Gateway, enabler, accelerator: the relationship between DFS and improved access to quality health

Executive summary

Globally countries are grappling with critical questions of how to increase access to affordable quality healthcare for the most vulnerable in our society. Increasingly, digital financial services (DFS) is seen as part of the solution as it can increase financial protection and improve efficiency, which in turn improves the use of health services and decreases the cost of delivery. This concept note is in response to Request for Application (RFA) #2019-020 'Digital financial services on health outcomes and health systems.' Our proposed project will conduct a deep dive in three low-and middle-income countries (**Kenya**, **Rwanda** and **South Africa** (or possibly **Ghana**)[1] to analyse the DFS ecosystem relevant for healthcare. More detailed assessment of three DFS innovations that operate within the health environment will supplement the country analysis by providing a practical illustration of the barriers and challenges that DFS face in implementation as well as key components necessary for successful implementation. We will undertake in-country primary research through qualitative analysis and interviews in two of the selected countries. Finally, we will synthesise the findings from across the countries and innovations in a framework. The framework will identify elements that will form part of a theory of change from DFS to health outcomes and opportunities for DFS at the micro, meso and macro level. The research method will include desktop research and discussions with experts in the relevant countries. This project will be done through a partnership between Cenfri and Percept. Combined, the two organisations have substantial technical expertise in DFS and health system development in less resourced countries.

Problem statement

Good health outcomes matter for economic development, but many low-and middle-income countries experience poor health outcomes due to low-resource health systems. Demand-side surveys conducted in countries in Sub-Saharan Africa consistently pin-point health as a front-of-mind risk for low-income households.[2] Individuals' coping mechanisms to fund unexpected health expenditure typically include selling an asset or cutting down on critical expenses – both welfare-reducing responses to what should be insurable risks.

Extreme physical and other access barriers, mainly driven by resource constraints, in low-and middle-income countries in Africa have given rise to an array of vibrant digital innovations in the communication, financial and health sectors. In particular, DFSs have developed significantly and have the potential to advance financial protection for the poor and vulnerable particularly around accessing health services.

Firms are seizing the opportunities that DFS offer for healthcare as evident from Cenfri's insurtech scan across 85 emerging market countries where we found that nearly half of the 292 insurtechs were health insurance products.[3] The types and number of health DFSs operating in a country vary based on a range of factors including whether there is some version of a national health insurance in place or planned and the existence of private healthcare. In addition, the level of access to technology throughout the value chain influences the potential role for DFS. The diversity in DFS innovation in

---

[1] We propose three of the four countries listed, but are willing to focus on other African countries instead, if preferred.

[2] See for example: https://cenfri.org/programme/making-access-to-financial-services-possible-map/, https://cenfri.org/news-and-events/workshop-nigeria-insurance-for-growth-study/, https://cenfri.org/news-and-events/workshop-ghana-insurance-for-development/ & https://cenfri.org/publications/demand-side-analysis-of-medical-schemes-market-in-south-africa/

[3] Insurtechs for development: emerging market trends https://cenfri.org/wp-content/uploads/Cenfri_FSDA_Insurtech-for-development_Emerging-market-trends.pdf

health is growing despite often limited support for these innovations at a macro level. This provides an interesting and balanced learning space for both the benefits but also limitations in the development of such innovations.

The RFA defines DFS as "financial products and payment services (e.g., savings, loans, insurance, remittances, and bill payments) that are enabled via electronic channels. Products and services can be accessed using mobile phones, electronic cards (e.g., credit cards, debit cards, and prepaid cards), computers, and other electronic instruments". This would imply a potentially mainly client/retail focus. While such a definition is useful to understand the potential for increased financial protection amongst clients/users of these products, it will not allow us fully answer outcomes (2) and (3) (as set out in the RFA) in a way that expands the existing knowledge base. Health providers and governments also struggle to manage payments and build capital to deliver effective health services. A wider focus on digital services beyond retail is required to consider other users of DFS in the value chain in order to maximise the impact of client-facing digital financial service). Such a wider focus is also required in order to answer the questions related to implementation considerations (4) and (5).

