

GLOBAL

DIGITAL FINANCIAL SERVICES



**Digital Financial Services in Health 2012-2017:
Lessons from Literature and Expert Interviews**

Introduction

The Health Finance and Governance (HFG) project has promoted the use of digital financial services (DFS) in health for the past five years. HFG knowledge management activities include publishing case studies, participating in DFS workshops, interviewing service providers, conducting literature reviews, and conducting field work. In December 2016, a Financial Inclusion Forum co-sponsored by USAID and the U.S. Department of Treasury show-cased how DFS was benefitting the energy, agriculture, and education sectors, as well as disaster responses. However, health sector examples were notably lacking. This brief synthesizes insights from HFG’s activities, looking at DFS benefits to health systems, why the health sector appears to be lagging behind in DFS uptake, and what factors might accelerate DFS integration moving forwards. The intended audiences are donors, DFS experts, and health program implementers.

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What are Digital Financial Services?

DFS constitute any financial services accessed and delivered through a broad range of digital channels, including the Internet, mobile phones, automatic transfer machines, point-of-sale terminals, or electronically enabled cards. With over five billion unique mobile phone subscribers globally, mobile money is the most common form of DFS in developing countries (see text box). We use the terms DFS and mobile money interchangeably throughout this brief.

Mobile money, a subset of DFS, consists of financial transactions conducted using a mobile phone, where value is stored virtually (e-money) in an account associated with a SIM card. Individuals can deposit cash into a mobile account, make transactions between accounts, and withdraw funds as cash. Mobile money transactions are compatible with basic phones and do not require Internet access.

Why DFS Matters

An estimated two billion people globally have no bank account and depend solely on cash for all transactions. Expanding access to secure payment channels and basic financial management tools (e.g., savings, credit, and insurance) provides economic protection and stability. The rapid growth of mobile money has helped close the financial inclusion gap, especially in sub-Saharan Africa (Demirguc-Kunt, et al. 2015). Research conducted in Kenya, where mobile money penetration exceeds 90% of the population, showed DFS access helped people increase income opportunities, build assets, and raise standards of living (Suri and Jack, 2016).

Motivated by the potential for economic growth, stakeholders including government leaders, the financial community, mobile operators, and development organizations have collaborated in many countries to create the enabling environment needed to license, launch, and expand DFS. USAID has contributed resources to partnerships such as the Better than Cash Alliance and Consultative Group to Assist the Poor. These and many other organizations are providing technical assistance and resources, as well as advocating for a transition towards DFS.

In order to promote expanded DFS use, USAID issued Procurement Executive Bulletin No. 2014-06 on Electronic Payments. This requires USAID implementing partners, including health projects, to

embed digital payments in their program operations wherever possible. The order recommends inclusion of mandatory sub-agreement language to replace cash transactions using the best available electronic options, such as mobile money, chip-enabled cards, or bank accounts.

Objectives of this Brief

Since 2012, HFG has collaborated with USAID, implementing partners, and other stakeholders to promote DFS use in health programs. HFG is one of a few projects with a specific agenda to track DFS uptake in the health sector and report on its progress. The objective of this report is to reflect on and share lessons learned over the past five years about factors that have inhibited or enabled DFS integration. Insights for this brief were distilled from desk research, workshops, and conference panels convened on the topic, as well as collaboration with DFS experts, service providers, and researchers in the field. Resources included HFG Mobile Money in Health publications, including e-newsletters, case studies and briefs produced throughout the project. These can be found at: www.hfgproject.org.

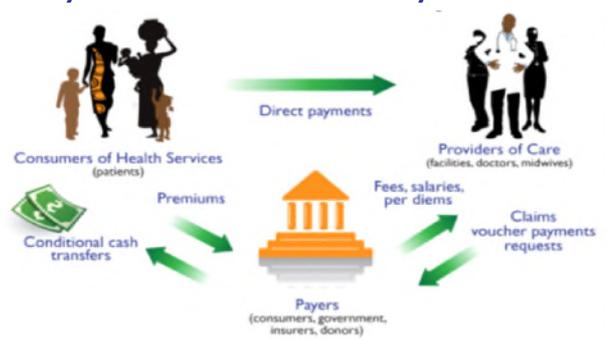
DFS Benefits to Health

Transitioning to DFS can:

- Reduce both the security and leakage risks associated with cash transactions.
- Increase transparency, efficiency and accountability in program operations.
- Bolster beneficiary resilience to health and financial shocks.
- Support the scalability of subsidies and other payments.
- Reduce the cost and complexity of insurance services.
- Expand access to credit for private providers to invest in expanding their services, as they build a credit history.

The graphic below provides an overview of DFS entry points in health systems.

