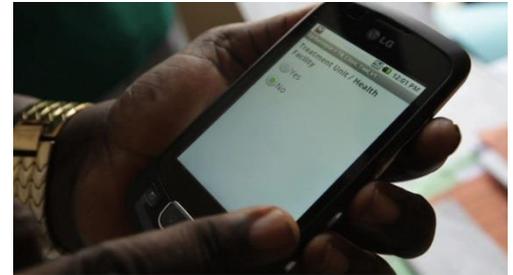




USAID
FROM THE AMERICAN PEOPLE



MOBILE MONEY OPTIONS TO FACILITATE PAYMENT OF INCENTIVES IN SENEGAL'S RBF PROGRAM: AN ASSESSMENT OF OPPORTUNITIES, BARRIERS, AND SOLUTIONS



June 2016

This publication was produced for review by the United States Agency for International Development. It was prepared by Marilyn Heymann, Ben Picillo, and Pamela Riley for the Health Finance and Governance Project.

The Health Finance and Governance Project

USAID's Health Finance and Governance (HFG) project will help to improve health in developing countries by expanding people's access to health care. Led by Abt Associates, the project team will work with partner countries to increase their domestic resources for health, manage those precious resources more effectively, and make wise purchasing decisions. As a result, this five-year, \$209 million global project will increase the use of both primary and priority health services, including HIV/AIDS, tuberculosis, malaria, and reproductive health services. Designed to fundamentally strengthen health systems, HFG will support countries as they navigate the economic transitions needed to achieve universal health care.

June 2016

Cooperative Agreement No: AID-OAA-A-12-00080

Submitted to: Scott Stewart, AOR
Office of Health Systems
Bureau for Global Health

Recommended Citation: Heymann, M., Picillo, B., and Riley, P. June 30, 2016. Mobile money options to facilitate payment of incentives in Senegal's RBF program: An assessment of opportunities, barriers, and solutions. Bethesda, MD: Health Finance & Governance Project, Abt Associates Inc.



Abt Associates Inc. | 4550 Montgomery Avenue, Suite 800 North | Bethesda, Maryland 20814
T: 301.347.5000 | F: 301.652.3916 | www.abtassociates.com

Avenir Health | Broad Branch Associates | Development Alternatives Inc. (DAI) | Johns Hopkins Bloomberg School of Public Health (JHSPH) | Results for Development Institute (R4D) | RTI International | Training Resources Group, Inc. (TRG)



**MOBILE MONEY OPTIONS TO FACILITATE
PAYMENT OF INCENTIVES IN SENEGAL'S
RBF PROGRAM:
AN ASSESSMENT OF OPPORTUNITIES,
BARRIERS, AND SOLUTIONS**

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

CONTENTS

Contents	i
Acronyms	iii
Acknowledgments	iv
Executive Summary	v
1. Context	1
2. Background	2
2.1. Results-Based Financing in Senegal	2
2.2. Assessment Objectives and Methodology	6
3. Findings: Mobile Money In Senegal	7
3.1. Background	7
3.2. Mobile Money Services	8
3.3. Challenges with Mobile Money in Senegal	10
4. Findings: Assessment of Mobile Money Opportunity	11
4.1. Contextual Factors	11
4.2. Views on Mobile Money Integration	14
5. Implications and Recommendations	17
5.1. Summary of Key Findings	17
5.2. Options for Integrating Mobile Payments	17
6. Considerations for Mobile Money Pilot	20
References	23
Annex A: Individuals Interviewed for Study	25



List of Tables

Table 1: 2012-2014 RBF Beneficiary Quarterly Bonus Payment Size in USD*	3
Table 2: Overview of Mobile Money Product Offerings in Senegal*	9
Table 3: Overview of Banking Transaction and Account Maintenance Fees	12
Table 4: Possible Benefits and Challenges Related to Integrating Mobile Money into RBF Program.....	15
Table 5: Financial and Non-Financial Costs Associated with Transition to Mobile Money	16
Table 6: Summary of Advantages, Barriers, and Next Steps for Mobile Money Opportunities.....	19
Table 7: Criteria for Assessing Mobile Money Products in Senegal	20

List of Figures

Figure 1: Map of Beneficiaries of Senegal's RBF Program 2015	2
Figure 2: RBF Program Reporting and Payment Procedures	5
Figure 3: Overview of Basic Mobile Money Transactions (HFG, 2013).....	8

ACRONYMS

ARTP	Autorité de Régulation des Télécoms et des Postes / Telecommunications and Post Regulatory Authority
BCEAO	Banque Centrale des États de l'Afrique de l'Ouest /Central Bank of West African States)
CBO	Community-Based Organization
CCT	Conditional Cash Transfer
CFA	Communauté Financière Africaine, West African franc
CGAP	Consultative Group to Assist the Poor
CRG	Comité Régional de Gestion / Regional Management Committee
CTGP	Comité Technique de Gestion du Projet / Project Management Technical Committee
DAGE	Directorate General of Administration and Equipment
ECD	Équipe Cadre de District / District Health Management Team
HS2020	Health Systems 20/20
HSS	Health System Strengthening
MCH	Maternal and Child Health
MFI	Microfinance Institution
MOH	Ministry of Health and Social Action / Ministère de la Santé et de l'Action Sociale
RBF	Results-Based Financing
SIM	Subscriber Identification Module
UNDCF	United Nations Capital Development Fund
USAID	United States Agency for International Development
WAEMU	West African Economic and Monetary Union

ACKNOWLEDGMENTS

This report was produced in consultation with the Ministry of Health and Social Action, the Results-Based Financing program, and the USAID Mission in Senegal. The authors thank these partners for their support and the time they dedicated to this assignment. The authors especially thank the many individuals who participated in interviews and provided their insights (see Annex I). All interviews were conducted by HFG consultant Cheikna Toure who travelled to Senegal October 4-17, 2015 to meet with the key informants.

We also thank members of USAID's Health Finance & Governance (HFG) project for their overall support and technical inputs. They include Alex Ergo and Marty Mäkinen. Marianne El-Khoury offered extensive comments to improve the final report.

EXECUTIVE SUMMARY

Background and Objectives

The United States Agency for International Development (USAID) promotes the use of electronic payment services as a means for improving access to financial services for “unbanked” populations and increasing accountability and transparency for financial flows in public sector programs. Widespread diffusion of digital payments also can introduce more advanced services including savings, credit, and insurance. Results-Based Financing (RBF) interventions link incentive payments to performance targets. RBF requires the ability to transfer and track payments, serving as a potential use case for mobile money services as a transfer mechanism. Literature on the use of mobile money for RBF payments is limited.

USAID’s Health Finance & Governance (HFG) project received core funding to identify promising applications of mobile money within health systems and provide technical assistance at the country level to support their development. At the request of Senegal’s RBF program, with concurrence from the USAID mission in Senegal, HFG’s mobile money team conducted an assessment in Senegal to explore options for integrating mobile money into the RBF program. The team sought to discover how integrating mobile money might both strengthen RBF operations and promote broader uptake of mobile money use through diffusion within the health system. Delivering RBF payments via mobile money can expose recipients to the process and value of mobile money and potentially stimulate demand for additional mobile money services within the broader community and particularly within the health sector. This paper explores opportunities and barriers and makes recommendations for a small-scale pilot to test mobile money in the RBF program.

The RBF program in Senegal is a partnership between the Ministry of Health and Social Action (MOH or Ministère de la Santé et de l’Action Sociale) and development partners. The RBF program seeks to encourage providers to deliver a high-quality, comprehensive package of services through financial incentives tied to reaching targets measured by priority indicators. The MOH enters into performance contracts directly with beneficiaries, which are the health centers (“centres de santé”), health posts (“postes de santé”) and the outreach posts or “rural maternity posts” attached to these health posts (“cases de santé” and “maternités rurales”). Referral health centers (classified as Public Health Establishment Level I centers, EPS I, or “établissements publics de santé”) have also become primary beneficiaries of the RBF program, as well as the regional and regional leadership teams for the RBF program. Bonus payments are made on a quarterly basis to beneficiaries who meet the established targets, and are tied to both qualitative and quantitative indicators related to maternal and child health (MCH) and disease control.

Specific objectives of the assessment are as follows:

1. Complete a landscape of mobile money providers and service offerings in Senegal, and assess their relative strengths and weaknesses
2. Assess whether the available mobile money products offer a solution that would improve current RBF operations to send incentive payments to beneficiaries
3. Identify the major advantages, disadvantages, risks, and other factors to consider related to mobile money integration into RBF program operations
4. Identify practical next steps for considering mobile money integration.



Methods

This assessment was done using a combination of desk review and key informant interviews. Literature reviewed included background documents on Senegal’s RBF program and mobile money research papers. Key informant interviews were conducted with thirty stakeholders representing RBF program staff, technical and financial partners interested in contributing or provide support to the RBF program (Abt Associates, the World Bank) and three leading mobile money providers in Senegal. The complete list of persons interviewed as part of the study is available in Annex I. Most interviews were semi-structured one-on-one discussions. During the interviews, respondents shared additional documentation and data that were incorporated into the analysis of this report. Site visits were conducted to two remote districts named Malem Hodar (Kaffrine region) and Medina Yoro Foulah (Kolda region) to interview RBF program beneficiaries and obtain data on the current payment process for RBF bonuses.

Summary of Key Findings

Mobile money services: Eighty percent of the Senegalese population does not have bank accounts, but mobile phone penetration is at 98 percent. Mobile money emerged in Senegal in 2008, and the regulatory environment is considered favorable for its growth. There are currently six competing digital financial services in the market offered by a mix of mobile network providers, independent enterprises, and banking institutions: Orange Cash, Tigo, Wari, Yobantel, Ferlo, and Joni. The market is changing rapidly and represents a variety of business models. Market penetration is estimated to be six percent; market share information is limited. The three largest providers (Orange Cash, Tigo Cash, and Wari) have similar offerings but each has a notable advantage. Orange Cash has the largest network of service points in Senegal, Tigo Cash offers the highest payment size limit, and Wari offers the most robust and flexible platform for managing program results.

