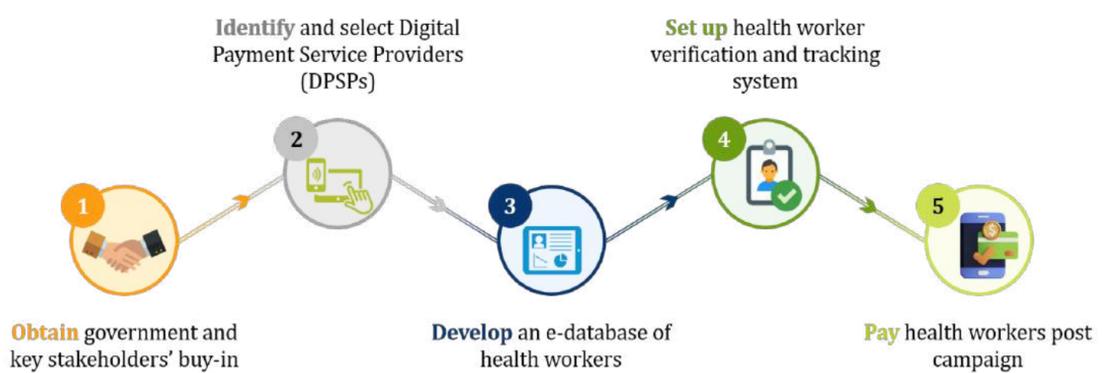# TRANSFORMING PAYMENT PROCESSES: HOW DIGITAL PAYMENT SYSTEMS ADDRESS PAYMENT CHALLENGES TO HEALTH WORKERS IN SUB-SAHARAN AFRICA

## BACKGROUND

The Global Polio Eradication Initiative (GPEI) has made significant investments toward the eradication of the Poliovirus, as Africa was declared Wild Poliovirus free in August 2020[1]. Nonetheless, due to low population immunity, Circulating Vaccine-Derived Poliovirus (cVDPV) outbreaks continue to emerge and spread, with about 25 countries in Africa affected[2]. To urgently address cVDPV outbreaks, the GPEI is working with affected countries to improve the speed and quality of polio campaigns. However, challenges with cash-based payments, such as delayed funds disbursements, lack of financial transparency, and numerous layers of funds transfers have continued to hamper polio campaigns and ultimately demotivate the frontline health workers. To address these issues, the World Health Organization Regional Office for Africa (WHO AFRO) with support from the Bill and Melinda Gates Foundation and technical assistance from Solina Centre for International Development and Research (SCIDaR) commenced an intervention to transition from cash to digital payments as part of the efforts to improve the quality and speed of polio campaigns. Between 2020 and 2022, SCIDaR supported WHO AFRO to design and deploy a digital payment system in seventeen countries in sub-Saharan Africa. This brief describes the implementation approach used during this intervention and highlights the experiences garnered.

## OUR APPROACH TO IMPLEMENTING DIGITAL PAYMENT SYSTEMS



1. **Obtain** government and key stakeholders' buy-in
2. **Identify** and select Digital Payment Service Providers (DPSPs)
3. **Develop** an e-database of health workers
4. **Set up** health worker verification and tracking system
5. **Pay** health workers post campaign

### 1. Obtain government and key stakeholders' buy-in

The first step in implementing digital payment for health workers is to secure the relevant buy-in by engaging the Ministry of Health, and country polio eradication partners such as WHO and UNICEF. This engagement introduces the project and provides a platform for alignment on the scope and scale of implementation. Ultimately, the engagement of these critical stakeholders and the co-creation of the project implementation strategy secured their buy-in and minimized push-back during implementation.

### 2. Identify and select Digital Payment Service Providers (DPSPs)

Secondly the implementation team conducted a country-specific landscape analysis to determine coverage, interoperability, market share, distribution of cash-out points, and government regulations before

selecting the type of DPSP to be used. Currently, mobile money and bank transfers are the most used digital payment systems in LMICs (Low- or Middle-Income Countries). The reach of mobile money is higher than that of the formal financial banking system in developing countries. In 2020, mobile money technology in Africa was said to have 26 times the reach of Automated Teller Machines (ATMs) and 58 times the reach of bank branches[3]. Guided by the results of the landscape analyses, WHO used mobile money in all countries except Nigeria, where bank transfers were used. In working with the DPSPs, it is imperative to define their roles clearly in contracts. The DPSPs are responsible for validating the account details of registered beneficiaries, making payments, and generating payment reports. The selection of DPSPs must meet technical requirements that align with the ultimate goal of timely and correct payments while factoring in the country's context. Experiences from different countries have shown that leveraging

existing in-country contracts with DPSPs can help save time. For example, in Liberia, the team saved time by leveraging the existing Requests For Proposal (RFP) processes between Orange, MTN Lonestar, and UNICEF.

### 3. Develop an e-database of health workers

The target health workers identified are enrolled into a database capturing their names, addresses, designation, mobile phone numbers, pictures, and means of identification. In our experience, some countries opted to develop a database of only polio campaign workers while others chose to develop one for all disease programs. Countries can use applications like CommCare, Ionic, Microsoft Excel, and ODK for data capturing and storage. Microsoft Excel was used to develop the health workers' database in Liberia, Ionic was used in Uganda, and the other countries used the CommCare application. The choice of technology is largely dependent on the available budget, country-specific data privacy laws, and available technical skills amongst other peculiarities. While choosing which technology to use, it is important to weigh the capabilities and drawbacks of each technology option against the requirement of the database development process. Health workers are enrolled in the districts where they work to ease the data collection process. Those without mobile money accounts are encouraged to open one or authorize payments to a third-party account through signing a consent form.

It is pertinent to ensure that health workers are aware of the enrolment dates and locations as well as understand the purpose of the enrolment to ensure their full cooperation.

