups	✓	✓		
Income-generating activities		✓		
Nonfinancial Incentives				
Education and improved capacity	✓	✓	✓	✓
Equipment and materials ⁴⁰	✓	✓	✓	✓
Mentorship and supervision	✓	✓	✓	✓
Public recognition	✓	✓	✓	✓
Opportunity for job advancement	✓	✓		

6.1 Financial Incentives

The results below demonstrate the financial incentives provided at the level of the various CHW cadres interviewed in the three regions. The analyses provide an overview of each incentive mechanism. The potential impact on CHW retention and performance, and the advantages and disadvantages of using such incentives as they relate to the feasibility of scale-up and future sustainability are discussed in subsequent sections of this report (Sections 7).

6.1.1 Per Diems for Trainings and Meetings

CHWs from all four community health programs receive per diems for attending trainings or meetings. Among the CHWs interviewed, 23 reported receiving per diem payments for attending trainings and meetings for community health activities and programs.

The amount of training per diem reported by CHWs varied depending on the project donor or implementing agency hosting the training, the training topics and health interventions (e.g. community mobilization, iCCM, family planning, etc.) being taught, the location of the training (fokontany, commune, or district), and whether it was a refresher or initial training. Information on the frequency of meetings and trainings, as well as amount of per diem provided to CHWs, is detailed below in the table and narrative.

⁴⁰ Some programs consider essential equipment and materials (e.g. CHV / CHW toolkits) as significantly different than a bicycle or a t-shirt. Although very different, for the purpose of this report, these items have been grouped together as one type of incentive.

Table 5: Per diem for trainings and meetings

Description	Frequency	Daily per diem	Day(s)	Total per diem (per CHW)
USAID Mikolo				
Training (initial) to become “polyvalent” certified CHV	Once/project	10,000 Ar	2 - 5	20,000 – 50,000 Ar + transport
Training – initial training (new communes)	Once/project	10,000 Ar	2.5	25,000 Ar + transport
Training – stock management, epidemiological monitoring (506 communes)	Once/project	10,000 Ar	2	20,000 + transport
Meeting – group session to review data	Monthly	4,000 – 5,000	<1	4,000 – 5,000 Ar
Meeting – group monitoring sessions to evaluate and certify CHV performance	Quarterly	5,000 – 10,000 Ar	<1	5,000 – 10,000 Ar
Meeting – on-site supervision	Quarterly	NA	NA	NA
USAID Mahefa				
Training (initial)	Once/project	10,000 Ar	5	50,000 Ar + transport
Training – family planning / reproductive health	Once/project	10,000 Ar	3	50,000 Ar + transport
Training – nutrition and WASH	Once/project	10,000 Ar	3	30,000 Ar + transport
Training – Depo-Provera	Once/project	10,000 Ar	5	30,000 Ar + transport
Training – iCCM	Once/project	10,000 Ar	5	30,000 Ar + transport
Meeting – group session to review data	Monthly	6,000-10,000 Ar	1	6,000 - 10,000 Ar
Meeting – on-site supervision	Monthly	NA	NA	NA
Review sessions – champion commune’s health goal reviews	Quarterly or periodic (depending on progress of each commune)	6,000-10,000 Ar	1	6,000 - 10,000 Ar
UNICEF Maternal and Neonatal Community Health Project				
Training (initial) on results-based approach and interventions in maternal and newborn health	Once/project	Not provided	2	NA
Meeting – quarterly supervision and assessments by the Chef CSB	Quarterly	Not provided	NA	NA
Meeting – Data validation	Quarterly	Not provided	1- 2	NA
Marie Stopes Madagascar Mobile Outreach Clinics				
Training (initial)	Once/ project	10,000 Ar	1	10,000 Ar
Mobile outreach clinic	Quarterly	NA	1	NA

CHWs reported receiving per diem for attending monthly and quarterly project meetings, some of which last only a few hours (to collect and review monthly reports) and others lasting up to one-half day (for group supervision and individual assessments). Meeting per diem ranged from 4,000 Ar/ day to 10,000 Ar/day. Based on the responses from CHWs, daily per diem rates, including those received from other community health projects not included in this study, ranged between 2,200 Ar/day to 30,000 Ar/day and the length of trainings varied between two and five days. According to program staff from USAID Mahefa and Mikolo, per diem rates are harmonized among USAID partners.

The reported frequency of trainings varies depending on the program. For example, CHVs supported by USAID Mikolo benefitted from a five-day refresher training on child health or family planning (or a combination of both) at the start of the project and also participate in recurrent supervision meetings. CHWs supported by Marie Stopes Madagascar receive a one-day initial training on LA/PM and brief supervision visits from mobile outreach teams every quarter.

Most CHWs reported variations in the amount of training per diem received from different projects and donors. For example, a child health CHV (male, Atsimo Andrefana region) received 4,000 Ar/day for per diem in addition to transport reimbursement for attending a USAID Mikolo training on iCCM lasting two to three days. He had previously received 13,333 Ar/day for per diem and transport reimbursement for attending a three-day training on iCCM with the World Fund Program (NSA2) project. The CHV had also participated in trainings with USAID|Santenet2, the predecessor project of USAID Mikolo, and noted that the amount of per diem was less than the aforementioned projects (the total amount was not specified).



A USAID Mikolo-supported CHV arrives to re-stock her medicines.

Another child health CHV (female, Atsimo Andrefana region) recalled participating in multiple trainings with different projects. She reported receiving 150,000 Ar in per diem for attending a five-day training (or 30,000/day) with the World Fund Program (NSA2) in 2012. For USAID|Santenet2, she reported receiving 70,000 Ar in per diem for attending a five-day training (14,000 Ar/day). For USAID Mikolo, she received 36,000 Ar in per diem for attending a four-day training on iCCM in 2014 (9,000 Ar/day). In 2011, she received 38,000 Ar for attending a two-day training (19,000 Ar/day) on malaria case management sponsored by the Global Fund to Fight AIDS, Tuberculosis, and Malaria. A mother health CHW in the same region (supported by UNICEF and USAID Mikolo) agreed with the aforementioned description and reported:

"Payments are very minimal and the inconsistencies among the projects are demotivating."
Female (mother health) CHW in the Atsimo Andrefana region

6.1.2 Sale of Medicines and Health Commodities

CHVs from the USAID Mikolo and USAID Mahefa programs earn money by charging user fees for the sale of medicines and health commodities (e.g. short-acting contraceptives, water treatment tablets, mosquito nets, rapid diagnostic tests, and treatment for diarrhea, malaria, and pneumonia).⁴¹

Among the CHVs interviewed, 21 USAID Mikolo-supported CHVs reported earning money from the sale of medicines and health commodities to clients in their respective communities. Among those interviewed, 13 CHVs estimated that they earn profits ranging from 500 Ar to 10,000 Ar per month. Eight CHVs did not provide an estimate of their earnings from the sale of medicines because they do not track or could not estimate their monthly profits.

Based on the responses from CHVs, total earnings varied depending on the types of products sold (i.e. iCCM medicines and/or family planning and reproductive health commodities), the frequency of stock-outs, the population of their catchment area, whether they shared responsibility with another CHV, and the demand of health services or the number of clients seen.

As indicated in Annex 2 (PSI Commodity Prices), profit margins for sales by CHVs range from 25% to 220% depending on the quantity sold; however, profits remain minimal. Short-acting family planning commodities (e.g. male condoms, Depo-Provera, and cycle beads) have the highest profit margins (200% to 220%), ranging from 138 Ar to 200 Ar per unit sold. Treatment for diarrhea and pneumonia yield the lowest profit margins (25% to 33%), ranging from 100 to 200 Ar per unit sold. Moreover, child health CHVs reported spending more time per client than mother CHVs, who typically have regular family planning users that come for brief counseling and recurrent injections of Depo-Provera. To maximize their profit margins, CHVs, based on interviews conducted, often prefer to procure Depo-Provera from the local CSB where it is provided to CHVs free-of-charge as well as paracetamol, which reportedly is not available from PSI supply points.

Many CHVs reported using their earnings to replenish their medicine stocks (by traveling to supply chain distribution points), to pay for transport to meetings, and to purchase items such as soap, rice, oil, tea, and coffee for their families.

CHVs did not identify these earnings to be a significant source of financial motivation. For example, one child health CHV from the Atsinanana region mentioned that her sales are minimal and she only earns enough to resupply her stock of medicines. Another child health CHV from the Atsimo Andrefana reported receiving an average of 1,400 Ar profit per month and uses this money to purchase items for her family, but also risks patients taking medicines on credit.

“This profit [from medicine sales] does not motivate us but there is nothing we can do. We (CHVs) have to sell at that price. With the profit, I can buy soap, petrol ... the necessities. Often, patients take medications on credit.”

Female (child health) CHV in the Atsimo Andrefana region

⁴¹ User fees are defined as: “... a financing mechanism that has two main characteristics: payment is made at the point of service use and there is no risk-sharing. User fees can entail any combination of drug costs, supply and medical material costs, entrance fees or consultation fees. They are typically paid for each visit to a health service provider, although in some cases follow-up visits for the same episode of illness can be covered by the initial payment.” As cited in: Lagarde, Mylene and Natasha Palmer. “The impact of user fees on health service utilization in low- and middle-income countries: how strong is the evidence?” Bulletin of the World Health Organization (2008): 86:11:817-908.

