

## A landscape analysis of the local context, challenges, and opportunities for digitized health worker payments in Sub-Sahara Africa

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### Background

Digital payment of health workers is gaining traction in African countries. This has been partially attributed to the increasing use of mobile money systems and the associated benefits and impacts of digital payments on the health system and health outcomes<sup>1, 2</sup>. Digital payments enhance efficient, accurate and timely payment of health workers which potentially contributes to improved health worker motivation and performance. Delayed and inconsistent payment of health workers, and use of insecure payment systems have often constrained effective implementation of health campaigns<sup>3</sup>. Various health programs in both Anglophone and Francophone countries have adopted digital payments. However, the broader digital payments ecosystem remains insufficiently understood in Africa. There is limited understanding of the extent to which digital payment is implemented, benefits, challenges, existing policy framework to support roll out of digital payment for health workers in Africa.

### Study objective

To conduct a landscape analysis to provide a baseline understanding of the context, challenges, policy framework, existing initiatives, and research gaps regarding digitized payments for immunization campaigns in Africa.

### Key findings

### Methods

We conducted an exploratory qualitative case study on digital payment in Francophone (DRC, Senegal, Cameroon, and Ivory Coast) and Anglophone (Uganda, Ghana, Nigeria and Kenya) countries. Data collection approaches included document review/literature review (policy documents, program reports, published articles on digital payments), In-depth Interviews (IDIs), and stakeholder workshops, as summarized in figure 1. The study participants were purposively selected basing on their role in digital payment for health workers. These included beneficiaries, service providers, intermediaries, program managers and funders. The stakeholder workshop was conducted to validate the findings from document reviews, in-depth interviews and generate recommendations and evidence gaps. All the data was analyzed using thematic analysis.

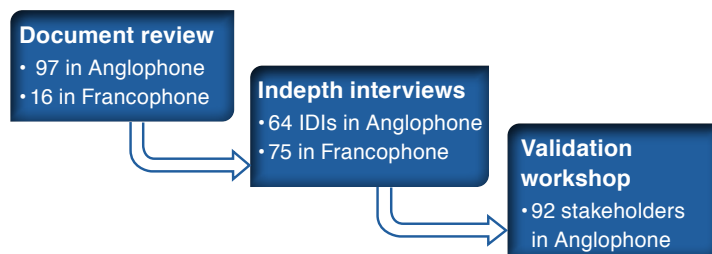


Figure 1: Summary of study methods.

### Key stakeholders and their roles in digital payment of Health workers in Anglophone and Francophone countries

Category	Actors	Roles
<b>Beneficiaries</b>	Health workers including campaign workers, vaccinators, Village health workers, health promotion officers, peer educators, Refugees, Local councils, Vulnerable populations	<ul style="list-style-type: none"> <li>• Receive digital payments</li> <li>• Acknowledgement of receipt of payments</li> <li>• Registration for digital payment</li> </ul>
<b>Service Providers</b>	TeMobile Network Operators/ Telecom companies such as MTN, Airtel, MTN MoMo, Vodafone cash and AirtelTigo money, Africel Orange -Local banks; such as Eco bank, Equity, Africa, standard chartered, post bank -Mobile Money Agents e.g., Mpesa; Banking Agents; FinTech -FinTech (Wave, Wizall, Wari, <i>Emi Money</i> , YUP, Vodacom)	<ul style="list-style-type: none"> <li>• Give out cash to the beneficiaries</li> <li>• Provide/develop tools and technologies for digital payment such as networks, phones, ATM cards, innovative apps</li> <li>• Register digital payment users</li> <li>• Host and manage individual mobile money accounts for end-users</li> <li>• Verify customer identity compliance</li> </ul>

1 Labrique, A. B., Wadhvani, C., Williams, K. A., Lamptey, P., Hesp, C., Luk, R. & Aerts, A. 2018. Best practices in scaling digital health in low and middle income countries. *Globalization and health*, 14, 1-8

2 Blumenstock, J. E., Callen, M., Ghani, T. & Koepke, L. Promises and pitfalls of mobile money in Afghanistan: evidence from a randomized control trial. Proceedings of the Seventh International Conference on Information and Communication Technologies and Development, 2015. 1-10.