Given the broader definition of DFS, key user groups in the health delivery value chain (from the micro to macro level) are increasingly turning to DFS and digital innovation in order to be effective. Potential use cases and examples are included below:

User group	Use case	Example
Micro level: consumers of health services (individual or household)	Strategies to increase financial protection to save, fund or pay for preventative and responsive health interventions, including any gender dynamics that are relevant to outcomes	Mtiba in Kenya offers a health finance wallet to combine different DFS for health; Bima's mininsure product in Ghana offers a hospital cash plan combined with telemedicine.
Meso level: supply of health services (clinics, hospitals, doctors, pharmacies)	Strategies to fund quality delivery (both capital and liquidity management), pay providers and collect payment from patients, government and donors. Digital innovation can also support a move toward more value-based reimbursement models by providing clinical decision support, improved continuity of care and by enabling quality measurement	dotXml digitises the back end of health facilities to better connect with national schemes for faster payment in Uganda Signapps, a health worker-to-health-worker communication platform in South Africa, is integrated into value-based contracting solutions such as the Birthing Team and Alignd and is focused on improved quality of care through improved communication, enabling teamwork and enabling lower cost delivery through digital communication. Vula is a digital referral platform and is,

User group	Use case	Example
		like Signapps, also focused on enhancing quality and reducing costs through improved communication.
	Telemedicine services can leverage and extend available Human Resources for Health in resource-constrained environments	Babyl (with strong presence in, for example, Rwanda) offers telemedicine and client referral at a national level given limited doctors and is trying to expand into other African countries.
		Hello Doctor in South African, Ghana and Rwanda support the extension of available resources via telehealth.
		Healthforce in South Africa integrates with client/patient wellness programmes and data, and also develops new reimbursement structures that cover their tele-health solution (effectively nurse-led with digital access to doctors as needed).
Macro level: health architecture, policies and infrastructure underpinning health delivery (local and national government)	Strategies to fund national health policies for day to day requirements as well as epidemics or disasters	National health insurance schemes and the data systems, including administration and referral systems, that underpin their functioning and e-leadership strategies to implement digitisation in the health financing value chain.

Approach

This project will be done in three phases.

Phase 1- deep dives: We will conduct deep dives to map the DFS ecosystem for three low and middle-income countries' health systems in Africa. Our initial proposal is that we will do deep dives in three countries (**South Africa, Kenya** and **Rwanda** or **Ghana)**[4] as these countries have a range of public/ private healthcare funding approaches and represent both low- and middle-income country experiences (LMICs), but the country selection is open to discussion. For each country, we will consider the different user groups' financial needs for healthcare and the supply of DFS available to address these health financial needs. We will use this research to identify where results are achieved and where the gaps are. The research will be done through a review of the relevant literature (e.g. company websites, academic articles, media reviews, donor reports, etc.). While a desktop literature review will provide substantial insight into the health systems, there may still be gaps that emerge.

---

[4] We propose three of the four countries, final selection will be done in consultation with USAID

We will supplement these gaps in the more targeted analysis on specific innovations in Phase 2 and country visits in Phase 3.

Phase 2- innovation analysis: In order to supplement the country analysis, we will identify three impactful innovations that meet the criteria of DFS in the health space as well as mhealth innovations that expand the number of individuals benefiting from quality health services leveraging DFS. The innovation analysis will allow us to assess, at a practical level, the barriers and challenges DFSs face in implementation as well as components necessary for success. It will also provide us with the results chain of how DFSs can contribute towards increased financial protection and use of health services for the most vulnerable. This phase will consist of desktop research, interviews with experts and analysis of results data from donors, providers and governments where publicly available. From our experience, we know that setting up interviews with experts often requires local knowledge and networks. Where we do not already have relationships with the relevant experts, we will draw on our network of contacts in the selected countries to make these connections. We will also identify the experts we wish to speak to early in the project to allow for sufficient time for the engagements to take place. We have also learnt that one expert will recommend other people we should engage with, so this process of snowball sampling usually takes time.

