

## Health Data Reporting Challenges in Mopti, Mali: Results and Implications from a Mixed Methods Study

### INTRODUCTION

To use information for monitoring health service delivery and planning future programs, countries require timely, reliable, and high-quality health service data (1). In many low-and-middle income countries (LMICs), existing health information systems (HIS) fall short due to inadequate human resources, cumbersome and poorly-coordinated reporting requirements, and a lack of incentives for health workers to submit data in a timely manner (2). Many countries continue to use paper-based reporting and storage systems for health data despite evidence showing that these practices contribute to poor data quality and compromise health service delivery (3).

In Mali - where these challenges with data collection and reporting persist - the health system adopted the computerized District Health Information System (DHIS2) for aggregation and analysis of health service data at the facility level in 2015. At the community level, the health system relies on community health workers (CHWs) - known locally as agents de santé communautaire (ASCs) - who, in addition to providing frontline health information and services covering a broad range of health areas in their communities, are required to collect, compile, and report community health data using a paper-based system (4).

Specifically, ASCs maintain and compile individual client forms and service registers to create monthly health statistics reports for their catchment area. Each month, they travel to primary health care centres known as Centres de Santé Communautaire (CSCOM) to submit the reports in person to their supervisors - known locally as Directeurs Technique du Centre (DTCs) (5). DTCs - each of whom supervises several ASCs - must then review and approve all reports submitted by ASCs and enter the data into the DHIS2 online platform once finalized. Thereafter, political, civil society, and health system stakeholders hold monthly meetings to review the district health data and intervene, if necessary (5).

### KEY FINDINGS

1. In Mali, ASCs face instrumental and safety challenges such as a lack of paper forms and barriers to transportation (e.g., insecurity, weather) which affect timely data collection and reporting.
2. The unreliability of internet connection limits the ability for DTCs to submit ASCs' reports which also affects the timeliness of data reporting and use.
3. Most ASCs are dissatisfied with the amount and timeliness of incentives they receive, but they are relatively satisfied with their workloads and job security.
4. ASCs are not involved in key community health -related programming and policy decision-making processes. Involving ASCs in these decisions may help improve their motivation.

To explore community-level health data reporting and use in Mali, the Population Council, in partnership with the Aga Khan Foundation (AKF), conducted a mixed-methods study. This study is part of a larger portfolio of work under The Frontline Health project which seeks to advance community health systems metrics, monitoring, and learning to improve the efficiency and performance of CHW programs (6).

This brief distills findings and challenges associated with community health data reporting in Mali and provides recommendations for policy and program stakeholders to consider in order to alleviate these challenges and improve community health data reporting and use.

The information presented in this brief is based on a quantitative survey with ASCs (n=152), nine focus group discussions (FGDs) with ASCs, and in-depth interviews (IDIs) with DTCs (n=18) and local policy stakeholders (n=12). Data collection took place between September and October 2018 in four sub-districts of Mopti region, Mali: Bandiagara, Bankass, Djenné, and Mopti. Additional findings from the study are available in published manuscripts (7,8).

## RESULTS

ASCs face numerous challenges in their work, including data collection and reporting difficulties and dissatisfaction with their compensation. There are also existing gaps in data use for decision-making which warrant future exploration.

### Data collection and reporting challenges for ASCs

Most ASCs experienced instrumental and personal challenges when submitting their required reports; the most common challenges were a lack of paper forms, transportation issues (e.g., distance to CSCOM, security concerns and weather-related challenges), and a lack of motivation.

ASCs reiterated the issue of unavailable paper forms and explained the financial implications; with no paper forms provided, ASCs must use their own money to make copies, which may leave them financially at risk. This challenge is exacerbated by limited access to photocopiers, as an ASC described:

**“We do not properly receive our salary and despite this, we photocopy blank report cards to draft our reports. We produce three reports at the end of the month with CFAF 750 [\$1.40] as photocopying fees...Regarding the photocopy, today I had the chance to make my photocopies 74 km away from my home; I have problems to make my photocopies when I do not find opportunities like this.” —ASC, IDI**

As is often a barrier in LMICs, ASCs explained that they are at times unable to access the CSCOM where the DTC is posted to submit their monthly reports on time due to far distances, a lack of transportation, and ongoing insecurity in the region:

**“In the context of insecurity, the use of [a] motorcycle is forbidden. In spite of that, we ride motorcycle[s] to the CSCOM to submit our reports. During the rainy season, it is difficult to access the health center.” —ASC, FGD**

Some ASCs described the unavailability of the DTC as another challenge:

**“There is [difficulty bringing the monthly report to DTC] because the DTCs are always moving. Every time they are in Mopti for training or caught in their personal business.” —ASC, FGD**

### Data reporting challenges for DTCs

Similar to ASCs, DTCs also described challenges with carrying out their work. Qualitative data indicate that the primary barrier for DTCs to promptly enter data into the DHIS2 system for aggregation at the district level is the unreliability/irregularity of an internet connection, which is necessary to enter data into the DHIS2. DTCs described how an unstable connection prevents them from being able to enter data during normal working hours:

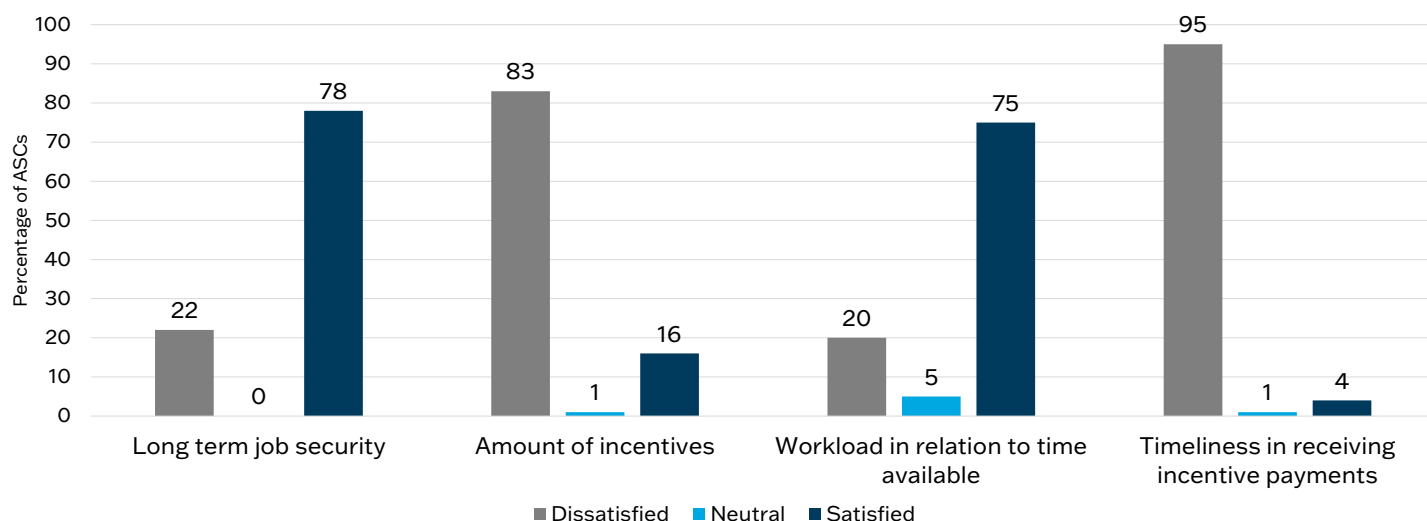
**“I’m in a zone where the connection is unstable, except around 2 o’clock in the morning.” —DTC, IDI**

### Challenges related to ASC compensation

The majority of ASCs in our survey reported that they were relatively satisfied with their workload and job security; however, the categories in which they were least satisfied are linked to compensation for their work. We found that 83% of ASCs are dissatisfied with the total amount of incentives they receive (financial and non-financial) as well as with the timeliness in receiving payments (Figure 1).

Our survey also revealed that 95% of ASCs receive any compensation for their work; however, only 18% reported that they receive their compensation monthly as expected. Most ASCs reported being paid quarterly (37%) or on another time schedule (33%). Among ASCs that receive compensation for their work (n= 145), 91% reported receiving financial compensation, and almost eight percent reported both financial and non-financial compensation (Table 2, pg 3).

**FIGURE 1. ASC SATISFACTION WITH COMPENSATION, INCENTIVES, AND WORKLOAD (N= 152)**



As of 2017, national CHW programs in Mali were not fully operational as outlined in national health policies, and national budgets did not factor in adequate payment for ASCs. As a result, ASC programs depend on mixed funding from the national government, donors, NGOs, health districts, and local communities. Consistent with these policies, our data show that 80% of ASCs receive their payments solely from an NGO (Table 2).

Qualitative data also reiterate ASCs’ low satisfaction with compensation and the implications for their motivation. IDIs with DTCs revealed that ASC payments are delayed when the reports are late, which in turn can lead to a lack of motivation to submit their reports on time.

**“Now, when ASCs are not paid on time, we note some kind of slowdown.”—DTC, IDI**

There was general consensus among participants that ASCs deserve to be compensated fairly for their work. Some participants requested alternate methods of compensation, as they are currently not given a choice. One ASC voiced a desire to be paid via direct deposit into a bank account, which would enable them to borrow from the bank in the event of a delayed payment - an option which mobile money payments do not provide:

**“We want partners to know that we no longer want to be paid by Orange Money [mobile money]. How many years have we been using Orange? Even when you want to have a loan, you can’t. If we were paid through the bank, we could borrow up to CFAF 25,000 [\$47] and this would allow us to improve our living conditions.” —ASC, FGD**

**TABLE 2. CHW COMPENSATION TYPES (N=152)**

Indicator	%
Receive compensation as a CHW	
Yes/No	95/5
Type of compensation	
Financial	91
Non-financial	1
Both financial and non-financial	8
Who provides financial compensation*	
NGO only	80
NGO and/or other sources	20
Frequency of receiving compensation	
Monthly	18
Quarterly	37
Semi-annually	4
Ad hoc (when there is an event)	8
Other	33

\*n=143

## Gaps in data use for decision-making

Qualitative data describe how community health stakeholders—who are responsible for the collection, entry, and review of health data— collaborate and use data to strengthen community health programming.