3 WHO. 2015. *Direct disbursement mechanism for polio workers* [Online]. Pakistan: World Health Organization

<b>Implementers / Aggregators</b>	Implementing partners/ NGOs Ministries of Health Ghana Health Service, epidemiology and National Health Insurance, Private sector in Kenya e.g., Financial Sector Deepening, Third-party service Providers, Vending systems, Districts.	<ul style="list-style-type: none"> <li>• Implement projects and programs using digital payments</li> <li>• Disburse funds to intermediaries</li> <li>• Verify/audit digital payments</li> <li>• Manage digital payment process</li> <li>• Link the implementers and service providers/ intermediaries</li> </ul>
<b>Regulators</b>	Central Banks, Ministry of Finance National Communication Authorities, Banking Associations, Regulatory Agencies, Anti-Corruption Commission	<ul style="list-style-type: none"> <li>• Develop policies, guidelines</li> <li>• Regulate digital payments through supervision, licensing, monitoring</li> <li>• Enforce guidelines</li> <li>• Coordinate digital payment</li> <li>• Develop user data protection policies and incentive programs</li> </ul>
<b>Funders (Donors)</b>	U.S. Agency for International Development, Bill & Melinda Gates Foundation, WHO, World Bank, African Development Bank, Cash Alliance, United Nations International Children's Emergency Fund, Japan International Cooperation Agency, UNAIDS, WHO, UNFPA, GAVI, Global Fund, CDC	<ul style="list-style-type: none"> <li>• Fund digital payment infrastructure development and funding programs</li> <li>• Disburse funds to implementers</li> <li>• Advocate for increased use of digital payments</li> </ul>

## Programs using digital payments

- A number of health programs were reported to be paying health workers digitally. These include: Immunization campaigns including Polio and COVID 19, mosquito net distribution program, mobilizations for malaria, family planning mobilizations, HIV programs, Mass drug administration for Schistosomiasis, indoor residual spraying for malaria among others.

## Existing digital payment systems and Technologies

- In both the Anglophone and Francophone countries, the major digital payment systems for health workers included mobile money and banks systems. The health workers receive payment at the mobile money agent and through the ATM, over the counter, internet banking and agent banking respectively.
- There was a range of technological devices and tools being used in digital payment of health workers across the Anglophone and Francophone countries. These included: computers, mobile phones, Visa Interswitch, MasterCard, Automatic Tell Machines (ATMs), finance software applications and transaction machines

## Benefits of Digital payment

- **Safety of the money:** Participants across the study countries noted that the digital money is safe with limited chances of theft in comparison to the risks incurred in carrying bulk sums of cash
- **Increased transparency:** It was noted that digital payment enhances transparency in payment process and allows quick payment of many health workers in a short period of time.
- **Enhances timely accountability.** Digital payment makes accounting for large sums of money easier and faster. One of the participants noted *“Digital payment eases the process of accountability. For example, we were able to account for a billion UGX in 2 days compared to before which could take 2 weeks and more”* (Health Manager)

- **Convenience of digital payments:** Across countries, digital payments were reported be convenient, safe fast and instant remittances compared to traditional financial services that are characterized by tedious processes including long queues, travel costs to banking institutions, filling of forms and minimum balance restrictions.

- **Efficient and cost effective:** Digital payments allows transacting payments from any location at any time and were thus perceived as more time and cost efficient. Various health workers stated their preferences for digital payments since they had fewer administrative costs and shorter processing times than cash payments.

## Enabling factors for Digital payment in Africa

- **Existing legal policy frameworks.** All countries had some policy frameworks supporting digital payment of health workers. For instance, the West African economy and monetary Union guidelines, 2015 on electronic money, Kenya’s E-money regulation 2013, the Regulatory framework for mobile money services in Nigeria in 2021 among others.
- **Expanding Network and Mobile phone coverage:** The expanding coverage of digital payment technologies and network, including mobile money agents, agent banking, and mobile phones even in the remote areas of most African countries has facilitated the use of digital payments for health workers.
- **Digital payment interoperability:** In many countries, the digital payment systems allowed customers to make transactions across different digital payment services within and beyond their country borders. Interoperability between the regulators, development partners/donors, mobile money service providers, and end users/ implementers facilitated the uptake of digital payments for health workers in Africa.