### 4. Set up health worker verification and tracking system

The details of health workers who worked during the campaigns can be collected using tools like excel sheets, or the CommCare app and should be validated by the Ministry of Health. An efficient attendance collection and validation system for identifying the health workers to be paid and the amounts due is important to achieving timely and transparent payments. This system should be co-designed with the program implementers to ensure that it aligns seamlessly with the program's processes. It is important to leverage the already existing validation mechanisms within the country to achieve this purpose.

### 5. Pay health workers post campaign

Payment of health workers involved in the campaign exercise is the final stage in this process. The funds can be disbursed to the frontlines through mobile money or bank transfers depending on the DPSPs engaged in the country. The payment report generated by the DPSPs is used to identify successful payments and resolve any failed payments. This facilitates accountability and transparency for the funds disbursed.

## RESULTS FROM IMPLEMENTING DIGITAL PAYMENT SYSTEMS IN SUB-SAHARAN AFRICA

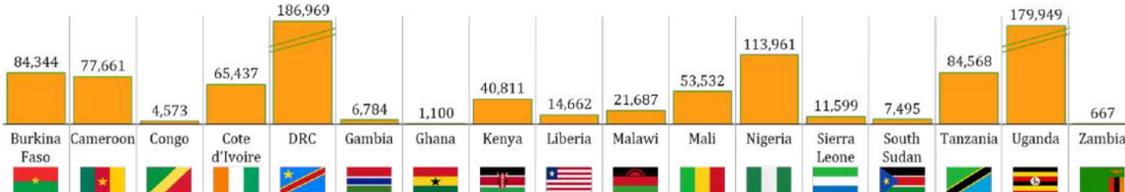

**955,799** health workers enrolled in 17 countries

**506,436** health workers paid in 13 countries

**Number of health workers paid**

4.5K · 60.9K · 15.3K · 3.9K · 1.1K · 15.4K · 57.5K · 79.6K · 107.6K · 9.6K · 5.4K · 153.1K · 667

**Number of health workers enrolled**

| Burkina Faso | Cameroon | Congo | Cote d'Ivoire | DRC | Gambia | Ghana | Kenya | Liberia | Malawi | Mali | Nigeria | Sierra Leone | South Sudan | Tanzania | Uganda | Zambia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84,344 | 77,661 | 4,573 | 65,437 | 186,969 | 6,784 | 1,100 | 40,811 | 14,662 | 21,687 | 53,532 | 113,961 | 11,599 | 7,495 | 84,568 | 179,949 | 667 |

Between 2020 and 2022, over 955,000 health workers have been enrolled in national databases in seventeen (17) countries and more than 500,000 have been paid digitally in thirteen (13) countries[4]. The number of health workers enrolled and paid varied across countries due to variations in the scope of implementation, country characteristics, availability of resources, and implementation timelines. Overall, the use of digital payment systems has reduced the time lag between the end of the campaigns and the payment of polio frontline health workers. For example, during the 2020 round 2 polio campaigns in Cote d'Ivoire, the average payment time was two hours, compared to a three-week average for cash payment processing, which demonstrates the substantial impact mobile money has on payment efficiency during outbreak campaigns[5].

Qualitative surveys conducted in Cote d'Ivoire and Liberia report a preference for mobile money over cash payments by health workers in these countries due to the unique benefits experienced. In Cote d'Ivoire and Liberia, 83%[6] and 86%[6] of health workers respectively, preferred mobile money as a mode of payment, citing completeness, speed, and convenience as the top reasons for their preference.

### Health workers' preferred payment method in Cote d'Ivoire and Liberia



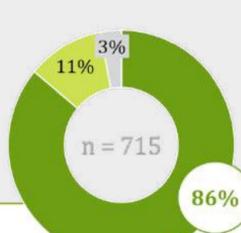Cote d'Ivoire — n = 366 — 83%, 11%, 6%

Liberia — n = 715 — 86%, 11%, 3%
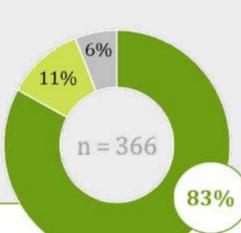
Digital payment · Cash · No preference

"I prefer to be paid by mobile money because my payment will reach me in full, but if it's through an individual, some might be deducted."

"I got the notification that my money was in my account, and I got it without any problem."

"After the first round, we were just asked to give our mobile money number to receive our money, and it wasn't complicated in my opinion."

"The payment process was good because I received all my money on time."

Digital payment has become the preferred payment option due to its unique benefits, particularly in reducing delayed and incomplete payments as well as increasing the motivation of health workers. This is crucial in ensuring the conduct of successful high-quality vaccination campaigns required to curb cVDPV outbreaks across African countries.

In addition, digital payments can significantly increase transparency into financial records, reduce the leakage of funds, and extend access to financial services to the poor and vulnerable thus promoting financial inclusion in low- and middle-income countries (LMICs). As a result, individuals can access basic financial services more easily and are empowered to improve their financial resilience and security, thereby, promoting economic growth. Furthermore, improving the financial inclusion of individuals and firms will ultimately drive their social inclusion, thereby aiding the realization of the Sustainable Development Goals (SDG 16)[7]. These unique advantages make it a logical next step to expand digital payments beyond polio to other healthcare interventions.

1. Vaccine-Derived Polioviruses (GPEI)
2. Polio Outbreak Countries (GPEI)
3. Mobile Money, Financial Inclusion and Development
4. GPEI Polio Eradication Strategy 2022-2026
5. GPEI Polio Eradication Strategy 2022-2026
6. https://60decibels.com/work, Insights from surveying polio vaccinators, Liberia
7. Role of Digital Payments in Financial Inclusion