Entry Points for DFS in Health Systems



Common Uses of DFS in Health

Category	Rationale	Examples Where Used
Bulk payments for salaries, per diems, and trainees	Bulk payments via mobile money services enable more secure transfers of funds compared to cash, with automated record-keeping. Bank transactions can be inconvenient for staff who may need to travel long distances to nearest bank branches.	Routine payments are amongst the most common uses including payments for: community health workers in Kenya (HFG, 2015); transport allowances for malaria program staff in Tanzania (Nyoni, 2017); health worker salaries in Sierra Leone (Bangura, 2016); incentives to health workers in Bangladesh (Imran, 2015); and UNFPA suppliers (Better Than Cash Alliance, 2016). Programs are able to calculate cost savings for both payors and payees.
Conditional cash transfers to incentivize health practices	Cash distributions to individuals triggered by authorizing events are logistically challenging and carry risks of loss due to leakage. Mobile-enabled payments are administratively effective, more immediate, and cost efficient.	Immunization programs have been especially active in using mobile conditional cash transfers to increase rates of completion of childhood immunizations in Haiti (Dalberg, 2012) and Pakistan (HFG, 2015). In Kenya, researchers conducted a large randomized controlled trial evaluating the impact of monetary incentives paid via mobile money accounts, and found a statistically significant increase in children achieving full immunization (Gibson, 2017).
Mobile-enabled health insurance	Health insurance can help households cope with health shocks and support more timely care-seeking behavior. However, families without formal employment in developing countries have no options for insurance enrollment. Mobile phones provide insurers with a low-cost channel to enroll customers, collect premiums, process claims, and pay providers, thus easing the high administrative burden of more traditional insurance models.	Mobile network operator Tigo has established one of the most successful mobile-enabled insurance programs in Africa, with more than 2.7 million active users across Ghana, Senegal, and Tanzania (BIMA, 2016). Tigo Insurance is a partnership between Millicom, a telecommunications company, and BIMA, a microinsurance provider, offering basic life and hospitalization coverage. Ninety-nine percent of Tigo clients live on less than \$10 per day and 73% have never had insurance before. This demonstrates the potential of mobile insurance to contribute to goals of Universal Health Coverage.
Health savings and credit services	People with no bank account have limited options for accessing funds to cover medical costs. Mobile money services offer secure savings channels, and can help build credit worthiness through generating a financial transaction history.	A health credit card being piloted in Ecuador allows women to access credit on-the-spot to pay for services at participating health clinics. The pilot has more than 6000 registered users (Kuklewicz, 2016). M-TIBA in Kenya is a mobile savings and health insurance service that can be used at participating healthcare facilities. Healthcare providers can access affordable credit to invest in their clinics based on their M-TIBA payment history (Jefwa, 2017).

Lessons Learned

I. The health sector uses existing DFS infrastructure, but there is limited interest in supporting DFS roll-out for health where infrastructure is not already established.

To a large extent, health program uptake of DFS corresponds with the maturity of mobile money infrastructure within a particular country or sub- compendium came from Kenya and Tanzania,

both of which have high mobile money penetration and a well-established DFS infrastructure (HFG, 2015). Countries in nascent phases of DFS development require time to address potential regulatory, political, technical, and economic barriers. As noted in an assessment of Liberia’s readiness to transition health worker salary payments to mobile money, the limited availability of mobile money agents in rural areas is a barrier, with unreliable points for accessing cash (mSTAR, 2016).

The health system could help build a network of mobile money agents (e.g., by recruiting, training, or retaining mobile money agents). However, there are many demands on public health resources, and programs are often reluctant to divert funds towards DFS infrastructure. In addition, many donor-funded projects prioritize underserved rural populations where gaps in signal coverage and access to reliable charging stations are barriers to using mobile applications. To advance DFS uptake in health, advocates should focus on regions with a mature infrastructure (Nethope, 2014). Where the DFS ecosystem is emerging, donor projects can aggregate demand from health providers and beneficiaries to accelerate private sector investment.

2. Health programs face many challenges, and improving payment distribution may not be the highest priority.

There is little disagreement about the benefits and value of transitioning from cash to DFS among health program managers and public health officials. However, other issues simply have greater urgency. For example, in 2015, HFG assessed the potential transition to mobile money of a performance based incentive program in Senegal, in which bonuses were paid to health workers for achieving agreed targets. At the time of the assessment, there were underlying issues with the approval and verification process that caused 9-12 month delays in payment authorizations. The project therefore decided to focus on ensuring the underlying processes were working well before introducing new payment transmission processes (Heymann, 2016).

Other organizations have reached similar conclusions. In a recent blog, Access Afya described its efforts to introduce a cashless clinic in Kenya to improve security for staff and clients. They found that even in a country with high numbers of registered mobile money users, the preference for cash transactions remained strong, especially among low literacy clients. Access Afya's first priority was to grow its client base. They therefore made mobile money payments optional rather than a requirement (Menke, 2015).