Another CHV mentioned the difficulty of finding enough money to resupply her stock of medicines.

"Sometimes I cannot find the means to pay for medications. I look for money outside [of my CHV-related] work."

Female (child health) CHV in the Atsimo Andrefana region

One CHV indicated that her role as a CHW has a lot of opportunity costs; meanwhile, the profit that she earns from user fees is minimal.

Being a CHV "...is an activity that occupies a lot of my time and I am [obliged] to prioritize it even though it doesn't provide any money. I am forced to leave farming to others. My husband gets frustrated by the amount of time I spend as a CHV since it doesn't provide any money."

Female (child health) CHV, 53, in the Atsinana region

6.1.3 Performance-Based Incentives

CHWs supported by the UNICEF program reported receiving PBF incentives based on the number of activities they had conducted each quarter. Six CHWs each reported receiving quarterly PBF payments ranging from 33,000 to 47,000 Ar for educating community members and encouraging priority interventions such as antenatal care (ANC) visits, deliveries at the CSB, postnatal exams, and kangaroo mother care.



A CHW supported by Marie Stopes Madagascar stands outside of a mobile clinic where people have gathered to learn about available family planning methods.

All six CHWs reported being motivated by quarterly PBF payments; however, they emphasized (in a group interview) that they should receive increased payments given the demands of their work. One CHW in the Atsimo Andrefana region who is supported by both UNICEF and USAID Mikolo said that she is motivated by her role as a CHW and her ability to help people, but often people come to her house during the middle of the night and she is obliged to accompany them to the hospital. Three CHWs reported being frustrated with delays in receiving PBF incentive payments.

6.1.4 Referral Payments

CHWs supported by the Marie Stopes Madagascar Mobile Outreach Clinic program receive payments for referring clients to quarterly mobile outreach clinics for LA/PM family planning methods. CHWs only provide referrals for LA/PM because short-term family planning methods are already available at the community level or at the CSB. Clients typically range between 18 to 35 years of age. CHVs supported by USAID Mahefa also receive payments for LA/PM referrals; however, no Mahefa CHVs were interviewed for this study.

Two CHWs interviewed in a peri-urban area of Antananarivo (Analamanga region) reported receiving 2,000 Ar per family planning method referral. On the day of the interview, the two CHWs received

28,000 Ar and 30,000 Ar for referring 14 and 15 clients each, respectively. Each CHW reported conducting one education outreach session per month and another outreach session one week before the arrival of the mobile outreach team. According to one 25-year-old CHW, last quarter she received an estimated 20,000–30,000 Ar for referral payments.

According to one female CHW, she is motivated by seeing people come to the mobile health clinic as well as money:

“To see the people come is priority; money is not as important for me.”
Female CHW, 45, in the Analamanga region

A third CHW interviewed in the Atsinanana region indicated that in addition to his role as CHV with the USAID Mikolo program, he also recently participated in a training with Marie Stopes Madagascar for its mobile health outreach clinic and will receive 2,000 Ar for each LA/PM referral. The coverage zone for his work with Marie Stopes surpasses his coverage zone for USAID Mikolo, as only two CHWs per commune were selected to work with Marie Stopes. He noted that he will be responsible for educating women and community members in four fokontany, the furthest being 18 km from his house. Working in a fokontany outside of his coverage zone may cause conflict with other USAID Mikolo CHVs as he will receive payments from Marie Stopes while the other CHWs will not.

“It is not evident that I will educate women in the other villages.”
46-year-old male CHW, 46, in the Atsinana region

6.1.5 Savings and Internal Lending Communities

None of the CHWs interviewed for this study reported being enrolled in a SILC or CSLF; however, both may play an important role in improving USAID Mikolo CHV performance and retention as they provide CHVs and other community members with access to credit for personal and community expenses.

Currently implemented through the USAID Mikolo project, SILCs are designed to improve access to financial services at the community (fokontany) level and to generate resources for all community members. CSLFs are established at the commune-level and are designed to encourage investments to address health priorities (e.g. building health huts, paying for emergency evacuation and surgeries, purchasing CHV commodities in bulk to avoid stock-outs, etc.). Both SILCs and CSLFs are seen as interventions that can improve community status and social cohesion, increase meeting attendance of members, and improve linkages and communication among members through monthly meetings. SILCs and CSLFs may also contribute to CHV performance and retention.

The *mutuelle de santé* activities are set up in the Mahefa program area as a way to eliminate financial barriers to access health care. To date, the 23 existing *mutuelle* groups increased their members to 9,353. All members paid their membership fees and are, therefore, eligible to use the *mutuelle* services. This practice is in line with the current MOH’s initiative on universal health care coverage. In the sites where *mutuelle* is set up, CHVs can become members.

6.1.6 Income-Generating Activities

Mahefa is the only program reporting support for income-generating activities for CHVs; however, no Mahefa CHVs were interviewed for this study. Therefore, none of the CHWs interviewed reported receiving any training or formal enrollment in income-generating activities in conjunction with community health programs. However, as previously mentioned, the USAID Mahefa project does

provide certain high-performing CHVs with access to income-generating activities, such as trainings on bicycle maintenance and repair as well as training and materials for the construction of hand washing stations. These activities are designed to improve CHV retention and access to additional sources of income.

Among the CHWs interviewed, many indicated the need for supplemental income in offsetting the opportunity costs of serving as a CHW. While the majority of CHWs earn their livelihood as farmers, other CHWs interviewed reportedly earn income by acting as vendors (selling coffee and food at small shops) while others reported earning money by repairing bicycles.

One CHW supported by both USAID Mikolo and Marie Stopes in the Atsinanana region reported earning approximately 3,000 Ar monthly profit from the sale of medicines and commodities; however, he also repairs bicycles at his house while waiting for clients to visit. Like many CHWs, he faces significant opportunity costs related to his work and must continue to provide for his wife and children. He said:

“This is a job that requires time but doesn't provide for the family.”
Male CHW, 46, in the Atsinana region

Another CHV supported by USAID Mikolo indicated that she uses her own money (earned from selling food) to pay for program-related activities.

“I also used my own money to pay for transport to drop off my report at the CSB. I don't receive anything for bringing the report.”
Female CHV, 55, in the Atsinanana region

6.2 Nonfinancial Incentives

The results below demonstrate the nonfinancial incentives provided at the level of the various CHW cadres interviewed in the five districts. The analyses provide an overview of each incentive mechanism. The potential impact on CHW retention and performance, and the advantages and disadvantages of using such incentives as they relate to the feasibility of scale-up and future sustainability are discussed in subsequent sections of this report (Sections 6 and 7).

6.2.1 Education and Improvement Capacity

As indicated in the section Per Diem for Trainings and Meetings, all four programs provide training to CHWs and some form of ongoing mentorship and supervision. The skills and knowledge that CHWs gain depend on the objectives and training of the program (e.g. provision of iCCM and family planning services, family planning counseling, IEC/BCC, referrals, etc.).

Education and training are a means of improving CHW capacity and, based on the interviews with CHWs, can be both empowering and motivating. According to a CHW (supported by Marie Stopes Madagascar) who receives an average of 20,000-30,000 Ar per quarter for referrals, her motivation for serving as an CHW is to gain experience in the health field as she is studying to become a paramedic and also volunteers at the CSB three days per week.

“It's not the money but the fact that I can help people.”
Female CHW, 25, in the Analamanga region

Another CHV (USAID Mikolo) indicated that the training she receives enables her to treat her sick family members.

"I continue to do the work of CHVs because of the benefits of training. I can treat my family."
Female CHV in the Atsimo Andrefana region

For other CHWs, the financial incentive of attending trainings (i.e. per diem) and the knowledge gained are both motivating factors. According to a female family planning CHW (supported by USAID Mikolo and UNICEF) in the Atsimo Andrefana region, she is motivated "to gain knowledge and to gain [money] and equipment."

Another CHW (supported by USAID Mikolo and UNICEF) in the same region mentioned: "[Training is] an opportunity to increase my experience and knowledge."

Despite the stated benefits of education and training, many CHWs indicated that they participate in multiple trainings sponsored by different implementing organizations. Often, implementing organizations may use different training modules and reporting forms which can confuse and frustrate CHWs. A 27-year-old CHV in the Atsimo Andrefana region reported participating in three different iCCM trainings sponsored by USAID Mikolo, USAID|SantéNet2, and the World Fund Program (NSA2) project. While the trainings reinforced his knowledge and capacity, he was trained to fill out three different iCCM reports, each tailored to the needs of the implementing organization.

6.2.2 Equipment and Materials ("In-kind Incentives")

All four community health programs provide CHWs with equipment and materials to facilitate their work (see Annex 4 CHW Equipment). Several CHWs also reported constructing small "health huts" or buildings other than their homes where they can receive patients.