Mobile money opportunity: The RBF program in Senegal is under transition, expanding to new districts, improving critical delays in bonus verification and approvals, and transferring responsibility for bonus payments to the World Bank. RBP partners and staff expressed interest in exploring options for use of mobile money to improve the RBF program but raised questions about the feasibility of integrating with current operations. Potential benefits from integration of mobile money in the RBF program include reduced beneficiary time visiting banks, increased trust in the program through improved access to information about payments and payment history, and lower fees. The data suggests that these benefits would be modest because the current system of banks and cash payments is working, with no evidence of leakage, theft, or great inconvenience.

The table below summarizes key benefits and challenges for program stakeholders to consider related to integrating mobile money into Senegal’s RBF program.

Possible Benefits and Challenges Related to Integrating Mobile Money into RBF Program

	Possible Benefits	Possible Challenges
RBF Program Technical and Financial Partners (Senegal HSS, World Bank)	<ul style="list-style-type: none">• Lower fees incurred for mobile money than for banking• Streamlined management and payments of RBF bonuses• Improved transparency and oversight of RBF payments• Increased access to data about RBF bonus payments	<ul style="list-style-type: none">• Financial and non-financial costs associated with transition to mobile money• Ensuring a robust IT and information system for beneficiary payment data• Operational challenges associated with mobile money integration with RBF program operations

	Possible Benefits	Possible Challenges
RBF Beneficiaries	<ul style="list-style-type: none"> • Better access to mobile money service points than banking institutions • Time and cost savings through reduced in travel time and streamlined payment distribution • Increased access to information about payments and data history • Increased trust and engagement in RBF program activities 	<ul style="list-style-type: none"> • Lack of liquidity at agent points • Beneficiaries have a mobile phone subscription to their preferred provider • Training on mobile money

Implications and Recommendations

The case for transitioning to mobile money is not compelling at this time. Yet there is value in RBF program managers becoming knowledgeable about mobile money service provider terms and piloting its use as the RBF program further matures. The findings from this assessment indicate that mobile money could bring potential benefits to the program and that there are several ways in which the RBF program could use mobile payment technologies. However, the findings do not provide a clear case that the relative value of those benefits outweigh the costs of transitioning. Other programmatic changes underway and higher priority issues regarding data collection, verification, and timely approval for payments eclipse prospective mobile money benefits.

There are limitations to what mobile money can offer to the RBF program, such as addressing delays in reporting and verifying results for payments. Since new verification and payment processes are being established, any efforts to integrate mobile money into the RBF program must be closely aligned with these current transitions and the operations of the RBF program.

There are two options for introducing mobile payments into the RBF program: [1] sending bonus payment to the recipient of the main bonus payment and [2] distributing bonus payments from the main recipient to sub-recipients. These options could be used individually or jointly. The table below summarizes advantages and barriers for each.

Summary of Advantages and Barriers for Mobile Money Opportunities

Opportunities for Mobile Money Use	Advantages	Barriers and Risks
Sending bonus payment from central account to facility manager	<ul style="list-style-type: none"> • Recipient receives bonus and a notification directly on phone, avoids bank visit • Enables management and distribution of bonuses to sub-recipients via mobile money • Fees may be lower for mobile money than bank transfer payments 	<ul style="list-style-type: none"> • Payment limits and liquidity issue • High financial cost of transitioning to mobile money; high transaction fees • Operational challenges related to transitioning to mobile money
Use of mobile money by facility managers to manage and distribute bonuses	<ul style="list-style-type: none"> • Beneficiaries can use mobile money as a flexible savings and payment mechanisms to meet needs • Data on payment history increases transparency and accountability 	<ul style="list-style-type: none"> • High transaction fees • Beneficiary awareness about mobile money • Operational challenges related to transitioning to mobile money

Proposed next steps include initiating discussions with service providers regarding their terms of service, conducting pilots to assess the operational feasibility within the RBF program, and calculating the expected costs for introducing mobile payment system. Key factors to consider related to selecting a mobile money provider include:

1. Processes to support client registration and acceptance of mobile money payments, and issues related to mobile money agent training, availability and liquidity
2. Integration of mobile money transactions with RBF verification and reconciliation processes, costs of implementation
3. Back-end systems to support timely data tracking, data visualization, and beneficiary communications.

Should the RBF program choose to not use mobile money in the near future, it would be advantageous for the program to remain informed about mobile money and other digital finance technologies that could enhance its operations at a later time.

I. CONTEXT

Mobile money enables funds to be deposited, transferred, and withdrawn through mobile phone accounts. Health programs are integrating mobile money in variety of ways: bulk payments for salaries and per diems, management of voucher and insurance schemes, and payments by consumers for health services and products. USAID promotes the use of electronic payment services as a means for improving access to financial services for “unbanked” populations and increasing accountability and transparency for financial flows in public sector programs. Widespread diffusion of digital payments can also pave the way for introduction of more advanced services including savings, credit, and insurance. USAID is committed to accelerating the adoption of mobile money services in its programs. (USAID, 2014)

Results-based financing interventions link incentive payments to performance targets. RBF requires the ability to transfer and track payments, serving as a potential use case for mobile money services as a transfer mechanism. Literature on the use of mobile money for RBF payments is limited. In a recent compendium of mobile money use cases in health, few examples were identified that use mobile payments for community health worker incentives but none for facility-based staff incentives. (HFG, 2015).

Senegal’s RBF program expressed interest in assessing the potential advantages, risks, and considerations for adopting mobile money in its program. The Senegal RBF program seeks to encourage public sector providers to deliver a high-quality, comprehensive package of services through financial incentives tied to reaching targets measured by priority indicators. USAID’s HFG project received core funding to identify promising applications of mobile money within health systems and to provide technical assistance at the country level to support their development. This assessment explores whether introduction of mobile money in Senegal’s RBF program would improve RBF operations and identifies relevant factors to consider. The findings can inform RBF programs globally about the enabling factors and barriers for introducing mobile money into RBF activities to achieve program goals.

Box 1.1—Mobile Money

Defined:

“Mobile money” consists of financial transactions that are conducted using a mobile phone, where value is stored virtually (e-money) in an account associated with a SIM card. Individuals can deposit cash onto 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.



2. BACKGROUND

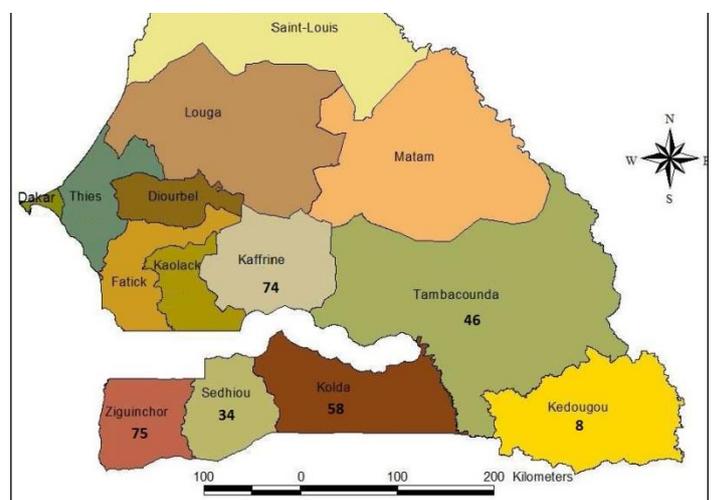
2.1. Results-Based Financing in Senegal

The Results-Based Financing program in Senegal is designed to enhance governance of health services at the central, regional and local level. The RBF program is a partnership between the Ministry of Health and Social Action (MOH or “Ministère de la Santé et de l’Action Sociale”) and development partners. USAID, first through its global program Health Systems 20/20 and subsequently through its Senegal Health System Strengthening (HSS) project, has supported the program since the design phase. The RBF program seeks to encourage providers to deliver a high-quality, comprehensive package of services through financial incentives tied to reaching targets measured by priority indicators. The MOH enters into contracts directly with the beneficiaries. Payments are made on a quarterly basis to beneficiaries who meet the established targets and are tied to both qualitative and quantitative indicators related to maternal and child health (MCH) and disease control.

Funding for the RBF program comes from USAID and Senegal’s MOH (as well as from the World Bank). Funding for RBF incentive payments is provided by the MOH in partnership with USAID. Abt Associates is a technical partner of the RBF program through the USAID-funded Senegal Health System Strengthening (“Composante Renforcement du Système de Santé”), which is one of five major USAID interventions in Senegal from 2011–2016. The World Bank also is a technical partner of the RBF program, supporting the expansion of RBF to three new regions.

Payments are based on agreements signed between the MOH and beneficiaries at three levels—regional, district, and health center/health post. The primary beneficiaries are the regional leadership teams (RHMT), district leadership teams (DHMT), health centers (“centres de santé”), and the health posts (“postes de santé”), which oversee additional outreach posts or “rural maternity posts” (“cases de santé” or “maternités rurales”). Referral health centers (classified as Public Health Establishment Level I centers, EPSI, or “établissements publics de santé”) have also become primary beneficiaries of the RBF program. The first phase of the RBF program covered all districts in the Kaffrine and Kolda regions. In 2015, the RBF program expanded to four new regions (Tambacounda, Kedougou, Sedhiou, and Ziguinchor) and increased its number of beneficiaries from 127 to 295.