These examples suggest that successful uptake of DFS will depend on mapping the incremental needs of a program, appropriate timing of its introduction, and offering DFS as an option that will evolve over time. However, when DFS addresses urgent challenges, (see

the example from Sierra Leone in Lesson 5 below), programs willingly transition completely from cash.

3. Mistrust of DFS is a barrier to health sector integration, but experiences from other development sectors offer solutions.

Beneficiaries often initially resist DFS because the concept is unfamiliar. They fear their money will be lost if their phone is lost or broken, worry they may be taken advantage of by agents who will skim accounts, or lack confidence about how to log into and navigate their account (Grameen Foundation, 2014). These concerns inhibit uptake but are not unique to health; lessons can be gleaned from other sectors that have already addressed these challenges.

The Global Digital Health Network conducted a workshop with digital health implementers in 2017. Participants considered how to address training challenges among users with low literacy and numeracy skills, as well as limited experience with mobile applications beyond making phone calls. Participants identified promising approaches from agriculture, energy, education, and other sectors, where DFS has been more widely used. Comprehensive, customized training activities developed by experienced agents illustrate how mobile money works in simple graphic terms. Experiential activities also build confidence in DFS, using stories, role play, games and practice sessions that encourage questions (Nethope, 2014). Reliable customer service support is also critical in building user confidence and trust in DFS.

4. Despite calls for more cross-sector collaboration, there has been limited sharing of best practices between sectors.

As noted above, DFS integration has made steady inroads in other development sectors. Agriculture in particular has been at the forefront of mobile money applications, linking smallholder farmers to capital, credit, and business skills, raising living standards, and lowering transaction costs (USAID, 2016). One of the lessons from promoting use of DFS in agriculture is the value of addressing multiple programmatic needs simultaneously such as securing reliable product supply, smoothing payments over time, and providing targeted subsidies. This approach will attract a wider set of stakeholder to support a transition to DFS.

DFS proponents in the health sector should look for opportunities to leverage non-health applications to enroll users; there are frequently overlaps in constituencies, objectives, and partners (such as mobile operators). The health sector may gain valuable synergies from existing initiatives in education (e.g., digitizing teacher salaries, or payment of school fees), energy (e.g., providing pay-as-you-use financing for solar devices), or agriculture (e.g., payments for seeds and fertilizer). Joint initiatives can reduce transaction costs and leverage resources, expanding integration in health. Humanitarian disasters have catalyzed rapid scale up of mobile money infrastructure, demonstrating prominent uses for health.

When the earthquake hit Haiti in January 2010, disaster relief efforts included coordinated support to rapidly establish a mobile money infrastructure. Motivated by a \$10 million prize and technical support, two mobile money platforms were up and running within six months compared to the two years typically required to design and launch new services. This infrastructure enabled relief agencies to send funds electronically to displaced populations for food, medicine, and other life-saving commodities (Dahlberg, 2012).

The Ebola epidemic in West Africa generated urgent demand for a more reliable salary payment system for frontline health workers. Liberia introduced mobile money in 2012, but the Ebola crisis in 2014 led non-governmental organizations to rapidly expand its use (mSTAR 2016). Results in Sierra Leone were particularly dramatic. Health workers were on strike because of delays in promised payments; mobilization of DFS stakeholders led to rapid development of and transition to a digital payment platform. The project estimated cost savings of more than \$10m in 2015 due to efficiency gains and fraud reduction from the transition to digital payments (Bangura, 2016).

Lessons from disaster responses are not widely generalizable to non-emergency settings. Nonetheless these examples illustrate the potential for rapid development of DFS for health when diverse humanitarian, government, and financial sector stakeholders bring urgency to overcoming traditional bottlenecks. Once in place, DFS applications are likely to expand organically across development sectors.

5. Mobile-enabled insurance has achieved significant scale, tied to simplicity in design.

A key pathway towards achieving universal health coverage is expanding health insurance. Less than 3% of the population in most developing countries has health insurance, traditionally available only through formal employer plans (ILO 2017). Without insurance, unexpected healthcare costs can cause people to fall further into poverty due to a lack of alternative accessible and affordable solutions, as well as low cultural awareness of risk protection. Mobile phones provide a convenient channel for introducing insurance services, including communicating with beneficiaries, registering claims, collecting premiums, paying providers, and lowering costs compared to agent-based insurance models (Prashad, 2013).

MicroEnsure/AXA has pioneered mass market insurance products distributed via mobile networks. To date, they have created more than 10 million mobile insurance policies in 11 countries. Of those covered, 85% have never had insurance before (Mouton, 2017). Through such partnerships, mobile operators use insurance as a loyalty driver, rewarding mobile subscribers for a specified level of network usage with free insurance policies to incentivize them to stay with their network.