Based on the interviews, materials and equipment enable CHWs to effectively provide health services within their communities; however, stock-outs of equipment, materials, and medicines can inhibit them from effectively doing their work. For example, if medicines are out of stock, use of CHW services may decrease. Furthermore, based on interviews, if registration and reporting forms are out of stock, it can be difficult for CHWs to report on the services they have provided.

Several CHWs also indicated that they had received bicycles from other community health programs but they were of poor quality. Consequently, walking to meetings and to the PSI supply chain distribution point can be difficult given the long distances.

6.2.3 Supervision

All four community health programs provide CHWs with some form of regular supervision and monitoring; however, as indicated in the table below, the four programs vary in terms of the type and frequency of supervision. For example, USAID Mikolo employs NGO field agents to conduct both group and individual CHV supervision during which they review CHV performance, challenges, and successes. According to those interviewed, supervision is considered motivational and serves as an opportunity for CHVs to review their work and discuss the challenges they encounter. In addition, group supervision sessions encourage CHVs to share their experiences and learn from each other. USAID Mahefa supports two types of on-site supportive supervisions, one through the health centers and Mahefa technical staff and the second through local NGOs paid to provide program support and resolve issues on an individual basis. In addition to the on-site supervision supports, Mahefa works with the MOH to ensure that all the monthly CHVs group meetings are conducted at the CSBs for technical updates,

discussion of cases, collection of supplies, and for CHVs to report to the MOH and get any help they need. This regular support and connection to the formal health system may be a motivating factor.

Other programs such as Marie Stopes and UNICEF also conduct regular CHW supervision; however, supervision is conducted quarterly. Information on the quality of supervision for all programs was not provided.

Table 6: Overview of CHW supervision

USAID Mikolo	USAID Mahefa	UNICEF	Marie Stopes
<ul style="list-style-type: none"> 1) Monthly reviews/group monitoring session to review data 2) Quarterly on-site supervision focused on observation of case management and commodity stock management 3) Quarterly group monitoring sessions to evaluate and certify CHV performance 	<ul style="list-style-type: none"> 1) Monthly on-site supervision to review CHV knowledge, practices, reporting, and stock management (either by the NGO field staff or jointly with the CSB and Mahefa technical staff) 2) Monthly group supervision sessions to update technical skills, share experiences, and review reports (monthly) 3) Quarterly health goal review sessions (part of the Champion Commune approach) to provide feedback on service quality by users of the CHV services 4) Periodic (depending on activities plan of each commune) selection of high-performing CHVs to participate in the government's health day celebrations or program disseminations at the regional and national levels 	<ul style="list-style-type: none"> 1) Quarterly supervision and assessments by the Chef CSB to reinforce their capacity 	<ul style="list-style-type: none"> 1) Quarterly supervision by mobile outreach teams

According to a CHV (USAID Mikolo) in the Atsinanana region, supervision is reinforcing and serves as a reminder that there is a support system in place.

“Supervision is important. We are reminded there is someone behind us.”
Female CHV, 55, in the Atsinanana region

According to the district-level *médecin inspecteur* of Brickaville district (Atsinanana region), supervision also reinforces the role of CHWs within their communities.

“Supervision is also reinforcing to the community because they see the CHW is receiving supervision and therefore the quality of services is good.”
District *médecin inspecteur* of Brickaville

According to the district-level *médecin inspecteur* from Sakaraha district (Atsimo Andrefan region), CHW motivation is limited and “CHWs are lost without supervision.”

However, due to significant geographic challenges and the long distances necessary to reach CHWs at either the commune or fokontany level, there are frequently delays in supervision visits which in turn may impact both the quality of services and the motivation of CHWs. According to USAID Mikolo field agents, they often spend several days at a time supervising CHVs and sleeping overnight in the fokontany. According to staff from USAID Mahefa, certain fokontany are inaccessible for six months of the year due to rain and lack of transportation. Consequently, CHVs living in these areas receive infrequent supervision and must plan accordingly to avoid stock-outs.

6.2.4 Public Recognition

CHWs reported being motivated by the recognition and respect they receive from their community members as well as from program staff in the form of supervision visits, certificates, and equipment (e.g. t-shirts).

A child health CHV in the Atsinana region said he is motivated by the respect that he receives from his community for his role in providing health services. He said the community had previously collected money so that he could build a health hut where he could receive clients. He noted:

“The community consults with me and this motivates me to do the work.”
Male CHV, 46, in the Atsinana region

Another CHV said that her position makes her well-known and respected in her community. As a result, people know where she lives and where they can go to seek health services.

“We are well-respected in the community. People know us in the community and where we live.”
Female CHV, 55, in the Atsinanana region

As previously indicated, because CHVs often live in isolated, hard-to-reach communities and have minimal contact with program staff, visits from outsiders, particularly from supervisors and other program staff, serve as motivation.

“CHVs are honored by the presence of individuals, especially strangers.”
USAID Mikolo Regional Office Manager

6.2.5 Opportunity for Job Advancement

Through training, supervision, and mentorship, CHWs receive opportunities to increase their knowledge and capacity; however, without opportunities for advancement or a change in role (through a promotion within the program), CHWs can lose motivation as their role remains static, as indicated from those interviewed.

CHWs from the three programs said only those from USAID Mikolo were provided with opportunities for advancement through certifications. As indicated previously, CHVs take a written competency test at each quarterly group monitoring session and, based on their performance, can advance to the level of a CHV peer supervisor. There was no indication from program staff or CHVs as to what additional responsibilities or types of incentives are included in this role.

7. DISCUSSION: IMPACT OF INCENTIVES ON CHW PERFORMANCE

CHW performance can be measured through end-user or community-level factors. To better understand the relationship between the incentives provided to CHWs and the corresponding performance, this study examined various programmatic results and outcomes, including: number of services provided, estimated demand met and use of services, estimated retention and attrition of CHWs, as well relevant evidence related to the quality of services provided. Information on other factors related to CHW performance was also collected, as highlighted in the international literature, including: tasks and time spent on delivery, human resource management, health system links and resources, and logistics. The following section provides a summary of these findings along with key lessons when examining. Differences in performance among different CHW programs are highlighted.

7.1 Impact of Incentives on CHW-Level Factors

The most common financial incentives across all interviewed CHWs included per diem for attending trainings and meetings, user fees from the sale of medicines and commodities, PBF incentives, and referral payments for family planning services. Some CHVs were also involved in program-supported SILCs and income-generating activities. High-performing CHVs supported by USAID Mahefa received bicycles and participated in exchange visits to share experiences with other CHVs.

The sections below discuss the various merits of these incentives and their associated impact on performance and retention as measured through programmatic data described in Section 6.

CHW performance can be measured through individual factors such as motivation, attitudes, competencies, guideline adherence, and job satisfaction. The following effects of incentives (labeled “F” for financial and “NF” for nonfinancial) were identified through key informant interviews.

7.1.1 Motivation

- Per diem payments (F) for attending trainings and meetings motivate CHWs to attend and help to offset the opportunity costs of their time as volunteers. The financial support also allows CHWs to provide for their families.
- Variance in per diem payments (F) across implementing partners was considered demotivating among CHWs involved in multiple programs.

- Income from performance-based incentives (F) served as motivation for CHWs to encourage the adoption of healthy behaviors and interventions for improved health outcomes.
- Insufficient financial compensation (F) and delays in receiving PBF payments were cited as demotivating factors.
- One-on-one and group supervision (NF) reportedly improves CHW motivation, as visits serve as an opportunity for CHWs review their work, discuss challenges, and share experiences.
- Conversely, inconsistent supervision (NF) may lead to lower-quality services or CHWs not feeling adequately supported by the health system and, as a result, may lead to increased attrition.
- CHWs reported being motivated by the recognition and respect (NF) they receive from their community and program staff.
- Lack of opportunities for job advancement (NF) causes CHWs to lose motivation as their role remains static.

7.1.2 Competency

- Per diem payments (F), used to encourage CHW attendance at trainings and meetings, may help to improve CHW knowledge and capacity to provide quality health services.
- Education and training (NF) opportunities are a means of improving CHW knowledge and expertise.
- Supervision (NF) reportedly improves the quality of services, and also invokes a sense of trust in the community about the health services that the CHW provides.
- Job advancement opportunities (NF) permit CHWs to increase their competencies through additional skills and certifications, and, in some cases, serve as a mentor to other CHWs.

7.1.3 Guideline Adherence

- Supervision and regular skills assessments (NF) hold CHWs accountable to their job descriptions and for the provision of quality services.
- User fees (F) from the sale of commodities allow CHWs to refill their supply stocks with quality products and purchase basic necessities for the families in the community.
- The provision of materials and equipment (NF) enable CHWs to effectively provide health services within their communities.

7.1.4 Job Satisfaction

- Variance in per diem payments (F) across implementing partners was considered a cause of frustration among CHWs involved in multiple programs.
- Supervision (NF) reinforces the role of a CHW and serves as a reminder that a support system is in place.
- Inconsistent training and reporting forms (NF) offered by the different programs reportedly cause confusion and frustration among CHWs involved in multiple programs.