Figure 1: Map of Beneficiaries of Senegal’s RBF Program 2015



The majority of the beneficiaries are in Ziguinchor (75), Kaffrine (74), and Kolda (58), and there are far fewer beneficiaries in Tambacounda (46), Sedhiou (34), and Kedougou (8). Figure 1 provides an illustration of the distribution of beneficiaries across the six regions. The beneficiary numbers include a mix of regional, district-level, health center, and health post recipients.

2.1.1. Beneficiary payments

The total payment sent to RBF program beneficiaries in the form of bonuses increased from 39,305 USD in 2012 to 388,268 USD in 2014. Program expansion, increased donor support, and improved beneficiary performance factored greatly in the substantial total payment increase. Payments range in size from 25 USD to 48,599 USD, with the largest bonus amounts awarded to referral health centers (EPSI) and the smallest bonus amounts given to health posts.

Table 1: 2012-2014 RBF Beneficiary Quarterly Bonus Payment Size in USD*

Year	Health Post	Health Center	Referral Health Centers (EPSI)	District Leadership Team	Regional Leadership Team
2012					
Average bonus payment	521	5,915	Not applicable	767	Not applicable
Minimum bonus payment	60	3,505	Not applicable	640	Not applicable
Maximum bonus payment	2,380	10,649	Not applicable	1,052	Not applicable
2013					
Average bonus payment	411	2,921	Not applicable	543	Not applicable
Minimum bonus payment	25	155	Not applicable	181	Not applicable
Maximum bonus payment	2,580	9,543	Not applicable	1,529	Not applicable
2014					
Average bonus payment	456	2,795	24,205	654	1,564
Minimum bonus payment	25	352	8,840	125	774
Maximum bonus payment	3,036	9,667	48,599	1,625	2,737

Source: Payment records shared by RBF Program

*Payments in Table 1 are the size of bonuses sent to the primary RBF bonus recipient for each participating health facility or district/regional leadership team. Data for payments in 2015 are not yet available.

2.1.2. Basis of payments and use of funds

Payments are tied to both qualitative and quantitative indicators related to MCH and disease control, implemented through contracts signed with MOH. Beneficiaries who meet established targets receive incentive payments on a quarterly basis. A combination of factors is used to determine payment amounts per district, health facility, and health post, including:

- Average number of health workers per category
- Average salary (and other allowances) per category of health worker
- Internal rules governing the use of funds (specifically percentage allocated to individual bonuses)
- Number of health facilities per type
- Indicators and their weightings.

In 2015, the MOH revised the list of indicators and introduced 24 new ones for health posts and District Health Teams. In addition to the achievement of targets for indicators related to select maternal and child health and disease control priorities, RBF payment amounts also are tied to a quality indicator.

RBF beneficiary defined:

As used in this report, **primary beneficiaries** are the recipients designated to receive and distribute RBF facility funds (paid through bank transfers). **Secondary beneficiaries** are the staff recipients of individual bonuses (paid in cash or bank transfers).

First quarter targets represent 25 percent of annual targets, second quarter 50 percent, and third quarter 75 percent. For each of the first three quarters, the amount paid in relation to the attainment of the quarterly target for a specific indicator is 20 percent of the maximum annual amount allocated to that indicator. At the end of the year, if beneficiaries reach the annual target, the balance of the annual maximum amount is paid to them. If all targets are met, total annual payments to health facilities can be as high as 32,000 USD. Costs associated with wire transactions (a percentage of wire transfer) are factored into payments received.

Beneficiary bonuses are distributed according to established rules. A percentage (25%) is earmarked for operating expenses of the facility or DHMT (i.e., to incentivize timeliness of HIS reports, delivery of RBF funds, etc.). The 25 percent earmarked for health posts is divided between the health post, health hut, and rural maternities and can be used to support operational activities that will help facilities achieve their targets. Examples of allowable activities include purchase of phone cards to send SMS message reminders to pregnant mothers or mothers who need to bring their children in for immunizations, and payment for transportation costs for pregnant women living in remote villages. The remaining 75 percent of the payment is shared among health staff at the facility or DHMT-level, in the form of individual bonuses. These payments are adjusted for salary-level, days spent working on the attainment of the targets, and other predetermined factors established by the beneficiaries. For health centers a portion of this allocation is retained for staff who may not be involved directly in the attainment of targets. The remaining portion is distributed to staff who are directly involved in reaching targets, with an amount set aside for community health workers. Facilities usually convene a meeting to discuss and distribute bonus payments which are handed out as cash.

2.1.3. Reporting and payment procedures

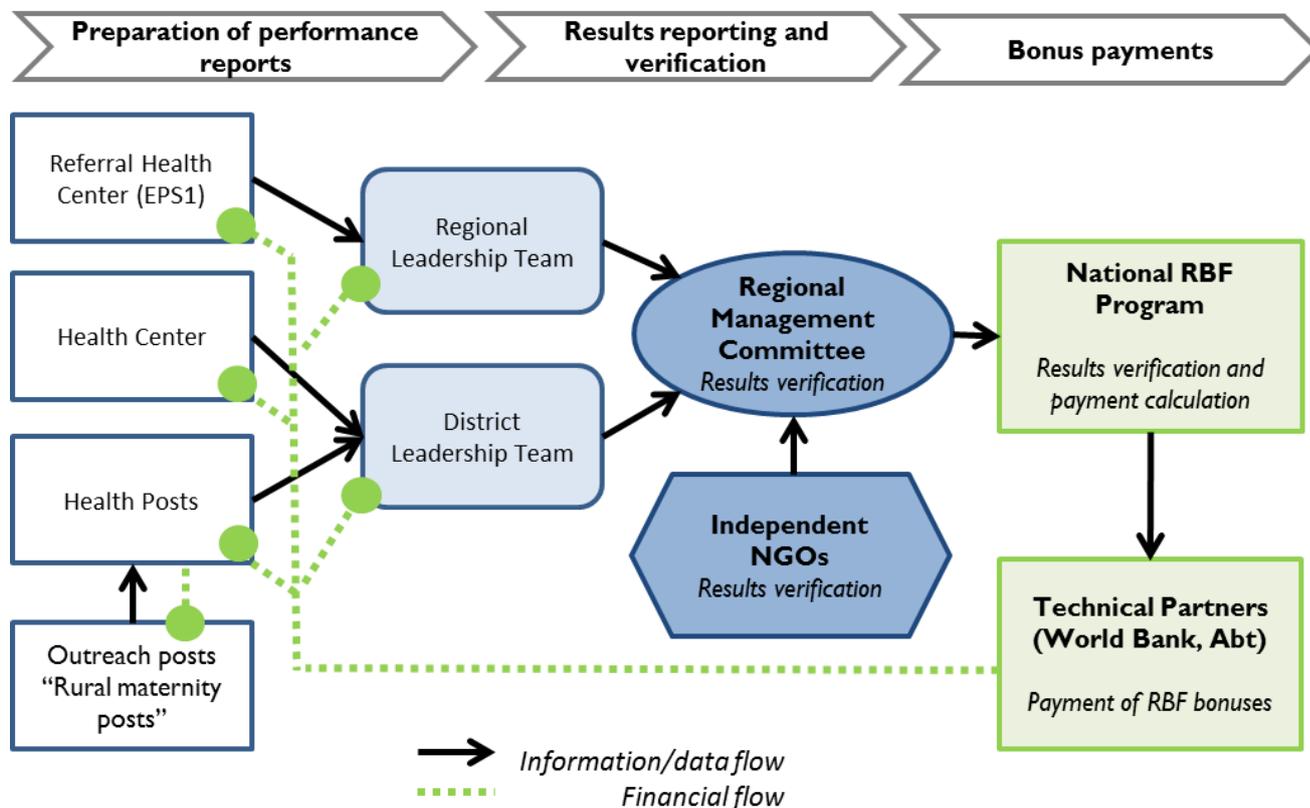
In accordance with the performance contracts, health facilities are required to submit monthly and quarterly reports on progress in achieving targets along with a quality-of-care score, to the local government, regional government and relevant administrative authority at the national level. A payment request is issued with each quarterly report submission, forwarded in both paper and electronic forms. The payment request is submitted to the national-level program support bureau after a rigorous verification process: regional management team reconciles payment request with performance report and receives verification from community-based organizations (CBOs) and audit reports. The process to verify reported results from RBF beneficiaries is currently in transition. It was previously conducted by regional committees. Now the RBF program is identifying teams of independent NGOs to manage verification going forward.

According to the RBF program rules, payments to beneficiary accounts must be made within 55 working days of quarter end. Beneficiary bank accounts are managed by the head chief medical officer at the district level and the head of training at the facility level. The primary RBF beneficiaries—the same individuals who sign the performance contract with the RBF program on behalf of the facility—are required to open and manage a bank account specifically to receive the quarterly RBF bonus payments. These recipients may select the bank most conveniently located for them. Abt maintains a record of all accounts. Two signatories are required to withdraw funds from beneficiary accounts, and the recipient of the main bonus is responsible for the distribution of the bonus to the secondary beneficiaries.

From the inception of the program through 2014, the RBF bonus payments were managed and sent by the program's technical partner, Abt Associates. Payments have been sent via bank wires/transfers from Abt's RBF account with EcoBank directly to the bank accounts of the designated primary beneficiaries. However, there are a few banks which do not accept wire transfers, requiring program staff to withdraw cash and physically walk the funds to the beneficiary's bank for wiring to branch accounts. On average it takes 24 hours (no more than 48 hours) for recipients to receive a wire transfer.

The RBF program is undergoing major change related to its incentive payment processes, whereby Abt Associates is transitioning the responsibility to send beneficiary bonus payments to the World Bank. The World Bank is preparing to send RBF bonuses to program beneficiaries for the first time for their performance in Quarter 2 of the program year (April–June 2015).