DTCs attend monthly review meetings with health system stakeholders to review district health data and develop health programming plans based on key health indicators.

**“Thanks to the DHIS2, I noticed a rise in malaria in certain CHW sites and I initiated a sensitization campaign with mothers to explain to them the importance of sleeping under a bed net and of cleaning up their environment.” —DTC, IDI**

ASC involvement in these district-level programming decisions is neither sought out nor expected; for the most part, it is accepted by all community health actors that these health programming decisions are made by district health stakeholders. Some ASCs describe contributing to decision-making processes at the community level (i.e. selection of topics for health talks), however these are seen as singular decisions and do not contribute to the overall community health strategy.

**“There are two types of decisions. The decisions about the campaigns come from the district level and we are informed in our communities. We are the ones who inform the populations...We are involved in decision-making about our community.”**

—ASC, FGD

## CONCLUSION AND RECOMMENDATIONS

Our findings indicate that ASCs in Mali face various challenges with data reporting and use, dissatisfaction with various aspects of their compensation, and little involvement in data use for decision-making, all of which may negatively impact their motivation and performance.

In order to alleviate challenges related to data collection, reporting, and use, and improve ASCs’ satisfaction, we propose the following recommendations for community health program and policy stakeholders:

**1. Integrate a technological data collection platform into routine data collection and reporting:** We recommend the Malian government consider digital data collection methods that could streamline the process and avoid barriers like missing paper forms.

The Aga Khan Foundation - Mali pilot tested the use of tablets by ASCs to collect and report community health data. Lessons from this pilot and its associated challenges can be used to help transform the national community health data management system (4).

### **2. Systematize regular, on-time payment for ASCs:**

As critical and valued actors of PHC provision, ASCs must be properly compensated for their work and their payment needs to be reliably issued on-time. In addition, we recommend offering ASCs a choice in payment method based on their preference (mobile money, cash, direct deposit).

### **3. Establish an inclusive feedback loop for ASCs to be considered in decision-making processes:**

Fostering a climate of collective analysis and decision-making that includes ASCs can have a positive impact on the quality and utility of data for local health programming. Including ASCs in the data review and health program decision-making process may help improve their motivation.

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## **CONTACT**

Karen Kirk  
Staff Associate  
Population Council  
kkirk@popcouncil.org

Pooja Sripad  
Technical Advisor  
Population Council  
psripad@popcouncil.org

## **REFERENCES**

1. Chan M, Kazatchkine M, Lob-Levyt J, Obaid T, Schweizer J, Sidibe M, et al. Meeting the demand for results and accountability: A call for action on health data from eight global health agencies. *PLoS Med.* 2010;7(1):5–8.
2. Aqil, A., T. Lippeveld, and D. Hozumi, PRISM framework: a paradigm shift for designing, strengthening and evaluating routine health information systems. *Health Policy Plan*, 2009. 24(3): p. 217-28.
3. Kiberu VM, Matovu JK, Makumbi F, Kyoziira C, Mukooyo E, Wanyenze RK. Strengthening district-based health reporting through the district health management information software system: The Ugandan experience. *BMC Med Inform Decis Mak.* 2014;14(1):1–9.
4. Kirk K, McClair TL, Dakouo SP, Abuya T, Sripad P. Introduction of digital reporting platform to integrate community-level data into health information systems is feasible and acceptable among various community health stakeholders: A mixed-methods pilot study in Mopti, Mali. *J Glob Health* 2021;11:07003
5. Kristen Devlin, Kimberly Farnham Egan, and Tanvi Pandit-Rajani. 2016. Community Health Systems Catalog Country Profile: Mali. Arlington, VA: Advancing Partners & Communities. Available from: [https://www.advancingpartners.org/sites/default/files/catalog/profiles/mali\\_chs\\_catalog\\_profile\\_0.pdf](https://www.advancingpartners.org/sites/default/files/catalog/profiles/mali_chs_catalog_profile_0.pdf)
6. Frontline Health Project. 2020. Frontline Health: Harmonizing metrics, advancing evidence, accelerating policy. Washington, D.C.: Population Council. Available from: [https://www.popcouncil.org/uploads/pdfs/2020RH\\_FrontlineHealthOverviewBrief.pdf](https://www.popcouncil.org/uploads/pdfs/2020RH_FrontlineHealthOverviewBrief.pdf)
7. Gottert A, McClair T, Hossain S, Dakouo SP, Abuya T, Kirk K, Bellows, B, Agarwal S, Kennedy S, Warren C, Sripad P. Development and validation of a multi-dimensional scale to assess community health worker motivation. *Journal of Global Health*; accepted.

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The Frontline Health: Harmonizing Metrics, Advancing Evidence, Accelerating Policy project seeks to advance community health systems metrics, monitoring and learning to improve the efficiency and performance of community health worker programs. [www.popcouncil.org/research/frontline-health-harmonizing-metrics-advancing-evidence](http://www.popcouncil.org/research/frontline-health-harmonizing-metrics-advancing-evidence)