While many assume that nonfinancial incentives are a relatively cheap way to improve CHW motivation and performance, the costs for programs can be considerable, particularly for those that have high rates of CHW attrition resulting in re-training and re-equipping CHWs.⁴² The costs of equipment provided to different CHWs in Madagascar is provided in Annex 4.

⁴² Collins, D et al. "The costs of integrated community case management (iCCM) programs: a multicountry analysis." *Journal of Global Health* (2014): 4(2). doi: 10.7189/jogh.04.020407.

7.2. Impact of Incentives on End-User/Community-Level Factors

7.2.1 Population and Geographic Coverage Targets

To analyze CHW performance, it is important to review the number of services CHWs provided in the context of the target population receiving these services. Table 7 shows a breakdown of the population and geographic coverage of the four community health programs and the number of CHWs supported by these programs. Target population figures for child health services and family planning services are based on national estimates. In Madagascar, the number of children under five years of age is estimated as 18% of the total population, and the number of women of reproductive age is estimated to be 23% of the total population.⁴³

Each of the four community health programs supports the delivery of various community-based health interventions and operates in several regions of the country, each with a unique set of geographic and cultural differences. Population and geographic coverage varied across programs, and CHWs provided both vertical and integrated health services. For example, some CHWs only provided preventive or promotional services while others provided iCCM for children or family planning services to women of reproductive age.

Lesson: CHWs trained in the provision of a comprehensive, integrated package of services can help to meet the needs of their community and achieve greater population coverage, as they are able to provide additional services targeting priority populations (e.g. iCCM services for children and family planning and reproductive health services for women).

Table 7: Program and geographic coverage of CHWs

	USAID Mikolo ⁴⁴	USAID Mahefa ⁴⁵	UNICEF	Marie Stopes
Target population	1.93 million (2015 > 5 km)	3.4 million (2015)	691,116 (2012)	Not provided
Children >5 years (18% of pop.)	347,676	612,638	124,401	NA
Women of reproductive age (23% of pop.)	451,979	796,430	158,957	NA
Regions with coverage	6	6	2	22
Districts with coverage	32	24	3	100
Communes with coverage	375	279	66	828
Total number of CHWs ⁴⁶	4,519 (Dec. 2014)	6,045 (Sept. 2014)	944 (2014)	714 (2015)

⁴³ Institut National de la Statistique (INSTAT) de Madagascar and ICF Macro. "Enquête démographique et de santé 2008-2009." Antananarivo, Madagascar. It is important to note that these figures may vary depending on the district or region.

⁴⁴ As of March 2015, USAID Mikolo project works in 8 regions in 43 districts and 506 communes. Mikolo data calculations (e.g. treatments provided per population) were using project population data which is made up of the population living more than 5 km from a health facility.

⁴⁵ Mahefa data calculations were made using project population data which takes into consideration total population (not population living less/more than 5 km from a health facility).

⁴⁶ As of December 2014, USAID|Mikolo reported supporting 1,932 mother (family planning/reproductive health) CHWs, and 2,587 child health (iCCM) CHWs.

7.2.2 Numbers of Services Provided

Caseload data (detailed in Tables 8 and 9) were available for all four CHW programs; however, the availability and consistency of actual programmatic data vary considerably and therefore comparisons across programs should be made with caution. Moreover, programs vary in terms of their geographic coverage, regional variations of disease burden, access to health services, and ratio of CHWs to population. For example, certain regions of the country have a higher incidence of malaria while other areas have better access to primary health care and other sources of health services and commodities. The uptake of services also could depend on a number of supply- and demand-side factors as well as the maturity of the community health program.

In 2014, USAID Mikolo-supported CHVs each provided, on average, 6.54 iCCM services per month. Children under five living in CHV catchment areas received 2.28 iCCM services per capita during the reporting period. USAID Mikolo-supported CHVs also reported having 37 regular family planning users per month. USAID Mahefa-supported CHVs each provided 3.34 iCCM services per month and 2.68 iCCM services per capita. USAID Mahefa-supported CHVs also reported having 15 regular family planning users per month.

CHWs supported by UNICEF referred an average of 11.6 women for an ANC visit per year, conducted 29 IEC sessions per year, and referred or accompanied 37 patients to the primary health facility. CHWs supported by Marie Stopes Madagascar referred an average of 253 persons per year to mobile outreach family planning clinics. Based on the number of total clients receiving an LA/PM (88,422 persons), each CHW, on average, referred 124 persons in 2014 who received an LA/PM.

These programs were supported through a combination of financial and nonfinancial incentives such as user fees, per diem for trainings and meetings, and materials and equipment, among others.

Lesson: CHW cadres receiving regular support through financial and non-financial incentives and are regularly assessed are able to maintain competency and provide health services to their communities.

Table 8: CHW services provided, nationally

	USAID Mikolo	USAID Mahefa	UNICEF	Marie Stopes
Reporting period	Apr. - Dec. 2014 (9 months)	Oct. 2013–Sept. 2014 (12 months)	Annual data per district (2011-2013)	2014
Reporting rate	54 - 89%	68 - 89%	NA	NA
Family Planning Services				
Counseling (total)	-	1,207,550	-	180,370
Women counseled on child health	-	1,328,851	-	-
Women counseled on using latrines	-	964,446	-	-
Women counseled on ANC visits	-	962,410	-	-
Women counseled on infant nutrition	-	906,657	-	-
Women counseled on deliveries without risk	-	696,490	-	-
Growth monitoring (infants weighed)	202,651	-	-	-

Clients referred for ANC visit 1	6,282	69,269	10,944	-
Clients referred for ANC visit 4	3,250	52,162	-	-
Home visits for pregnant women and newborns	-	225,420	52,886	-
IEC sessions conducted	-	117,399	27,312	-
Referrals or patients accompanied to CSB	-	32,735	35,345	-
Referrals or patients accompanied to CSB for danger signs during or after pregnancy	-	2,642-	1,468	-
Referrals for childbirth at CSB	-	24,457	6,233	-
Referrals for postnatal consultations	-	5,633	7,618	-
Family Planning (LA/PM)				
IUDs	-	-	-	18,139
Implants	-	-	-	60,948
Tubal ligation	-	-	-	9,181
Vasectomy	-	-	-	154
Family Planning (short-acting methods)				
Total regular family planning users	71,717	88,843	-	
Total new family planning users	48,991	152,821	-	
Regular family planning users per CHW (monthly average)	37	15	-	-
New family planning users per CHW per month	3	25	-	-
Injectables (Depo-Provera and Confiance) provided during reporting period	47,258	158,745	-	-
Oral contraceptives provided during reporting period	16,276	205,685	-	-
Condom users (male and female)	482	26,066	-	-
iCCM Services*				
Total number of iCCM services provided	152,227	242,047	-	-
Estimated total number of iCCM services per capita	2.28	2.68		
Total number of iCCM cases provided per CHW per month*	6.54	3.34		
Fever cases (tested with rapid diagnostic test – RDT)	63,901	97,172	-	-
Confirmed malaria cases (RDT+) treated	34,759	49,075	-	-
Acute respiratory infection cases treated	39,217	48,077	-	-
Diarrhea cases treated	14,350	47,723	-	-

* iCCM data for Mikolo was taken from CHWs who work specifically on child health. Data from Mahefa was taken from all CHWs, who provide child health services along with services in a number of other areas.

Table 9: UNICEF project results

Service Provided		Number of Services per CHW per year		
Clients referred for ANC visit I		11.6		
Home visits for pregnant women and newborns		56.02		
IEC sessions realized		29		
Referrals or patients accompanied to CSB		37.44		
Referrals or patients accompanied to CSB for danger signs during or after pregnancy		1.6		
Referrals for childbirth at CSB		6.6		
Referrals for post-natal consultations		8.1		
Key Indicators	Toliara II District		Amboasary District	
	Baseline (2012)	End of project	Baseline (2012)	End of project
Early prenatal exam	21.5%	53.5%	34.8%	61.5%
Prenatal exam I	66.3%	75.5%	100%	134% ⁴⁷
Prenatal exam 4	N/A	33%	26.5% ⁴⁸	53%
Delivery at CSB	30.8%	37%	33.9%	49.5%
Postnatal exam	34.9%	41%	34.9%	92%

7.2.3 Estimated Demand and Use of Services

Direct comparisons of CHW performance across programs are not possible due to significant differences in disease epidemiology, demand for and availability of health services, the ratio of CHWs to population, among other geographic, cultural and contextual factors. Despite these key differences, this study sought to examine the estimated demand and use of services provided by CHWs by considering a number of variables, including the estimated catchment population and the expected number of services for each condition included in the package of services provided by CHWs, based upon incidence rates for each disease. It is also important to remember that the measurements of cases treated per capita; services provided per capita; etc are made up of different denominators.

For example, if the USAID Mahefa project had achieved 20% service delivery coverage of diarrhea in 2014, it would result in 353,808 diarrhea cases treated using the following calculation: $20\% * (2.73 \text{ episodes of diarrhea per year}) * (648,000 \text{ children under five in target population covered by iCCM in 2014}) = 353,808$.