Figure 2: RBF Program Reporting and Payment Procedures



2.1.4. Successes and challenges related to RBF bonus payments

In May 2015, Abt Associates program released an evaluation of program’s performance in the Kaffrine and Kolda regions from 2012–2013. (El-Khoury, 2015). The report highlights the many successes of the program, such as the overall launch and implementation of the program in seven districts, achievement of buy-in and engagement of different stakeholders and beneficiaries involved in the program, and increased motivation and performance among beneficiaries.

The evaluation also sheds light on weaknesses of the RBF program, which include delays in results reporting attributed to paper-based reporting and lack of systematization in report compilation. One of the major challenges cited by the evaluation is a delay in sending beneficiary payments due to lags in reporting and verification. The delays reportedly diminish the motivation of beneficiaries and threaten the credibility of the program among beneficiaries. The RBF program is using these findings to make important adjustments to improve program implementation and scale up.

Building on the evaluation of the RBF program, the present assessment explored the narrow questions of whether and how use of mobile payments might improve the RBF program. Mobile payments would not address the key delays in reporting data and verifying performance indicators identified in the earlier evaluation. However, they may provide other benefits to strengthen the program once delays have been addressed. The intention of this analysis is to better understand how the funds are currently transmitted and accessed and to explore the potential impact mobile payments could have on program costs, beneficiary engagement, financial tracking, and other benefits and risks.

2.2. Assessment Objectives and Methodology

2.2.1. Objectives

The overall activity goal is to assess the feasibility of mobile money uptake by the RFB program. Specific objectives of the assessment are as follows:

1. Complete a landscape of mobile money providers and service offerings in Senegal and assess their relative strengths and weaknesses
2. Assess whether the available mobile money products offer an option that would improve current RBF operations to send incentive payments to beneficiaries
3. Identify the major advantages, disadvantages, risks, and other factors to consider related to mobile money integration into RBF program operations
4. Identify practical next steps for considering mobile money integration.

2.2.2. Methodology

This assessment was done using a combination of desk review and key informant interviews. Literature reviewed included background documents on Senegal's RBF program and information on mobile money in Senegal. Key informant interviews were conducted with 30 stakeholders representing RBF program staff, technical and financial partners providing support to the RBF program (Abt Associates, the World Bank), and the three leading mobile money providers in Senegal. The list of study respondents is included in this report as Annex I. Most interviews were semi-structured one-on-one discussions. During the interviews, respondents shared additional documents and data that were incorporated into the analysis of this report.

Site visits were made to two remote districts—Malem Hodar (Kaffrine region) and Medina Yoro Foulah (Kolda region)—to interview RBF program beneficiaries and obtain data on the current payment process for RBF bonuses.

3. FINDINGS: MOBILE MONEY IN SENEGAL

3.1. Background

Approximately 20 percent of the Senegalese population uses traditional banking systems (UNCDF 2014). However, banks have little reach in the informal economy and typically don't offer services suitable for poor and other vulnerable populations. A key player in financial inclusion in Senegal is the microfinance institutions (MFIs), including Crédit Mutuel du Sénégal, Alliance de Credit et d'Épargne pour la Production, and Partnership for Mobilizing Savings and Credit in Senegal. Microfinance branches exist in nearly every community and offer more flexible lending and banking options for informal workers and lower-income populations than the traditional bank sector. MFIs also offer promising potential for the expansion of digital financial services. According to UNCDF (2014), "MFI branches represent 75 percent of all [financial] providers' points of service available throughout Senegal."

Senegal is a leader for mobile services in the West Africa region, with more than 14.9 million registered mobile phone subscribers and 98 percent mobile phone penetration ¹(ITU 2015). Three providers comprise the total mobile network market in Senegal. In 2015, Orange led the market at 56.2 percent of market share, followed by Tigo at 22.4 percent, and Expresso Telecom at 21.3 percent (ARTP 2015).

Mobile money emerged in Senegal in 2008 and has experienced modest growth, with slower uptake than that of neighboring countries Mali and Cote d'Ivoire. It is estimated that there are approximately 900,000 registered mobile money users in Senegal or just six percent of the Senegalese population, as compared to Mali (12%) and Cote d'Ivoire (24%) (Mondato 2015). Mobile money users have conducted millions of mobile money transactions, representing the transfer of billions of West African CFA francs (CFA).

Senegal has a regulatory environment that is considered favorable for mobile money, in large part because bank-led and non-bank mobile money providers can obtain licenses for mobile money products and compete. The main regulatory body for mobile money in West Africa is the Central Bank of West African States (BCEAO),² which is responsible for issuing licenses and for overall regulation. In 2006, the BCEAO passed landmark regulation authorizing all institutions, including non-banks, to obtain licenses for mobile money. This regulation enabled mobile operators and technology companies to launch mobile money products without a bank partner as e-money distributors, but not as e-money issuers. This creates a mobile money market where a variety of different business models can co-exist and compete. BCEAO set a goal to include 30 percent of adults in digital financial services by 2020 and has produced regulations related to agent networks, know-your-customer, and customer protection to support digital financial growth (UNCDF 2014). Regulations were updated in May 2015 expanding options for mobile operators to issue mobile money products directly without bank partners (BCEAO 2015).

¹ Mobile money penetration is different from unique users, and many users have more than one subscription (meaning that penetration may actually be lower relative to total population). However, many users also share their SIM card with family and friends (meaning that access to mobile services may actually be higher relative to total population). Because these two factors offset one another, the percent of subscription relative to total population is commonly used to measure market penetration.

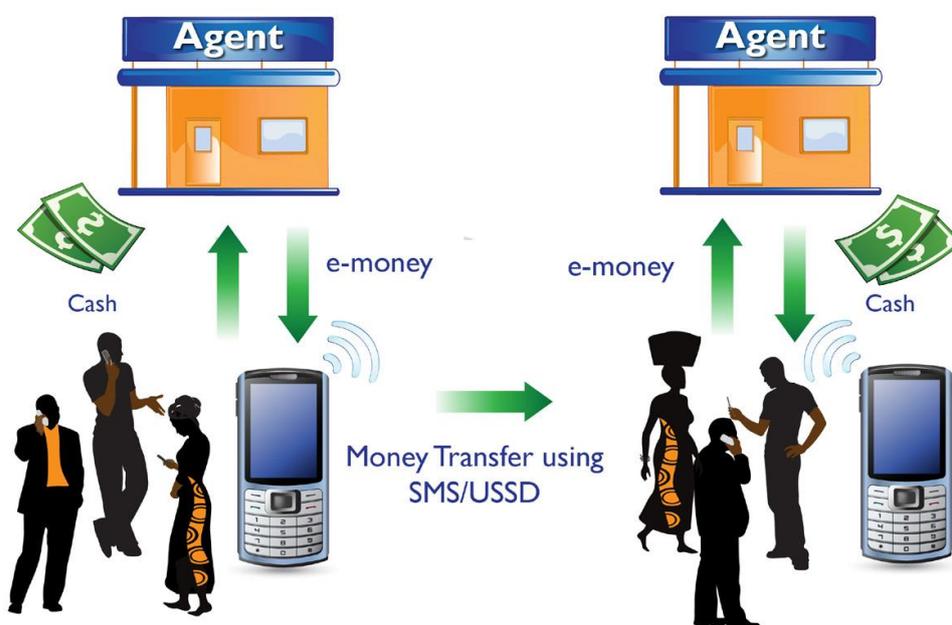
² "West African Economic and Monetary Union (WAEMU) is a customs and monetary union of the republics of Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal, and Togo. The Central Bank of West African States (BCEAO) is the common central bank of the eight member states of WAEMU." (CGAP 2011)

The regional regulatory framework of BCEAO enables mobile money growth by facilitating providers to easily work across multiple countries in the region. Providers can use their investments in mobile money infrastructure in one country to more easily expand their presence and scale across multiple neighboring countries. Providers that work across country borders can also capitalize on offering remittances, which represent a large share of mobile money transactions in the West Africa region (CGAP 2011).

3.2. Mobile Money Services

There are currently six competing mobile money products in the market offered by a mix of mobile network providers, independent enterprises, and banking institutions: Orange Cash, Tigo, Wari, Yobantel, Ferlo, and Joni. The market is changing rapidly and represents a variety of mobile money business models. Adequate market share information is unavailable due to limited sharing of competitive information. Figure 3 below illustrates a common model for mobile money systems which rely on a network of agents where end users can convert between cash and digital money stored on a customer's mobile account.

Figure 3: Overview of Basic Mobile Money Transactions (HFG, 2013).



The largest mobile money deployments in Senegal (Orange and Tigo) are led by mobile network companies in partnership with bank partners. Wari and Ferlo were launched independently by telecom companies (without an initial bank partner), Yobantel is led by a bank (Société Générale), and Joni was created by a third-party provider. Detailed market share for mobile money operators was not available across all providers.

For the purposes of this assessment, interviews were conducted with the three leading mobile money service providers in Senegal, Orange Cash, Tigo, and Wari. A summary of their product offerings and their relative advantages and disadvantages are described below and in Table 2. Mobile money models and terms of service evolve rapidly in response to changing market conditions, so the data presented here are a snapshot and likely to change.

- Orange Cash:** Orange Senegal was the first mobile operator in Senegal to market a mobile money product in Senegal, launching Orange Cash in 2010 in partnership with the commercial bank Banque Internationale pour le Commerce et l'Industrie du Sénégal (BICIS). Orange reports that it is the leading provider of mobile money services, building on its strong presence in

Senegal with more than 8.3 million network subscribers. Orange also operated in Senegal's neighboring countries and is working to enable payments for Orange Cash subscribers across borders. The transaction threshold offered by Orange Cash is 1 million F CFA (2,490 USD), which is lower than other mobile money providers.