## Barriers to digital payment

- **Poor network infrastructure and coverage:** In most of the African countries, there are weak telecommunication infrastructure, poor network in some remote settings were cited as a significant hindrance to the effective use of digital payments. The feeble telecom infrastructure and low network coverage were blamed for delays and failed transactions particularly in remote and rural areas.
- **High extra operation costs:** Users described the transaction fees to have steadily increased over the years. These fees included taxes on personal and company incomes, licensing/entry in the industry, and statutory taxes on digital money transaction and data bundles all which diminished profit margins for mobile money agents, impacted the delivery cost of digital payment services and deterred adoption particularly among the rural poor. Additionally, aggregators also charge high costs to transact funds on behalf of the implementers.
- **Customer registration challenges:** Some potential digital payment end-users whose verification required a national identification card were limited by the wearisome process of acquiring a national identification card. Errors and delays were prone to occur in cases where the beneficiary used a third-party's SIM or an unidentified SIM.
- Other barriers to the use of digital payment in Africa included limited skills of the actors in the use of digital payments, paper-based registration and verification systems.
- **Delays in payment:** All the health workers reported that digital payments take months to come through, which has made digital payment a challenge. The delays are reported to be due to the manual registration and verification processes.

## Policy and Evidence gaps

To optimize the benefits of digital payment of health workers, a number of evidence gaps need to be answered. These are:

- What are the existing legal frameworks and policies for Digital Payment?
- What is the willingness and acceptability of digital payment among health workers?
- What costs/cost effectiveness/cost benefits associated with Digital payment?
- How does digital payment improve performance?
- What capacities are in place for /preparedness for digitalization of payments to be effective and sustainable in low resource settings?
- What are the unintended consequences of digital payment
- How do we reduce delays associated with digital payment of health workers
- To what extent will digitization increase or worsen financial inclusion in the African setting?
- How can digital payment systems be aligned and linked with other supportive systems
- What modes of Digital payments do Health workers prefer?

## Conclusion

Digital payment of health workers is affected by a range of actors including beneficiaries, Funders, implementers, aggregators, service providers and Regulators. A number of programs including immunization campaigns and COVID 19 vaccination adopted digital payment systems. Digital payments use has been facilitated by the increased access of people to mobile phones, the widespread existence of mobile money agents, and a favorable regulatory environment. Digital payment for health workers offers safety of the money, eases accountability, faster way of making payments and reduces on administrative costs. However, to optimize the benefits of digital payments, challenges including delays in payments, poor infrastructure and network, high operational costs need to be addressed. Additionally, there is need to fill some evidence to fill the gaps including a deeper interrogation and documentation of existing policies and need to test innovations for improving the efficiency of digital payments, impact of digital payment and assess costs associated with digital payments.

## Recommendations

- Implementing partners should continuously update the databases for each of the different categories of digital payment recipients containing important information such as names, gender, identifier number, worker category, mobile telephone number, and designation should be considered for digital transaction processing.
- Service providers such as telecommunication companies should strive to minimize errors, data leakages, and cyber incidents associated with digital payments.
- Implementing partners of digital payment systems among health workers should consider tailored training for the system's end-users and, more especially, on social engineering in order to minimize cybercrime.
- Governments should develop and enhance a strong user identification system that matches the person's ID number and the mobile number, and other details such as biometrics. This can be built over time to culminate into a health worker database for efficient use to avoid paperwork that delays the payment process.
- Ministries of Health need to develop an efficient mechanism that can track work done to completion using technology. This should include an infrastructure that facilitates feedback.
- The different stakeholders should support the expansion of infrastructure to remote areas where challenges of digital payment exist. This may enhance access and economic viability.



## DHPI-R in a nutshell


We are health professionals that have come together with the goal to identify how, and under what circumstances digital worker payments can support effective campaign delivery, enhancing efforts to digitize payments for health workers by fostering and supporting evidence-based and evidence-driven decision-making in Sub-Saharan Africa.

### For more details about DHPI-R, contact:

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