For iCCM services, incidence rates are referred to as the number of episodes per child per year. For this study, the following incidence rates were used: 0.33 episodes of pneumonia per child per year, 2.73 episodes of diarrhea, 0.51 episodes of fever, and 0.075 episodes of malaria.^{49,50,51, 52} A WHO Africa

⁴⁷ According to UNICEF, Amboasary District achieved a superior performance of more than 100% for prenatal exam I because either: i) the general census of population and housing was underestimated; or ii) the population from the neighboring region of Androy sought services at CSBs in Amboasary, which is partially explained by the motivation of both the health agents and community health workers which ensure good reception and follow-up of patients.

⁴⁸At the national level, data on prenatal exams 4 are only included in the 2013 report. However, the district of Amboasary has always collected this data for planning purposes at the local level.

⁴⁹ Rudan, Igor, Cynthia Boschi-Pinto, Zrinka Biloglav, Kim Mulholland, Harry Campbell. "Epidemiology and etiology of childhood pneumonia," Bulletin of the World Health Organization (2008):86(5):408-416.

⁵⁰Fisher Walker, Christa L, Jamie Perin, Martin, J Aryee, Cynthia Boschi-Pinto, and Robert E Black. Diarrhea incidence in low- and middle-income countries in 1990 and 2010: a systematic review. BMC Public Health (2012):12(220):1-7.

⁵¹ Madagascar: fever suspected of malaria in children <5, and malaria cases <5. Information is from: World Health Organization, "World Malaria Report 2008." Geneva, Switzerland.

⁵² Ibid.

regional estimate for pneumonia incidence was used because a Madagascar-specific incidence rate was unavailable. Table 10 shows the summary of incidence rates considered for this analysis. If updated figures are provided, these can be considered for the analysis.

Table 10: Incidence rates

Service	Incidence Rate	Source
Pneumonia	.33 episodes/child/year	Rudan et al., 2008
Diarrhea	2.73 episodes/child/year	Walker et al., 2010
Fever (RDT)	.51 episodes/child/year	WHO World Malaria Report 2008
Malaria	.075 episodes/child/year	WHO World Malaria Report 2008

This calculation method for service use seeks to generate an approximate estimate and therefore could be improved through exact population figures and incidence rates. Given that disease incidence rates vary considerably by region, specific regional or district-level incidence rates, if available, could be used in this analysis to gain a better understanding of the use of services for each of the four community health programs. For the purpose of this analysis, only national or regional incidence rates were used.

This study only examined the numbers of new and regular users per population of women of reproductive age instead of expected number of active family planning clients. Several of the programs included in this analysis receive US government funding which prohibits the implementation of quotas or targets for the total number of family planning acceptors. Therefore, using program data to assess the number of CHW-provided family planning services and the unmet need for these services may not be particularly relevant.

As previously indicated, the percentage of actual service delivery coverage achieved in 2014 is calculated by dividing total actual caseloads by the expected number of cases for the same year. Service delivery coverage for USAID Mikolo is only based on a nine months (Apr.–Dec. 2014), which the calculation takes into consideration by multiplying the cases treated by .75 (three-quarters of a year). This calculation is less than ideal, particularly if data is missing is from months when more or fewer services are typically provided (e.g. during a high- or low-incidence period of malaria, pneumonia, or diarrhea).

Table 11: Estimated demand and use of services

USAID Mikolo (April – December 2014)				
Services	Cases treated	Incidence rate	Cases expected	% Coverage
Pneumonia cases treated	39,217	0.33	86,050	46%
Diarrhea cases treated	14,350	2.73	711,867	2%
Fever cases (tested with RDT)	63,901	0.51	132,986	48%
Confirmed malaria cases (RDT+) treated	34,759	0.075	19,557	178%
USAID Mahefa (October 2013 – September 2014)				
Services	Cases treated	Incidence rate	Cases expected	% Coverage
Pneumonia cases treated	48,077	0.33	213,840	22%
Diarrhea cases treated	47,723	2.73	1,769,040	3%
Fever cases (tested with RDT)	49,075	0.51	330,480	15%
Confirmed malaria cases (RDT+) treated	49,075	0.75	486,000	10%

Based on the estimated use of services and assuming only positive cases were treated, USAID Mikolo child CHVs treated 46% of pneumonia cases, 2% of diarrhea cases, 48% of fever cases, and an estimated 178% of malaria cases (rapid diagnostic test – RDT – positive). USAID Mahefa CHVs treated 22% of pneumonia cases, 3% of diarrhea cases, 15% of fever cases, and 10% of malaria cases (RDT positive).

Low and high estimated use of CHW services could be attributed to a number of supply- and demand-side factors, including the availability of CHWs, availability of medicines, and preference to seek services at the CSB or from another health provider. Moreover, these figures could be a result of the estimated population figures and/or incidence rates which may vary considerably by region.

Lesson: The uptake of community health services depends on a number of supply- and demand-side factors. However, for CHWs to be effective and able to meet the health needs of their communities, they should be sufficiently supplied with equipment and medicines, frequently supervised, and adequately incentivized.

7.2.4 Attrition of CHWs

The attrition rates of CHWs vary across programs and are only available for the USAID Mikolo and USAID Mahefa projects. Both UNICEF and Marie Stopes do not track CHW attrition and it was not reported to be a significant challenge among these programs.

USAID Mikolo project data shows that 4.38% of all CHVs abandoned their work between June and December 2014 and this rate was applied to the following six months as well to calculate annual attrition.⁵³ The USAID Mahefa project reported a 5.08% annual CHV attrition rate.⁵⁴

Table 12: Annual attrition rates by program

	USAID Mikolo	USAID Mahefa	UNICEF	Marie Stopes
Annual attrition rate	8.76%	5.08%	NA	NA

Program staff of the local NGO Action Socio-sanitaire Organisation Secours in the Atsimo Andrefana region, which supports the USAID Mikolo project, the six-month attrition rate for CHVs was estimated to be 9% between July 2014 and January 2015. The 11 CHVs who abandoned their positions did so because of migration to rural areas due to marriage, food insecurity, better economic opportunities, or violence (8); death (2); and one gave up his work with USAID Mikolo after being selected as a medicines distributor, supported by PSI. Based on interviews with program staff, CHVs frequently abandon their role due to lack of motivation or the opportunity costs of volunteerism (i.e. limited economic opportunities) and therefore seek more lucrative opportunities (e.g. working in sapphire mines). Insecurity can also be a significant challenge, resulting in CHVs abandoning their work out of fear. Moreover, in these contexts, supervision visits are frequently cancelled and stock-outs of medicines are likely.

Although the aforementioned reasons may not be representative of all programs, it is important to consider that CHW attrition is not necessarily a direct result of lack of motivation. Nevertheless, based on interviews with CHWs, program staff, and stakeholders, CHW motivation is critical to the

⁵³ The annual CHW attrition rate for USAID Mikolo is based on a six-month period (June – December 2014) during which 207 of 4,726 CHWs stopped working.

⁵⁴ The annual CHW attrition rate for USAID|MAHEFA is based on a two-year period (September 2012-September 2014) during which 683 CHWs of 6,728 stopped working.

sustainability of community-based programs and for ensuring continuity of the essential health services in at the community level.

Lesson: Financial and nonfinancial incentives are key contributors to improving the motivation and retention of CHWs; however, CHW attrition, depending on how it is defined by programs, could also be due to non-programmatic factors as indicated above.

7.2.5 Quality of Services Provided by CHWs

Interviews with community members and facility staff were conducted; however, there was limited information provided on the community's opinion of CHW performance and the perceived quality of services. Staff working for the USAID Mikolo and USAID Mahefa projects overwhelmingly indicated the importance of ongoing supervision to ensure that CHWs continued to provide appropriate and correct treatment. Both projects held monthly group supervision sessions to update CHVs' technical skills, share experience, and review reports. USAID Mahefa CHVs receive feedback from their clients on the quality of their services via the community score card approach and also in commune-level health review sessions.

At the time of the study, the USAID mission in Antananarivo indicated that a survey was under way focused on measuring the changes in knowledge and capacity of CHVs between 2011 and 2014. This survey is being conducted in 15 regions where USAID is implementing projects.

Lesson: Frequent supervision and support as well as assessments of CHWs skills and knowledge can improve CHW adherence to service delivery protocols and can result in higher quality of services and reporting. Client feedback is also important in improving CHW service provision.

7.2.6 CHW Availability and Service Delivery Assumptions

A total of 25 CHWs were interviewed for this study, representing three of the four programs. CHWs reported being available to work an average of 6.5 days per week throughout the year. CHWs reported working between one and eight hours per day; however, many CHWs noted that they are also available on-call if needed. CHWs reported living an average of two hours (one way) from the closest health facility by walking. In the case of USAID Mikolo CHVs, the majority reported traveling once per month to the health facility to provide their monthly report. Although not completely indicative, these figures do provide some insight into the opportunity costs CHWs experience in their role in providing services to their communities.