- Tigo:** Mobile operator Tigo, launched Tigo Cash in 2014 in partnership with Millicom and Ericsson. Tigo Cash offers mobile money services that include making payments, storing, transferring, and withdrawing money, as well as making bill and merchant payments and an e-wallet. Tigo Cash has rapidly established itself as one of the leading mobile money services in Senegal. In comparison to other mobile money products, one of the advantages offered by Tigo Cash is a high transaction threshold of five million F CFA (equivalent to 8,000 USD). Tigo has a smaller number of service points than other providers (4,000 service points), in large part because of its emphasis on offering e-wallet services, where e-money is stored electronically rather than being cashed-out.
- Wari:** Wari is a mobile money product developed by Cellular Systems International, a group of Senegalese entrepreneurs. Similarly to other mobile money products in Senegal, Wari can be used to send and receive payments and make bill payments. Wari's product offerings include mobile wallets, e-payments, payment cards, accounts for salary disbursements, and international remittances. A large part of Wari's value proposition is that it offers its clients virtual accounts to manage payments online and an interactive platform with access to electronic records of mobile money transactions that can be tailored based on client needs. It currently offers a large network of mobile money service points in Senegal, with more than 2,000 agents distributed throughout the country, including all of the districts in which the RBF program operates. Wari's payment threshold is 3,000,000 F CFA (4,988 USD), which is lower than some of the payments that are sent to RBF beneficiary bonuses.

Table 2: Overview of Mobile Money Product Offerings in Senegal*

	Orange Cash	Tigo Cash	Wari
Telecom company	Sonatel	Millicom	Cellular System International
Date of launch	2010	2014	2008
Technology partners	Comviva	Ericsson	Cellular System International
Bank partners	BICIS	Banque Atlantique ; ECOBANK ; Bank of Africa	Microcred; United Bank for Africa UBA; PAMECAS
Product offering	Bill payment; merchant payment, person-to-person transfer (domestic only), international remittances, airtime top-off	Bill payment; merchant payment, person-to-person transfer (domestic only), airtime top-off	Bill payment; merchant payment, P2P transfer (domestic only), top-off; virtual accounts for salary disbursements; interactive web platform to manage payments
# Total registered cell phone accounts	8.3 million	3.4 million	<i>Not available</i>
# Mobile money subscribers	<i>Not available</i>	<i>Not available</i>	<i>Not available</i>
# Mobile money transactions per day	250,000/day	<i>Not available</i>	65,000/day
# Service points	5,000	4,000	2,000
Maximum transaction amount	1,000,000 F CFA 2,490 USD	5,000,000 F CFA 8,307 USD	3,000,000 F CFA 4,880 USD
Transaction fee	1.5 -7% of the transaction amount	4.5% of the transaction amount	1-6% of the transaction amount

	Orange Cash	Tigo Cash	Wari
Other fees	Cash-out fee: 1-10,000 F CFA = 6%	<i>Not available</i>	No cash-out fee

Note: This table was developed using information shared by mobile money providers in Senegal. Some information was unavailable due to the reluctance of companies to share information due to competitive positioning.

Other notable mobile money providers include Joni, Yobantel, and Ferlo. While interviews were not conducted with these providers during this assessment, they have a growing user base and presence in Senegal.

- **Joni** is a mobile money and electronic payment system developed by Boygues Systems Solutions Limited (BOSS). Joni has a network of more than 4,000 points of service at banks, gas stations, individual agents, and MFIs among others. Joni services can be used to send or receive money, pay bills, shop online, make health care payments, and pay salaries.
- **Yobantel:** In 2010, Société Générale, one of the largest European financial services group partnered with Obopay, a global mobile payment solution company, to launch the Yobantel mobile payment platform. Yobantel leverages the extensive networks of the Société General de Banque on Senegal (SGBS) and the largest MFI in Senegal, Credit Mutuel du Senegal (CMS), telecom provider Tigo and Canal Sat, a satellite provider, for distribution of services. Yobantel can be used to send or receive money and for bill payment. It is compatible with all phones and does not require a specific carrier. Registration for Yobantel can be done by an SGBS or CMS agent and is relatively easy, requiring only an ID and completion of a form. There are no fees associated with opening an account or receiving money. A small fee is applied to transfers.
- **Ferlo:** FERLO was licensed in 2008 as the first non-bank e-money issuer in the region. It originated as a smart-card provider for MFIs and then received an “e-money license” in order to offer prepaid cards to countries in the WAEMU region. Ferlo services are available through ATMs and are not affiliated with mobile agents.

3.3. Challenges with Mobile Money in Senegal

Major supply-side challenges with mobile money in Senegal are infrastructure and agent liquidity. Mobile money providers have established service points (also referred to as agents) throughout Senegal, but the majority is concentrated in urban areas. Service providers are increasing the number of mobile money service points in rural areas, but agents may not be situated in areas that are convenient rural populations. Agents typically have limited amounts of cash available, and the amount they have varies. Agent recruitment, training, and support are major investments for mobile money providers and combined are the largest barrier to rapid scale up.

Barriers to uptake of mobile money among Senegal’s population include (1) lack of consumer education and awareness about its value and (2) illiteracy. Trends show that mobile money lags behind in rural areas, particularly by low-income populations. Senegal has a 50 percent illiteracy rate among adults, with a higher concentration of illiteracy in rural areas and among low-income population segments that are typically underserved by financial services, including mobile money (UNDCF 2014).

4. FINDINGS: ASSESSMENT OF MOBILE MONEY OPPORTUNITY

The key finding of this assessment is that transitioning to mobile money is likely to provide modest benefits but is not a near-term priority due to the more critical challenges facing the program related to data reporting and verification processes. The reporting and verification delays—unrelated to the method of transmitting the funds—contribute to very slow payment approvals and undermine the program’s credibility. Although the current transmission mechanisms for the RBF payments (bank transfers and cash disbursements) do not pose major problems once the payments are approved, the introduction of mobile money offers some promising opportunities to improve program results. Below are some contextual factors to inform decisions regarding the costs and benefits of transition to mobile payments, followed by views on mobile money integration provided by RBF program staff, partners, and beneficiaries. The major benefits and challenges associated with integrating mobile money into RBF program operations are summarized in the “Benefits and Challenges” section.

4.1. Contextual Factors

4.1.1. RBF program

- **The RBF program is in a period of rapid expansion and change.** In 2015, the RBF program expanded its operations to four new regions, and in the year ahead it will continue to make major changes to its operations, including adapting its processes for results verification and payment approvals. Efforts to integrate mobile money into RBF program operations should be considered within the context of the overall program and its priorities.
- **Paper-based results reporting and verification processes contribute to delay in paying beneficiaries.** The results reporting system used by the RBF program is paper-based. It takes the program several months for the RBF program to collect reported results and consolidate them, which then delays payments to beneficiaries. Possible efforts to transition data collection to digital format may offer opportunities for integration with mobile money applications. Verification of results has also been delayed. Results from the second quarter (April–June 2015) had not yet been reviewed or verified as of December 2015, further delaying those payments to beneficiaries. The verification process is transitioning to management by community-based organizations and may undergo additional process changes. Once the results are verified, the beneficiary payments are sent via bank transfer within 24 hours.
- **RBF program pays banking transaction and account maintenance fees.** The RBF program pays a relatively high banking fee for bank transfers from the central project bank account to beneficiary bank accounts as well as account maintenance fees. The fees associated with the bank transfers to each bank working with the RBF program and associated account maintenance fees are as follows:



Table 3: Overview of Banking Transaction and Account Maintenance Fees

Bank	Transaction Fees	Account Maintenance & Withdrawal Fees
Société Générale de la Banque du Sénégal	525 F CFA (0.9 USD)	26,000 F CFA (44.0 USD) per quarter per beneficiary account
Compagnie bancaire de l'Afrique occidentale	525 F CFA (0.9 USD)	50,000 F CFA (84.6 USD) per quarter per beneficiary account
Caisse Nationale du Crédit Agricole du Sénégal	200 F CFA (0.3 USD)	15,000-20,000 F CFA (25.4-33.9 USD) per quarter per beneficiary account
La poste	500 – 1,000 F CFA (0.8-1.6 USD)	6,000 F CFA (10.2 USD) per quarter per beneficiary account
Crédit Mutuel du Sénégal	10% of transaction amount	500-2,500 F CFA (0.85-4.2 USD) per beneficiary withdrawal

Source: Key informant interviews and bank fee schedules

Overall, transaction fees are a significant cost that is important to factor into the calculation of the overall bonus payments. If these payments were sent via mobile money, it can be expected that the transaction fees would be slightly lower.

4.1.2. Partners

- The World Bank is assuming responsibility for sending RBF beneficiary payments.** The World Bank will be managing and sending RBF bonuses to beneficiaries going forward. The World Bank has demonstrated interest in the possibility of using mobile money to send beneficiary payments and it is preparing a request for applications to solicit responses for mobile money solutions. The World Bank has long promoted universal access to financial services through digital financial solutions as a critical bridge out of poverty. This assessment of options, benefits, and risks of transitioning to mobile money platforms for the RBF program will help to guide their decisions.
- The Cellule de Lutte contre la Malnutrition has chosen not to use mobile money for its conditional cash-transfer program.** The World Bank has provided funding to the Cellule de Lutte contre la Malnutrition (a program housed in the Office of the President to coordinate nutrition policy and projects) to develop a pilot project for conditional cash transfers (CCT). From March 2015 to March 2016, the Cellule de Lutte contre la Malnutrition conducted a “pre-pilot” in the Kounghoul and Gossas districts (Kaffrine and Fatick regions, respectively) to inform the design of the CCT pilot. The team carrying out the “pre-pilot” explored the possibility of using mobile money to disperse cash transfers and identified major challenges with mobile money. The team’s exploration resulted in the decision to distribute the CCT payments to recipients in cash rather than by mobile. The key barrier to using mobile money is that its CCT recipients do not have cell phone and are unfamiliar with mobile money. It also found that illiteracy poses a barrier to mobile money uptake and use among the target population. In addition, it was inconvenient for the target population (pregnant women) to walk or travel to mobile money service points. The Cellule de Lutte contre la Malnutrition will release a report in early 2016 with the key findings from the pre-pilot of the CCT program.