Implementers emphasize the importance of starting with very basic products to replicate these successes. These include simple life and hospital cash policies with no limitations on health conditions or hospitals used, and fast reliable registration and claims payment processes (GSMA 2015). These “loyalty” and “freemium” offerings generate interest by exposing families to the benefits of insurance when they receive compensation for loss of income due to death or health incidents. With time, and through word of mouth and promotional campaigns, demand grows for additional coverage and tailored services. Consumers’ familiarity with and trust in mobile brands provides a stepping stone towards broader risk protection programs. Health financing initiatives can integrate subsidies and other equity protections on these mobile platforms to advance UHC objectives.

6. Early DFS pilots with health savings and insurance have paved the way for emerging integrated models

A number of early mobile-enabled savings and insurance products introduced in Kenya struggled in the market. Chamganka was introduced in 2010, a digital service that enabled women to save funds for facility-based deliveries and prenatal care at discounted prices. Usage of the service was low for those who were enrolled due to limited investment in consumer education and marketing (Woodman,

2013). In 2014, Linda Jamii was introduced as a low cost insurance model serving mass market consumers. It was pulled from the individual subscriber market one year later, with partners citing insufficient demand and low profitability (Omondi, 2015).

Lessons from these and other market failures suggest the importance of piloting approaches to identify barriers and enablers. Building on lessons from earlier initiatives, Safaricom, PharmAccess, and CarePay launched M-TIBA in 2016, reaching one million subscribers in one year. The M-TIBA platform combines a mobile wallet to encourage subscribers to earmark regular savings for health, a remittance application that allows families to send funds to dependents specifically for health services, and health insurance linked to Kenya's National Health Insurance Fund. It is too early to assess whether the M-TIBA model will achieve long-term commercial sustainability, close the equity gap in access to basic health care, or retain provider participation. However, these emerging digital health innovations provide the stepping stones needed for learning and progress.

7. DFS as supplemental income for health clinics in low resource settings warrants further exploration and investment.

Rural areas face critical shortages in human resources, and are unable to recruit a sufficient number of healthcare workers or mobile money agents. Training community health workers (CHWs) as mobile money agents is mutually beneficial. Mobile money service providers could build upon the CHW's client base to increase the number of mobile money users, while also expanding client access to potential savings, credit, insurance, or targeted subsidies for health. Training CHWs as mobile money agents would provide valuable income opportunities through mobile money commissions, while educating clients about the benefits of financial services.

This model recognizes the similar roles of both mobile money providers and CHWs as trusted and respected members of their communities who serve educational roles. Among other benefits, training CHWs as mobile money agents would help address the gender gap in uptake of mobile money services; CHWs are predominantly female, and if trained as mobile money agents, they could influence local norms to address gender inequities in mobile money use.

HFG is not aware of any pilots to explore this model, suggesting perhaps that the skills and requirements for community health and financial services are too different. Mobile money agents require technology and numeracy skills, and face risks of theft due to managing cash and liquidity requirements. Health workers must balance many demands, including challenging travel requirements, managing high case-loads, and maintaining knowledge of a range of public health issues; it may be unrealistic to include registering clients for mobile money services among their tasks.

Integration of mobile money services in clinic-based operations may be more promising. Afya Research Africa launched a series of low cost health kiosks, co-owned and operated by members of the community (HFG, 2015). In several cases, kiosk owners established mobile money pay stations as an income-generating activity to subsidize clinic costs. The availability of mobile money services brought additional traffic to kiosks, while also expanding financial options for people to purchase medicines or services. This model was also envisioned by Digital Campus in earlier plans for 5000 primary health centers in Ethiopia (Heymann 2015). However, this has not yet been implemented.

Conclusion

Collectively, these lessons indicate a solid rationale for advancing DFS in health, and an expectation of rapid expansion as DFS infrastructure and mobile technology continue to evolve. As the cases referenced in this paper attest, the health sector has many entry points for integrating DFS, and many positive experiences to build upon. Many of the examples referenced in Section 2 are relatively recent innovations, and the next few years should see accelerated integration. Despite uneven progress, the broader DFS ecosystem has continued to grow steadily and improve, thus paving the way for more innovations and efficiencies for the health sector.

It is still early in the evolution of digital payments in health and there is limited evidence to determine its potential to save money, strengthen health systems, or improve health outcomes. Research is needed to assess cost effectiveness of a transition to DFS in different health system contexts, and to measure the correlation between DFS and improved quality and availability of care.

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Agreement Officer Representative Team: Scott Stewart (ssewart@usaid.gov) and Jodi Charles (jcharles@usaid.gov).

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Abt Associates
4550 Montgomery Avenue
Suite 800 North
Bethesda, MD 20814
abtassociates.com