Because CHWs are often involved in multiple community-based programs, it is difficult to discern how many hours each CHW devotes to each individual program. Based on interviews with CHWs supported only by Marie Stopes Madagascar, they reportedly worked only a few hours per month to mobilize community members and educate them on available family planning methods. Time spent by CHVs supported by USAID Mikolo seemed to vary depending on the health interventions they are tasked with providing. For example, child health CHVs spent between 30 and 60 minutes diagnosing and treating cases of diarrhea, pneumonia, and malaria. Mother CHVs spent an estimated 30 minutes counseling new family planning users and only 10 minutes per each regular family planning user. UNICEF-supported CHWs did not provide any estimates on time per intervention (e.g. accompanying women to a health facility).

Lessons: High opportunity costs and program-related time commitments (i.e. heavy workload) can lead to poor performance as a result of low motivation.

8. RECOMMENDATIONS

The findings of this study demonstrate that CHW performance in Madagascar is influenced by the provision of both financial and nonfinancial incentives. Variations in the design of CHW programs and the use of incentives can have considerable influence on CHW performance. Based on the results of this study, there are a number of recommendations for governments and organizations to consider when implementing, adopting, or scaling up a community health program. The following recommendations are intended to improve the performance of CHWs and the delivery of community-based health services.

1. Programs must ensure that incentives reflect the context of CHWs' workload, opportunity costs (i.e. time commitment), and the environment in which they work. Financial incentives are important motivators for CHWs and help to encourage accountability and commitment to the provision of quality services in hard-to-reach areas. Consistency in the timing and amount of financial compensation – such as from per diem and user fees – is essential in sustaining CHW motivation and, in many cases, maintaining the availability of services.
2. Nonfinancial incentives, such as regular training, supervision, public recognition, and opportunities for advancement and professional development, must be included as essential components of any community health program. These incentives not only motivate CHWs, but serve to improve their capacity and ensure high-quality service provision.
3. Community health programs must harmonize their incentives, trainings, reporting, and supervision to reduce duplicative costs and improve CHW capacity, use of services, and limit CHWs' frustration related to inconsistent incentives, as evidenced in Madagascar.

Based on this study and a review of both qualitative and quantitative data across multiple community health programs in Madagascar, CHW performance and attrition are influenced by the provision of both financial and nonfinancial incentives, each with their own unique advantages and disadvantages. However, CHW performance and attrition are also influenced by complex factors, such as the availability of commodities, the environment of CHWs, the perceived quality of services provided, frequency and quality of supervision and their relationship with the community, among other factors.⁵⁵ As indicated in Table 13 below, when incentives are combined with these complex factors, they can affect CHW performance through various means, particularly by improving the quality and use of services and influencing attrition of CHWs.

9. CONCLUSIONS

Incentives must be sustained over time to ensure that CHWs obtain the needed support to provide access to high-quality health services. Frequently, interruptions in the delivery of health services are the result of completed or expired funding which supports key programmatic components, including supervision, trainings, and commodities. Supporting volunteers through regular incentives and harmonized CHW programs can help to improve CHW capacity and provide valuable opportunities to link the community-based system with the broader health system. Basket funds (i.e. pooled funds from multiple sources), local financing schemes, and the integration of vertical community health programs into the existing public health system should all be explored as options for obtaining higher CHW performance levels, and thereby sustaining the delivery of community health services.

⁵⁵Bhattacharyya, Karabi, Peter Winch, Karen LeBan, and Marie Tien. "Community health worker incentives and disincentives: how they affect motivation, retention, and sustainability." Published by the Basic Support for Institutionalizing Child Survival Project (BASICS II) for the United States Agency for International Development. Arlington, Virginia, October 2001.

This study aimed to identify and analyze the impact of incentives on CHW performance in Madagascar. The findings and recommendations may be useful for Madagascar and other countries that are considering introducing, modifying, or scaling up a community health program. As governments analyze efficiencies in the allocation of resources across health systems components, it is important to improve the planning of community health activities and optimize existing human resources for health. By understanding how design features of community-based programs affect CHW performance, interventions can be shaped and adjusted to achieve optimal health impact.

Table 13: Summary table of CHWs interviewed in Madagascar

	USAID Mikolo	USAID Mahefa	UNICEF	Marie Stopes
Program Coverage				
Target population	1.93 million (2015 > 5 km)	3.4 million (2015)	691116 (2012)	Not provided
Children >5 years (18% of pop.)	347,676	612,638	124,401	NA
Women of reproductive age (23% of pop.)	451,979	796,430	158,957	NA
Regions with coverage	6	6	2	22
Districts with coverage	32	24	3	100
Communes with coverage	375	279	66	828
Total number of CHWs	4,519	6,045	944	714
iCCM CHWs	2,587	6,045		
Family planning "mother" CHWs	1,932	6,045		
CHW annual attrition rate	8.76%	5.08%	NA	NA
Financial Incentives				
Per diem for trainings and meetings		✓		
User fees		✓	-	-
PBF incentives	-	-		-
Referral payments	-	-	-	
Savings and internal lending communities including <i>mutuelles de santé</i>		✓	-	-
Income-generating activities	-	✓	-	-
Non-Financial Incentives				
Education and improved capacity		✓		
Equipment and materials		✓		
Mentorship and supervision		✓		
Public recognition		✓		
Opportunity for job advancement		✓	-	-
Program Summary Results				
Reporting period	Apr. - Dec. 2014	Oct. 2013 – Sept. 2014	Annual data per district (2011-2013)	2014
Total number of iCCM services provided	152,227	242,047		
Estimated total number of iCCM services per capita	2.28	2.68		

Total number of iCCM cases provided per CHW per month	6.54	3.34		
Regular family planning users	71,717	88,843		
Total new FP users	48,991	152,821		
Regular FP users per CHW (monthly average)	37	15		
New FP users per CHW per month	3	25		
Counseling (only)	-	-	-	1,763
Counseling (total)	-	1,207,550	-	180,370
Women counseled on child health	-	1,328,851	-	-
Women counseled on using latrines	-	964,446	-	-
Women counseled on ANC visits	-	962,410	-	-
Women counseled on infant nutrition	-	906,657	-	-
Women counseled on deliveries without risk	-	696,490	-	-
Growth monitoring (infants weighed)	202,651	-	-	-
Clients referred for ANC visit 1	6,282	69,269	10,944	-
Clients referred for ANC visit 4	3,250	52,162	-	-
Home visits for pregnant women and newborns	-	225,420	52,886	-
IEC sessions realized	-	117,399	27,312	-
Referrals or patients accompanied to CSB	-	32,735	35,345	-
Referrals or patients accompanied to CSB for danger signs during or after pregnancy	-	2,642	1,468	-
Referrals for childbirth at CSB	-	24,457	6,233	-
Referrals for postnatal consultations	-	5,633	7,618	-
IUDs provided	-	-	-	18,139
Implants provided	-	-	-	60,948
Tubal ligations provided	-	-	-	9,181
Vasectomies provided	-	-	-	154
Injectables (Depo-Provera, Contraception)	47,258	158,745	-	-
Oral contraception pills	16,276	205,685	-	-
Condom users (male and female)	482	26,066	-	-
Fever cases (tested with RDT)	63,901	97,172	-	-
Confirmed malaria cases (RDT+) treated	34,759	49,075	-	-
Acute respiratory infection cases treated	39,217	48,077	-	-
Diarrhea cases treated	14,350	47,723	-	-