4.1.3. Beneficiaries

- Beneficiaries have relatively good access to financial banking institutions.** RBF primary beneficiaries typically travel to their local bank branch to pick-up the quarterly RBF performance bonus and distribute the payment according to agreed-upon terms (75% of the bonus is distributed to personnel at the health facility and 25% is invested into the health facility for quality improvement). With good access to bank branches, the case for use of mobile money is weak. While banking branches are widely available and accessible to many RBF beneficiaries, in the more remote areas in which the program operates, the nearest banking and financial

institutions are within nine to 17 kilometers of RBF beneficiaries. There is also a security risk associated with recipients picking up the bonuses in cash at the bank branch. Of note, no incidents have been reported to date.

- **RBF bonus payments are extremely slow.** Beneficiaries perceive the bonus payments to be extremely delayed. For example, one beneficiary stated :

"Ça dure. ...On est au troisième trimestre de l'année. Jusqu'à présent, on n'a pas encore reçu nos bonus de FBR de l'année 2015."

("That's hard. ... We are in the third quarter of the year. So far, we have not yet received any RBF bonuses for 2015.")

- Delays with RBF bonus payments contribute to decreased motivation and engagement of beneficiaries in relation to RBF program activities, which concurs with the findings from the program evaluation (Khoury, 2015). As noted in the section on RBF program factors, transitioning to mobile money payments will not address the causes of these delays. Inclusion of a new payment mechanism before fixing the underlying issues with delayed reporting and verification could raise false hopes among beneficiaries that mobile payments on their own will result in more timely bonuses. **Lack of information and transparency about RBF bonuses.** There is no process to notify beneficiaries when the RBF bonus is sent or ready to be withdrawn at their local bank branch. As such, beneficiaries are often unaware that their bonus has been sent, and they do not retrieve it for several weeks or months. The primary beneficiary (e.g., the person holding the bank account for the health post or center and a second individual with signatory authority) picks up the payment and distributes it to the secondary beneficiaries (individuals eligible to receive the bonus). These secondary beneficiaries are not informed about their payment amount and how it directly ties to their performance or the reported results they submit. They also cannot readily access records of their past payments. This presents a key opportunity for program improvement through mobile-based transfers and notifications. The current payment process creates a risk of lack of accountability and a potential risk of fraud, as suggested by a respondent during an interview:

"Le FBR, c'est de l'argent pour le poste de santé... Il peut y avoir des esprits mal intentionnés qui, percevant l'argent, vont le retirer et viennent s'asseoir tout simplement. Et ils ne disent à personne qu'ils l'ont reçu, donc ne font pas peut être le partage qu'ils doivent faire, n'intéressent pas les autres."

("The RBF money is for the health post. There could be someone with a malicious intent who could retrieve the money, and then simply sit with it, without telling anyone they received the payment, and without sharing it the way they're supposed to, they don't care about others.")

- **Lack of awareness about banking fees among primary beneficiaries.** Each recipient of the main bonus payment must open a bank account used exclusively by the primary beneficiaries to receive the RBF bonuses. Account holders pay various banking fees to maintain their accounts, such as withdrawal fees (500–2,500 F CFA at Crédit Mutuel du Sénégal CMS), monthly account management fees (2000 F CFA / month for La Poste, and 23,400 F CFA / month for ECOBANK), or quarterly fees (15,000-50,000 F CFA for Caisse Nationale du Crédit Agricole du Sénégal and Compagnie bancaire de l'Afrique occidentale). Beneficiaries lack information on the banking fees they incur for their RBF payment bank accounts. According to one beneficiary:

"La banque défalque souvent des AGIOS... Moi je ne comprends pas trop, je ne sais pas combien ils prélèvent"

("The bank frequently deducts fees... I don't understand too much, I don't know how much they collect.")

4.2. Views on Mobile Money Integration

- **RBF program staff and partners express interest in the possibility of using mobile money to send bonus payments to beneficiaries.** RBF program staff and technical and financial partners, the World Bank and Abt Associates, expressed interest in mobile money as a possible solution for sending and distributing RBF bonus payments. They demonstrated support for this study by participating in interviews, sharing documents and data, and facilitating site visits to two areas where the program operates (Malem Hodar in Kaffrine region and Medina Yoro Foulah in Kolda region). RBF program staff and partners also raised key questions about the feasibility of integrating mobile money with current RBF operations and payment processes.
- **High levels of awareness about mobile money among mobile money beneficiaries and RBF program and partners.** Nearly all the individuals interviewed during this assessment demonstrated high levels of awareness and receptiveness to mobile money use in general and reported regular use of mobile money to money to relatives, for bill payments, and to purchase goods. Interviews showed that respondents view mobile money as a convenient, efficient, and reliable mechanism to send and receive money, and respondents reported that they would appreciate having access to information and notifications about payments and transactions. Familiarity with mobile money would likely be lower among beneficiaries as the program scales to more rural areas (UNCDP 2014).
- **Mobile money providers have experience working with programs similar to Senegal's National RBF program:** Some of the mobile money providers interviewed during the trip reported experience working with similar programs to Senegal's National RBF program, both within and outside of the health sector. They cited payments for premiums, salaries, per diems, student schooling fees, and food vouchers as examples and demonstrated interest in working with these programs and in expanding their services.
- **Some RBF beneficiary payments are too large to send via mobile money.** Given that the bonuses sent to RBF beneficiaries range from less than 1,000 USD to more than 10,000 USD, some of these transaction amounts are higher than the payment threshold limits set by mobile money providers (2,500–8,300 USD). Yet, the transaction limits of mobile money providers are sufficiently high that they do not preclude the possibility of using mobile payments to send RBF bonuses. Further analysis is needed to verify which bonus payments exceed transaction thresholds. The mobile money providers included in this assessment have expressed willingness to discuss possible solutions to this issue such as breaking payments in multiple smaller transactions.

4.2.1. Possible benefits and challenges associated with mobile money

For the RBF Program, mobile money platforms may offer one option for efficiently managing and sending payments to beneficiaries. Many health posts and health centers in Senegal are not located near bank branches, requiring staff to bear time and financial costs associated with travel and transactions in order to collect their RBF bonus payments. Moreover, distribution of beneficiary bonuses may be in cash, creating potential security concerns. Mobile money systems can also improve record-keeping through real-time transaction records, increasing accountability and reducing leakage. One of the leading mobile money services in Senegal, Wari, offers an interactive Web platform that enables access to data on payment history for managers of the RBF program as well as beneficiaries. This could be an asset to the RBF program to manage its payment data.

For beneficiaries, mobile money could increase their awareness about payments, including when they are sent and the bonus amounts, which could result in deepened beneficiary engagement and trust in the RBF program. Currently, RBF beneficiaries lack information about their bonus payments; they cannot access data on their previous bonuses, they don't know when they will receive their next bonus, and they do not have information about how their bonus is tied to their performance. Mobile

money technologies could provide beneficiaries with notifications about when funds are deposited in their account and give them access to electronic payment records. Ultimately, engaging beneficiaries more deeply into the program and providing them with data about their bonus payments could contribute to improvements in their performance, which would support the objectives of the RBF program. During interviews, beneficiaries indicated a high level of familiarity with mobile money and an interest in using it as part of the RBF program, so it is likely that they could rapidly adopt and use mobile money if it were introduced into the program.

While mobile money products could be advantageous to Senegal’s RBF program, there are also notable challenges that could arise during mobile money integration. One of the key challenges to be addressed is the issue of agent access and agent liquidity. On any given day, if all the health workers from a health center received their RBF bonus via mobile money and went to cash it out at the nearest agent point, it is unlikely that the agent would have sufficient liquidity. During interviews, mobile money providers shared that they are working to address these challenges and are willing to discuss possible solutions in areas where the RBF program operates. For example, if providers receive advance notice about payout days, they could guarantee commissions and sufficient liquidity.

Additionally, it is important to manage expectations within both program staff and its beneficiaries about what it can and cannot address. For example, beneficiaries interviewed as part of this assessment interpreted mobile money to be a solution to the delays they have experienced in receiving payments in the past year. Current delays faced by the program in paying RBF bonuses are largely attributable to delays in results reporting and the ongoing transition of responsibility for verifying results and approving payments to beneficiaries. Mobile payments cannot directly address delays in reporting and verifying results and calculating payments. Since new verification and payment processes are being established, any efforts to integrate mobile money into the RBF program must be closely aligned with these current transitions and the operations of the RBF program.

Table 4 summarizes key benefits and challenges for program stakeholders to consider related to integrating mobile money into Senegal’s RBF program.

Table 4: Possible Benefits and Challenges Related to Integrating Mobile Money into RBF Program

	Possible Benefits	Possible Challenges
RBF Program and Technical and Financial Partners (HSS Project, World Bank)	<ul style="list-style-type: none"> • Fees incurred for mobile money may be lower than banking fees • Streamlined management and payments of RBF bonuses • Improved transparency and oversight of RBF payments • Increased access to data about RBF bonus payments 	<ul style="list-style-type: none"> • Financial and non-financial costs associated with transition to mobile money • Ensuring a robust IT and information system for beneficiary payment data • Operational challenges associated with mobile money integration with RBF program operations
RBF Beneficiaries	<ul style="list-style-type: none"> • Better access to mobile money service points than banking institutions • Time and cost savings through reductions in travel time and streamlining payment distribution • Increased access to information about payments and data history • Increased trust and engagement in RBF program activities 	<ul style="list-style-type: none"> • Lack of liquidity at agent points • Beneficiaries have a mobile phone subscription to their preferred provider • Training on mobile money may be required

4.2.2. Cost considerations associated with integration

The team carrying out this study adapted and applied the USAID NetHope Costing Utility Analysis Tool (USAID, 2015) in order to identify potential costs for the RBF program to transition using mobile money. Table 5 summarizes some non-financial and financial costs related to sending RBF

payments via bank transfer, distributing them among beneficiaries in cash, and the use of mobile money. Additional analysis is needed to quantify both the non-financial and financial costs associated with transitioning to a mobile money payment system and using mobile payments.

Table 5: Financial and Non-Financial Costs Associated with Transition to Mobile Money

	Payments to RBF Beneficiaries via Bank Transfers	Cash-Based Distribution of RBF Bonuses by Beneficiaries	Mobile Money
Non-financial costs	<ul style="list-style-type: none"> • Lack of transparency • Lack of access to data and information • Potential for fraud • Accountability of staff 	<ul style="list-style-type: none"> • Time and security risk associated with cash pick-up and distribution • Lack of transparency • Potential for fraud • Accountability of staff 	<ul style="list-style-type: none"> • Liquidity issues
Financial costs	<ul style="list-style-type: none"> • RBF program staff salary for individuals conducting data entry and reconciliation • Bank fees 	<ul style="list-style-type: none"> • Salary for beneficiaries picking up and distributing RBF bonus payment • Costs for vehicle and fuel to pick up RBF payment 	<ul style="list-style-type: none"> • Costs associated with setting up mobile money platform • RBF program staff salary to attend trainings on mobile money • Mobile money transaction fees

5. IMPLICATIONS AND RECOMMENDATIONS

This study was conducted to assess whether mobile money provides benefits for the RBF program to send bonus payments to its beneficiaries. This report provides an overview of the mobile money landscape and the leading three mobile money providers in Senegal, as well as findings from interviews with key stakeholders, partners, and beneficiaries of Senegal's RBF program. The case for transitioning to mobile money is not compelling at this time, but there is value in RBF program managers becoming knowledgeable about mobile money service provider terms and piloting its use as the RBF program further matures.

5.1. Summary of Key Findings

Mobile money could bring potential benefits to the RBF program including reduced beneficiary time visiting banks, increased trust in the program through improved access to information about payments and payment history, and lower fees. The data suggests that these benefits would be modest because the current system of banks and cash payments is working, with no evidence of leakage, theft, or great inconvenience. Given other programmatic changes underway and higher priority issues regarding data collection, verification and timely approval for payments, the findings do not provide a clear case that the relative value of those benefits outweigh the costs of transitioning.

To assess the relative costs and potential complexities for back-end integration with RBF systems, negotiations with mobile money providers on services and terms are needed. Regarding the scope and capacity of mobile money providers, the three largest providers (Orange Cash, Tigo Cash, and Wari) have similar offerings but each has a notable advantage. Orange Cash has the largest network of service points in Senegal, Tigo Cash offers the highest payment size limit, and Wari offers a robust and flexible platform for managing program results. Key factors to consider during discussions with mobile money providers include technical mobile money service and product offerings, coverage of key target zones and agent network, transaction size limits, back-end integration and reporting capability and cost implications.

Below we present two options for piloting the introduction of mobile payments to strengthen the RBF program. Additional information on criteria to assess mobile money products in Senegal and topics to consider for terms of agreements are presented in more depth in Section 6.

5.2. Options for Integrating Mobile Payments

Based on this assessment, we have identified two promising ways that the program could use mobile money, discussed below and summarized in Table 6.

1. **Sending bonus payment to the primary beneficiaries of the bonus payment:** A first option is for the RBF program to send bonus payments via mobile money to the heads of health facilities. With this approach, the payments would be sent to the same recipients who have been receiving RBF bonuses on behalf of their facility via mobile money instead of a bank transfer. By sending the bonus payments to recipients via mobile money instead of bank transfer, they can easily distribute the payments to their staff and health facility using mobile payments. Two possible barriers to consider with this approach are payment size and cash liquidity, which need to be explored further with mobile money providers to identify possible solutions (such as ensuring that agents have sufficient liquidity at the time of bonus payments, and either increasing transaction limits or enabling multiple payments).

Mobile money could gradually be phased into the program by offering as a payment option for beneficiaries situated in areas with adequate mobile money service coverage. Recipients could opt to receive payments via mobile money or bank transfer

- 2. Distributing bonus payments from the primary beneficiaries to the secondary beneficiaries:** Mobile money offers a flexible payment mechanism for beneficiaries to store and send their RBF bonus for the 75 percent distributed to the secondary beneficiaries, the health facility personnel. Regardless of the manner in which heads of facilities that serve as the main recipient of the bonus receive the bonus (i.e., currently bank transfer or potentially mobile money in the future), they could potentially use mobile money to distribute the amounts owed to workers at the facility level.

If the head-of-facility/manager recipient receives the bonus via mobile money transfer, he/she could easily use his/her mobile money account to manage and distribute the bonus through mobile money. One feature of mobile payment platforms that could be of particular interest to beneficiaries is an e-wallet, which could be used to store the entire bonus payment or a portion of it. For example, some health personnel may not be available to pick up their cash bonus. E-wallets would eliminate the risk of fraud or theft associated with storing cash.

If the RBF program continues using bank transfers to send bonus payments to the primary beneficiaries, the recipients would need to retrieve the cash and visit a service point to convert it to mobile money. At this time, Senegal's banks do not offer products or services that automatically convert bank funds into mobile money credit. While the extra step to convert cash to mobile money could be inconvenient for primary beneficiaries, it may be worthwhile due to the increased transparency and security offered by mobile payments in comparison to cash. A potential barrier to this approach is that the recipient could incur high transaction fees from both the bank and the mobile money provider, which would need to be factored into the payment amount.

The advantages and potential barriers and risks for each of these proposed approaches are summarized in Table 6. The options presented in this section could be used individually or jointly. We considered a third option of the RBF program sending payments directly to the individual clinic staff qualifying for the bonuses. We did not include it because it risked undermining strengths in the current arrangement in which facility staff work as a team with the facility director leading group decisions about how the bonuses are to be disbursed to maximize local ownership and flexibility. The idea was not to change the power dynamics within the program but merely to facilitate more efficient and transparent payments when they happen.

Table 6: Summary of Advantages, Barriers, and Next Steps for Mobile Money Opportunities

Opportunities for Mobile Money Use	Advantages	Barriers and Risks	Possible Next Steps
I. Sending bonus payment from central account to facility manager	<ul style="list-style-type: none"> • Recipient receives bonus and a notification directly on phone • Enables management and distribution of bonuses to sub-recipients via mobile money • Fees may be lower for mobile money than bank transfer payments 	<ul style="list-style-type: none"> • Payment limits and liquidity issue • High financial cost of transitioning to mobile money; high transaction fees • Operational challenges related to transitioning to mobile money 	<ul style="list-style-type: none"> • Discussions/negotiations with providers (see Section 5) • Costing of transition to mobile money • Mobile money pilot and evaluation
II. Use of mobile money by facility managers to manage and distribute bonuses	<ul style="list-style-type: none"> • Beneficiaries can use mobile money as a flexible payment mechanisms to meet needs • Data on payment history increases transparency and accountability 	<ul style="list-style-type: none"> • High transaction fees • Beneficiary awareness about mobile money as bonus payment option • Operational challenges related to transitioning to mobile money 	<ul style="list-style-type: none"> • Discussions/negotiations with providers (see Section 5) • Cost of transition to mobile money • Mobile money pilot and evaluation

Ultimately, it is the choice of the RBF program and its partners whether to pursue mobile money as a payment solution for its beneficiary bonuses. Essential next steps to evaluate possibilities for mobile money integration into the RBF program are to:

1. Continue discussions with service providers
2. Conduct pilots to assess the operational feasibility of using mobile payments
3. Complete a costing exercise to analyze the expected costs for transitioning to and using a mobile money payment system.

If the RBF program chooses not to use mobile money in the near future, it would be advantageous for the program to remain informed about mobile money and other digital finance technologies that could enhance its operations. Mobile money is experiencing rapid uptake and expansion in Senegal, and it can be expected that mobile money providers will continue to emerge and strengthen their offerings and services. For example, Tigo Cash was launched in 2014 and has become a leading competitor in the mobile money market within less than two years. Wari, which began operating in Senegal in 2009, continues to develop its services to remain competitive and is further developing its data management capabilities and interfaces. These providers and others are actively working to address issues such as access to agent points and agent liquidity. They are growing their subscriber numbers and increasing familiarity with mobile money across the country. In all, mobile money is a promising solution for the RBF program to continue to explore in both the short- and longer-term as a possible solution for its work.

6. CONSIDERATIONS FOR MOBILE MONEY PILOT

While the previous sections have presented possible options of mobile money integration for the RBF program to consider, the following section details key considerations for the design and implementation of a mobile money pilot for Senegal’s RBF program. These considerations are applicable for all options previously presented (as well as other options that could be identified in the future).

- **Selecting one or multiple mobile money operators.** The RBF program could work with either a single or multiple providers in order to leverage their respective service networks and allow beneficiaries to subscribe to their preferred provider. Trade-offs for working with multiple providers include increased complexity to manage the relationships and respective service requirements and potentially higher fees due to lower volume of service per provider.
- **Criteria for assessing mobile money products in Senegal.** Key considerations related to selecting a mobile money provider include processes to support client registration and acceptance of mobile money payments, issues related to mobile money agent training, and availability and liquidity. Others include integration of mobile money transactions with RBF verification and reconciliation processes, costs of implementation, and back-end systems to support timely data tracking, data visualization, and beneficiary communications.