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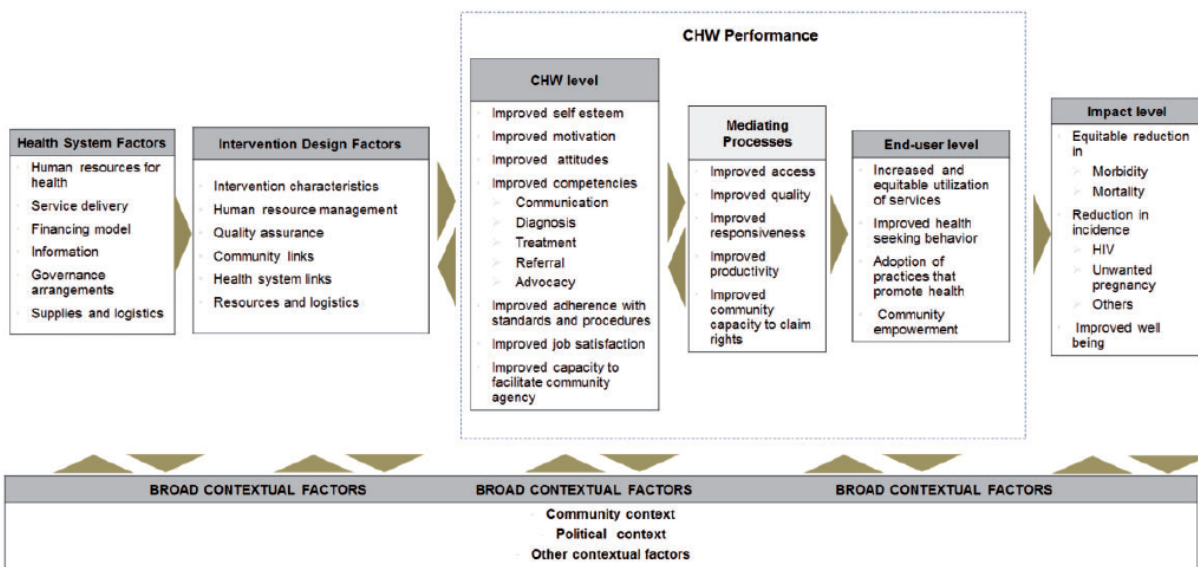
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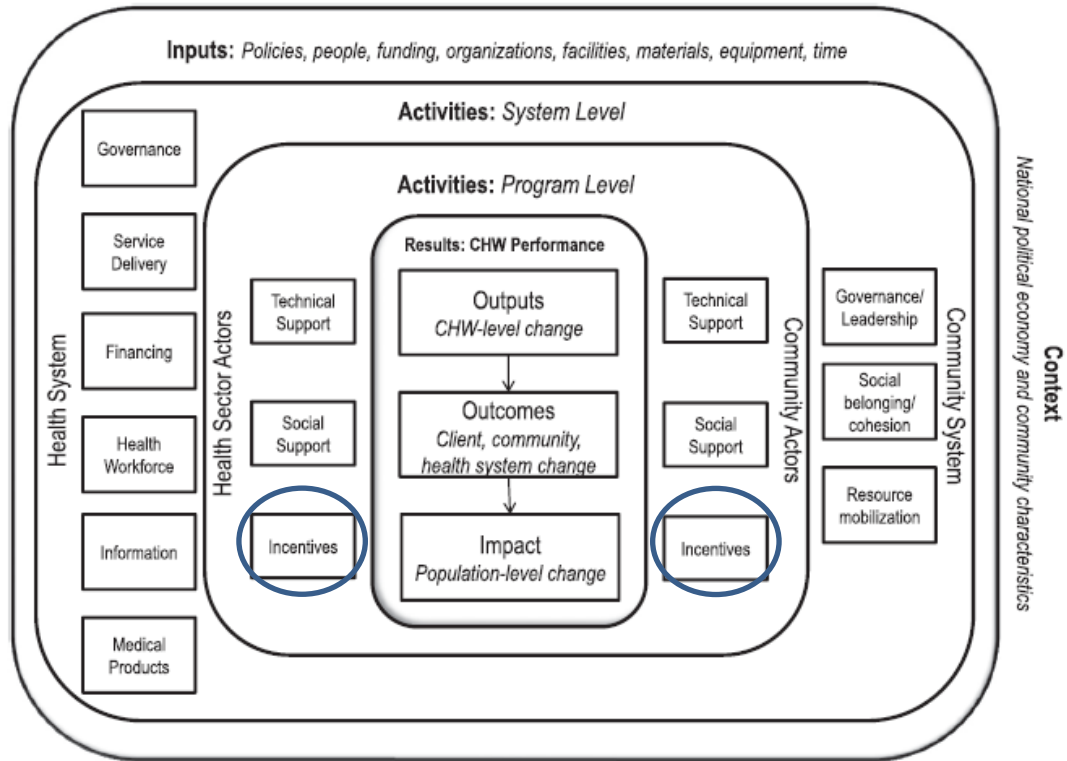
ANNEX I: Conceptual Frameworks of Factors Influencing CHW Performance



Factors influencing CHW performance ⁵⁶

This framework measures CHW performance at the level of the individual CHW through factors such as self-esteem, motivation, attitudes, competencies, adherence to guidelines, job satisfaction, and capacity to facilitate community empowerment. It also measures performances through the end-user via increased use of services, improved behavior, and adoption of best health-promoting practices. Intermediate measures such as quality, access, and productivity help to quantify CHW performance. Under this framework, CHW performance is influenced by: a) contextual factors (related to political and community contexts); b) health system factors (such as the ways in which health care is financed and organized); and c) intervention design factors.

⁵⁶ Kok MC, Dieleman M, Taegtmeier M, et al. Which intervention design factors influence performance of community health workers in low- and middle-income countries? A systematic review. Health Policy and Planning. 2014.



Community Health Worker generic logic model⁵⁷

This framework describes how CHW performance is a function of high-quality CHW programming and scaled through the use of health system functions and community systems. These systems mobilize inputs and processes, including technical and social support, as well as incentives to achieve CHW performance objectives.

⁵⁷ Naimoli J et al. "A community health worker 'logical model': towards a theory of enhanced performance in low- and middle-income countries." *Human Resources for Health* (2014), 12:56: 1-16.

ANNEX 2: PSI Commodity Prices

Products	Packaging	Supply Chain Point Price	% Margin	Margin value	Community Health Worker Price	% Margin	Margin value	End User (Client)	PSI vs. End User (Client)
Protector+ male condom	Carton (40 displays)	12,800 Ar	56%	7200	20,000 Ar	220%	44000	64,000 Ar	456%
	Display (8 pockets)	320 Ar	56%	180	500 Ar	220%	1100	1,600 Ar	456%
	Packet (3 condoms)	40 Ar	56%	23	63 Ar	220%	138	200 Ar	456%
Sur'Eau 40ml safe water treatment	Pack (10 bottles)	750 Ar	33%	250	1,000 Ar	50%	500	1,500 Ar	122%
	Bottle	75 Ar	33%	25	100 Ar	50%	50	150 Ar	122%
Super Moustiquaire mosquito net	Unit	1,500 Ar	33%	500	2,000 Ar	50%	1000	3,000 Ar	122%
Pilplan Comm birth control pills	Display (20 boxes)	400 Ar	150%	600	1,000 Ar	100%	1000	2,000 Ar	456%
	Box (1 cycle)	20 Ar	150%	30	50 Ar	100%	50	100 Ar	456%
Confiance Comm Depo-Provera	Display (10 boxes)	400 Ar	150%	600	1,000 Ar	200%	2000	3,000 Ar	733%
	Box (1 injectable dose)	40 Ar	150%	60	100 Ar	200%	200	300 Ar	733%
Viasûr diarrhea treatment kits – oral rehydration salts + zinc tablets	Display (5 boxes)	1,750 Ar	14%	250	2,000 Ar	25%	500	2,500 Ar	59%
	Box (1 treatment kit)	350 Ar	14%	50	400 Ar	25%	100	500 Ar	59%
ACT zaza et z zakely malaria treatment – artemisinin combination therapies	Display (20 packets)	400 Ar	25%	100	500 Ar	100%	500	1,000 Ar	178%
	Packet (1 treatment kit)	20 Ar	150%	30	50 Ar	100%	50	100 Ar	456%
Pneumostop Sirop pneumonia treatment syrup	Carton (40 boxes)	40,000 Ar	13%	5000	45,000 Ar	33%	200	60,000 Ar	67%
	Box	400 Ar	13%	50	450 Ar	33%	200	600 Ar	67%
Pneumostop Comprimé pneumonia treatment pills	Display (10 boxes)	500 Ar	100%	500	1,000 Ar	100%	1000	2,000 Ar	
	Box	50 Ar	100%	50	100 Ar	100%	100	200 Ar	

ROJO cycle beads – standard days method	Unit	50 Ar	100%	50	100 Ar	200%	200	300 Ar	567%
Zaza Tomady micronutrient powder	Carton (40 boxes)	2,000 Ar	100%	2000	4,000 Ar	100%	4000	8,000 Ar	344%
	Box (30 bags)	50 Ar	100%	50	100 Ar	100%	100	200 Ar	344%

ANNEX 3. CHW Questionnaire

Personal Information

CHW #:
CHW sub-category:
Indicate whether public or private CHW:
Date of interview:
Name of interviewer:
Location of interview:
Start time of the interview:
Name of CHW being interviewed:
Sex (M/F):

Supervising health center:
Health center:
Contact information:
Month and year the person began working as a CHW?
How were you selected to work as a CHW?
Education level completed?
Able to read/write?
Period of analysis:
Start Date (MM/YY)
End Date (MM/YY)

Population served by CHW

- 1) What is the total population of the CHW's village or community?
- 2) How many households in the village?
- 3) Do you go to the patient or does the patient come to you?
- 4) Is there more than one CHW working in this village?
- 5) If yes:
- 5a) Do you divide the population between the CHWs, or cover the entire population but alternate?
- 5b) What is the total population served by the CHWs?
- 5c) What are the total number of households covered by the CHWs?
- 6) By walking distance (or other transport), how long does it take to get to the furthest home?
- 6) Are there mechanisms (such as peer support, mobile phones, etc.) connecting you to the other CHWs in the area?

CHW Time

- 1) In general, how many hours per day are you available to work as a CHW?
- 2) In general, how many days per week are you available to work as a CHW?
- 3) In general, do you work as a CHW all year, or are there days/months that you take off?
- 4) Please list all the activities that are typically done as a CHW?
- 5) How many hours per day is the maximum you could work as a CHW?

Supervision and Reporting

- 1) With what frequency do you travel to the health center to give your reports or have data validation?
- 2) With what frequency do you fill out regular CHW or community health activity reports specific to diseases?
- 3) How many days per month do you spend filling out the monthly report?
- 4) With what frequency do you travel to the health center to re-stock on drugs and supplies?
- 5) How long does it take to go to the health center, and how far away is it?
- 6) Do you spend the whole day to go to the health center (round trip)?
- 7) When was the last time you received a supervision visit by your supervisor?
- 8) On the days that you go to the health facility (for a CHW meeting or reporting), are you able to do your CHW activities, like seeing patients or following up?