Table 7: Criteria for Assessing Mobile Money Products in Senegal

Criteria	Description
Acceptability	<ul style="list-style-type: none"> • Compatibility with different mobile phone carriers • Acceptability by RBF program and partners • Acceptability by RBF beneficiaries
Access to data	<ul style="list-style-type: none"> • Accessibility of data on transaction history
Costs	<ul style="list-style-type: none"> • Fees: Transaction fees, cash-out fees • Financial costs: Costs for integrating mobile money technology and information platform into RBF operations and administrative costs for managing payments • Non-financial costs: Time, staff LOE
Flexibility	<ul style="list-style-type: none"> • Availability of service/agents
Operational requirements	<ul style="list-style-type: none"> • Operational needs for managing payments • Registration requirements (Name, ID card, address) and processes offered to support client registration and acceptance of mobile money payments • Automated communications with beneficiaries and implementing partners
Scalability	<ul style="list-style-type: none"> • Liquidity; mobile money agent training and availability
Payment size limit	<ul style="list-style-type: none"> • Maximum payment amount per mobile money transaction

Source: Adapted from Delivering Money: Cash Transfer Mechanisms In Emergencies, Paul Harvey, Katherine Haver, Jenny Hoffmann And Brenda Murphy, Humanitarian Outcomes, The Save the Children Fund, 2010. [Available online.](#)

- **Aligning mobile money services with RBF program operations.** The RBF program may need to make adjustments to its program structure and operations to accommodate a shift towards using mobile money payments. As such, it is essential for mobile money service operations to be closely integrated with the RBF operations, particularly if integration necessitates a need to change the overall operations of the RBF program.
- **Negotiating terms that are suitable for RBF program and its beneficiaries.** It is necessary for the RBF program to negotiate terms of agreement with providers that meet the

needs of the program and its beneficiaries. For example, the RBF program could request that automated alerts be sent to all sub-recipients of bonuses. All mobile money services provide text-based alerts, and an additive feature could be to send notifications to the main recipient of the bonus and all sub-recipients to ensure that beneficiaries are aware of bonus payments.

- **Criteria for selecting pilot region.** A key criterion for selecting a pilot area is adequate coverage of mobile money service points with sufficient liquidity to support the payment and “cashing-out” of RBF bonuses. Ultimately, the scale-up of mobile money would need to be sequenced based on the areas with the best mobile money coverage and agent liquidity.
- **Monitoring and evaluation of pilot.** Some items to include in a plan to monitor and evaluate the pilot could include:
 - Quality of service provided by mobile money provider
 - Effect of mobile money on the payment and distribution of RBF bonuses
 - Acceptability and adoption of mobile money among RBF beneficiaries
 - Time and cost savings
 - Effect of mobile money on accountability, transparency, and oversight
 - Impact on data access for both beneficiaries and the RBF program
 - Effect on beneficiary engagement and performance related to the RBF program.

Mobile money pilots vary in size and scope, but they are nearly always used by programs seeking to further explore the feasibility and scalability of mobile money. The scale of the pilot could be small (e.g., with 2-3 health facilities) or large (e.g., with an entire region), depending on the objectives of the pilot and its desired results. Smaller pilots can be used to rapidly test and evaluate the feasibility of using mobile money at low-cost. Larger pilots can be used to obtain a greater amount of information, and they require more time to plan and execute, as well as a larger amount of funds. Should the RBF program choose to pursue the use of mobile money, it would be beneficial for the program to learn more about the experiences of other programs within and beyond Senegal to build upon the above considerations and inform its pilot design.

REFERENCES

- Autorité de Régulation des Télécommunications et des Postes (ARTRP). 2015. *Rapport Trimestriel Sur Le Marche Des Télécommunications*, Accessed February 2016 from http://www.artpsenegal.net/images/documents/Rapport%20T4%202015_VF.pdf.
- Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO). 2015. *Instruction n°008-05-2015 régissant les conditions et modalités d'exercice des activités des émetteurs de monnaie électronique dans les Etats membres de l'Union Monétaire Ouest Africaine (UMOA)*. Accessed February 2016 from <http://www.bceao.int/Instruction-no008-05-2015.html>.
- Consultative Group to Assist the Poorest (CGAP). 2011. *Technology Program Country Note. West African Economic and Monetary Union (WAEMU)*. Accessed February 2016 from <http://www.cgap.org/publications/technology-program-country-note-waemu>.
- . 2015. *Digital Financial Services for Smallholder Families*. 2015. Accessed February 2016 from <http://www.cgap.org/sites/default/files/Perspectives-Designing-Digital-Financial-Services-for-Smallholder-Families-Oct-2015.pdf>
- El-Khoury, Marianne, Sophie Faye, Hélène Benga, Fatou Cissé, Amadou Hassane Sylla, et Souleymane Diouf. 2015. *Evaluation du Processus du Projet Financement Basé sur les Résultats (FBR) dans le Secteur de la Santé au Sénégal*. Bethesda, MD: Abt Associates, Inc.
- Groupe Spéciale Mobile Association (GSMA). 2015. *State of the Industry Report: Mobile Financial Services for the Unbanked*. Accessed February 2016 from http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/03/SOTIR_2014.pdf.
- . 2015. *Mobile Money Deployment Tracker*. Accessed February 2016 from <http://www.gsma.com/mobilefordevelopment/programmes/mobile-money/insights/tracker>.
- Harvey, P., et al.. 2010. *Delivering Money: Cash Transfer Mechanisms in Emergencies*. The Save the Children Fund. Accessed February 2016 from http://www.actionagainsthunger.org/sites/default/files/publications/Delivering_Money-Cash_Transfer_Mechanisms_in_Emergencies_03.2010.pdf.
- Health Finance and Governance Project (HFG), 2013. *Activity Brief: Mobile Money Defined*. Abt Associates, Inc.
- Health Finance and Governance Project (HFG). 2016. *Payment records of bonus payments to RBF beneficiaries*. Dakar, Senegal: Abt Associates, Inc.
- International Telecommunication Union (ITU). 2015. *ICT Facts and Figures*. Accessed February 2016 from <http://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx>.
- Mondato. 2015. *Will West Africa be the New East Africa in Mobile Money?: Shifting regulations and a growing ecosystem make the region an area to watch*. Accessed February 2016 from <http://blog.mondato.com/umeoa/>.
- NetHope. 2015. *e-Payments Costing Utility Analysis Tool*. Fairfax, VA: NetHope Solutions Center and US Global Development Lab. Accessed February 2015 from http://solutionscenter.nethope.org/assets/collaterals/USAID_NetHope_ePayment_Toolkit_Step_3.pdf.
- . 2015. *e-Payments Innovations Tools*. Accessed February 2016 from <http://solutionscenter.nethope.org/communities/payment-innovation>.

Smertnik, H. 2014. *Mobile for Development Utilities*. GSMA. Accessed February 2016 from http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2014/11/Mobile-for-Smart-Energy-Solutions--Senegal-Case-Study_FINAL.pdf.

United Nations Capital Development Fund (UNCDF). 2014. *Digital Financial Services in Senegal*. Accessed February 2016 from <http://www.uncdf.org/en/content/digital-financial-services-senegal-0> and http://www.eib.org/attachments/country/study_digital_financial_services_in_africa_en.pdf.

USAID, 2014, Procurement Executive's Bulletin No. 2014-06.

ANNEX A: INDIVIDUALS INTERVIEWED FOR STUDY

Last Name	First Name	Role / Organizational Affiliation
LAKH	Ndeye Codou	Coordinator, National RBF Program
CAMARA	Mathias Bouna	Head of Monitoring and Evaluation, National RBF Program
CAMARA	Dame	Operations Lead, National RBF Program
DIOP	François	Office Lead, Abt Associates Dakar
WADJI LY	Ndack	Advisor to National RBF Program, Abt Associates Dakar
SAMB	Cheikh Sadibou	Coordinator, Nutrition and Health Program, World Bank
DIAGNE	Bineta Lèye	Manager of Account Administration, Directorate General of Administration and Equipment
BA	Samba	Technical Advisor to RBF program, Abt Associates Kaloack
NDIAYE	Malick Cissé	Regional Chief Medical Officer, Kaffrine
SALL	Omar	District Chief Medical Officer, Malem Hodar
FALL	Aly	Head Nurse, Dianké Souf
BADIAGNE	Babacar	Health Committee Treasurer, Dianké Souf
TALL MBOUW	Oumou	Head Nurse, Medina Sy
DIOUF	Cheikh	Point of Contact, RBF Program, Malem Hodar
DIAKHATE	Arame	Staff at Health Center, Malem Hodar
DAOU	Ramatoulaye	Health Committee Chair, Malem Hodar
BEYE	Lamine	Advisor to RBF Program, Abt Associates Kolda
NGING	Barnabé	District Chief Medical Officer, Kolda
CAMARA	Amadou	Regional Hospital Accounting Officer, Kolda
DIEME	Pape Malick	Head of Administrative and Financial Services, Regional Hospital, Kolda District
SENGHOR	Lamine	Deputy Chief Medical Officer, Kolda District
DIOUF	Felix Miniang	District Chief Physician, Vellingara
KANDE	Boubacar	District Chief Physician, Medina Yoro Foulah
BARRY	Elhadj Boubacar	Chairman Health Committee, Health Center, Medina Yoro Foulah
NZALLY SAMBA	Viviane	Head Nurse, Fafacourou
MOUNGNAN OU	Serge	New Business Development Manager, Tigo
NIANG	Salla	Partnership Manager, Tigo
SYLLA	Marietou	Business Development & Strategy, Wari
NDIAYE	Sidy Mactar	Head of Service Payments and Invoices, Orange SONATEL
THIAM	El Hadji Momar	Head of Monitoring and Evaluation, Cellule de Lutte contre la Malnutrition



BOLD THINKERS DRIVING
REAL-WORLD IMPACT