Meetings and Trainings

- 1) Do you attend meetings or trainings at the facility (besides those for supervision or reporting)?
- 2) Was the CHW paid a per diem or incentive? If yes, how much?
- 3) Do you attend any meetings with the village committee? If so, what kind of community support is provided?

CHW Services

- 1) What illnesses are you trained to treat? What services are you trained to provide?
 - 1a) Assuming you had the medicines you needed, were you treating the same illnesses in 2013?
 - 1b) How long does it take you from the time the mother comes with a sick child until when she leaves?

2) Diarrhea

- 2a) How do you determine if a child has diarrhea?
- 2b) How long does it take to assess a child and provide treatment?
- 2c) How long does it take you to complete a follow-up visit?
- 2e) For follow-up, do you go to the patient's house or do they come to your house?

3) Malaria

- 3a) How do you determine if a child has malaria?
- 3b) How long does it take to assess a child and provide treatment?
- 3c) How long does it take you to complete a follow-up visit?
- 3d) For follow-up, do you go to the patient's house or do they come to your house?
- 3e) If the assessment is negative, what do you do? Do you provide any treatment? Specify
- 3f) If the assessment is negative, how do you record the patient in your register?

4) Pneumonia

- 4a) How do you determine if a child has pneumonia?
- 4b) How long does it take to assess a child and provide treatment?
- 4c) How long does it take you to complete a follow-up visit?
- 4d) For follow-up, do you go to the patient's house or do they come to your house?
- 4e) If the assessment is negative, what do you do? Do you provide any treatment? Specify
- 4f) If the assessment is negative, how do you record the patient in your register?

5) *Other treatment / services, if provided –e.g. family planning and reproductive health*

- 5a) How long does it take to assess a patient and provide treatment/services?
- 5b) How long does it take to follow up with a patient?
- 5c) For follow-up, do you go to patient's house or do they come to yours?

6) *Referrals*

- 6a) When you refer a patient, do you typically assess and provide initial treatment before referring?
- 6b) If yes – how long does it take to assess and treat the patient?
- 6c) For following up on a referral, do you go to patient's house or do they come to yours?
- 6d) If you decide to refer a patient to the health facility, do you go with the caregiver and child to VHC to assist with the referrals they make?
- 6e) If yes, how long does it take you to accompany the child and caregiver to the health facility?
- 6f) When a patient is referred to the health center, do you record the patient in your register?

Medications, supplies and equipment

- 1) Please describe the process by which you obtain medications, supplies, and equipment.
- 2) When was the last time you received medications or went to the health facility to obtain stock (in months)?
- 3) Have you had medicine stock-outs in the last two months – if so, for which medicines?
- 4) When you are out of medicines, do you have the same number of patients or do fewer patients come for care? Why?

Payment and Incentives

- 1) Are you paid a regular salary?
- 2) Do you charge a user fee for your services as a CHW? If so please specify by service/commodity provided. Add do you sell drugs / supplies and is there a mark-up for the CHW? User fee in cash or in kind.
- 2a) If yes, from what source is the payment, and how much?
- 3) Do you receive any incentives "in kind" for your services as a CHW i.e. nonmonetary support, job aides (e.g. SMS for asking medical questions, dosage amounts, etc.)?
- 3a) If yes, from what source is the incentive, and how much?
- 4) Do you face any costs in providing care to patients or those in the community (surveyor asks about opportunity costs – give examples such as foregone income, time spent doing something economically beneficial or socially beneficial.
- 5) How much do you believe you deserve to be compensated for your work (i.e. honorarium)?
- 6) What are key aspects of motivation related to your work?
- 7) Does your community respect your position as a CHW?

- 8) CHW Perception of satisfiers and dissatisfiers - which of these does the CHW identify with?
 - Salary and position
 - Salary is low and not based on qualifications
 - No opportunity to promotion
 - Training
 - No refresher courses available
 - Favoritism for selection of CHWs to attend workshop
 - The job
 - Heavy workload

- Involvement in activities other than job description
- Social
- Low recognition of HSAs from other staff and management/supervisory level
- Social problems of living in remote area
- Educational status of target group (community) resulting in problems
- Communication and supervision
- Poor communication between health staff at different levels, no feedback, meetings, work plans ,or reports
- Lack of supervision system with clear criteria
- Other factors of concern
- Transport problems
- Poor roads, telecomm
- Lack of uniforms/protective clothing
- Poor housing

ANNEX 4: CHW Equipment

USAID Mikolo	USAID Mahefa*	UNICEF	Marie Stopes
12 liter bucket (3,000 Ar)	<i>Blouse et calotte</i> (12,800 Ar)	Weigh scale for infant	Vest (25,000 Ar)
Bowl (6,000 Ar)	<i>Poupée pour demonstration</i> (33,000 Ar)	Timer	FP method display (11,000 Ar)
Cup (250 ml) (2,000 Ar)	T-shirt <i>blanc</i> (8,500 Ar)	Thermometer	Box image (<i>Boîte à image</i>) (45,000 Ar)
Teaspoon (1,500 Ar)	T-shirt <i>bleu</i> (8,500 Ar)	Notebooks	Referral vouchers – 10 pack (1,000 Ar)
Tablespoon (2,000 Ar)	<i>Casquette blanche</i> (3,000 Ar)	Blouse	
Bin with lid (4,000 Ar)	<i>Casquette bleue</i> (3,000 Ar)	Reporting tools for community activities	
MUAC tape (3,000 Ar)	Jerrican (9,000 Ar)		
Vest (10,000 Ar)	Desinfectant MANADIO RANO (841 Ar)		
Backpack (15,000 Ar)	<i>Porte badge et badge</i> (445 Ar)		
Rain Jacket (12,000 Ar)	Clip board (2750 Ar)		
« Bob » (5,000 Ar)	<i>Crayon de bois</i> (100 Ar)		
FP method display (20,000 Ar)	<i>Calculatrice</i> (12000 Ar)		
Calendar (4,000 Ar)	<i>Porte document</i> (5760 Ar)		
FP Tiahrt Amendement sheet (3,000 Ar)	<i>Cahier grand format</i> (1225 Ar)		
Blue timetable (10,000 Ar)	<i>Gomme</i> (256 Ar)		
Red timetable (10,000 Ar)	<i>Coupe ongle</i> (820 Ar)		
Satchel (8,000 Ar)	<i>Taille crayon</i> (290 Ar)		
	<i>Seau</i> (2,850 Ar)		
	<i>Natte</i> (5,750 Ar)		

	<i>Poubelle PM (8,750 Ar)</i>		
	<i>Calsseur avec logo MAHEFA(7,300 Ar)</i>		
	<i>Stylo rouge (175 Ar)</i>		
	<i>Stylo bleu (175 Ar)</i>		
	<i>Stylo bleu personnalisé (1,800 Ar)</i>		
	<i>Savon (1,460 Ar)</i>		
	<i>Impermeable (20,000 Ar)</i>		
	<i>Sac à dos (10,000 Ar)</i>		
	<i>Certificat AC (192 Ar)</i>		
	<i>Brosse à ongle (340 Ar)</i>		

*Additional IEC tools, management tools, and work tools were provided to USAID Mahefa CHVs; however, for the purpose of this document, only equipment is listed.

ANNEX 5: Persons Contacted

Organization	Name	Position
USAID Mikolo / MSH	John Yanulis	Project Director
USAID Mikolo / MSH	Lalah Rambelason	Deputy COP / Director of Capacity-Building
USAID Mikolo / MSH	Hery Rabemananisoa	Director of M&E
USAID Mikolo / MSH	Jean Gabriel Rakotondrabe	Senior Technical Advisor (SP 2,3,4)
USAID Mikolo / ITEM	Zo Ratsimandisa	Operations Research Specialist
USAID Mikolo / MSH	Heritiana Andrianaivo	Data Officer
USAID Mikolo / MSH	Onisoa Ralidera	Family planning/reproductive health specialist
USAID Mikolo / MSH	Andrinampoina Tsarafihavy	Malaria Specialist
USAID Mikolo / MSH	Riana Ramanantsoa	Regional Field Manager
Catholic Relief Services	Laura Dills	Country Representative
Catholic Relief Services	Tang Tatiana Christiane	Economic Growth Specialist
USAID - Madagascar	Jean Claude Randrianarisoa	Senior Economist, M&E Officer
USAID - Madagascar	Jacqueline Gayle Bony	Senior Advisor, Community Services and Family Planning
UNICEF- Madagascar	Paul A. Ngwakum MD, MPH	Chief of Child Survival and Development
UNICEF- Madagascar	Dr. Tiana Razafimanantsoa	Maternal and Newborn Health / Prevention of Mother-to-Child Transmission Health Section
UNICEF - Madagascar	Dr. Jean Claude Mubalama	<i>Spécialiste en Santé – Coordinateur Programme d'Appui aux Secteurs Sociaux de Base / Santé (PASSOBA). Survie et Développement de la Mère et de l'Enfant</i>
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