Phase 3- primary research: Based on our research in the deep dives and innovation analysis, we will collect primary data in two countries of the countries- Kenya, Rwanda or Ghana.[5] These country visits will allow us to assemble qualitative analysis of the demand side for DFS health innovations as well as allow us the opportunity to interview exerts and people operating in the DFS health innovation space in person.[6] Primary research in African countries requires special skills and knowledge of local conditions. We will work closely with Corporate Research Consultancy that has conducted many qualitative surveys for Cenfri in these African countries in the past. She understands the countries' contexts and is very familiar with the content.

Phase 4 - synthesis across findings into a framework: The country deep dives and innovation analysis across potentially very different types of digital services (financial and otherwise) used by different user groups in the value chain will allow us to start thinking in a more nuanced way about the contribution(s) of DFS. We will synthesise our findings to illustrate the extent to which DFS increase financial protection and usage of healthcare for the poor and vulnerable as well as whether they have resulted in improving the quality and responsiveness of care. The synthesis will include a framework that identifies elements that will form part of a theory of change from DFS to health outcomes across the value chain. It will identify barriers/ challenges DFS have to overcome as well as what critical components allow for successful implementation.

The output of this research will address the core question: how does DFSs improve health outcomes and where are the opportunities to contribute? The deliverable will be a landscape report describing the findings of the country deep dives and innovation case studies and a framework that syntheses the findings across the three countries

---

[5] This will also depend on which of the 2 countries (between Kenya, Rwanda and Ghana) other than South Africa will form part of the study.

[6] We have budgeted for in-country visits for demand side primary research in Kenya and Rwanda. We have also budgeted for in person interviews with experts in Rwanda and South Africa (no travel is required for South Africa). However, we can adjust this component as necessary.

Objectives and activities

Phase 1- deep dives:

Objective: Identify results, gaps and opportunities of DFS for health outcomes in three countries. (South Africa, Rwanda and Kenya (or Ghana)).

Activity: Desktop research of literature (e.g. company websites, academic articles, media reviews etc.).

- Identify user groups' financial needs for healthcare
- Map out the DFS that seek to address user's financial needs for healthcare
- Identify barriers/ challenges and success factors for DFS

Phase 2- Innovation analysis:

Objective: Identify key challenges and success factors that contributed to the results impactful DFS innovations achieved.

Activity: Conduct interviews with experts, desktop research and analyse results data from donors, providers and governments

- Identify three DFS innovations in the health space that expand the number of individuals benefiting from quality health services leveraging DFS
- Identify barriers and challenges that DFS experienced in implementation and how they have adapted
- Identify components that contributed towards successful DFS

Phase 3- primary research:

Objective: Gather primary level insight into the demand side for DFS innovative products.

Activities: Conduct a qualitative survey and interview key stakeholders.

- Conduct qualitative analysis of a sample of the population to gather demand side data
- Conduct interviews with DFS health innovators

Phase 4- synthesis across findings:

Objective: Identify the common factors, channels, and enabling conditions through which DFS improve financial protection and usage of healthcare for the poor.

Activity:

- Draft a landscaping report of the similarities and differences on key factors and channels that matter for enabling health impacts through DFS and synthesise the findings across the three countries

Risk Mitigation

Risk	Mitigation
Health systems are context dependent so insights and impact might be difficult to synthesise	We will synthesise findings as much as possible. We will single out important cases where context is necessary
Lack of publicly available outcomes measures data available. - Firms are likely to collect usage data (i.e. number of new members, claims, etc.) but not necessarily quality outcomes measures. - DFS products are relatively new so assessing trends will be impossible	Imprecise proxies may have to be used. We will also consider a theory of change approach through looking at the DFS value chain and identifying the different consumer groups in health delivery.
Primary research can be costly to collect and, if not done correctly, may not provide significant insight.	We will work with a consultant that has extensive experience in collecting qualitative data from the countries we have selected. We will work very closely with her in designing the questionnaire and then interpreting the results.

DFS has the potential to make a significant difference in improving financial protection, increasing the demand for and use of health services among clients, and quality and responsiveness of health service providers. We look forward to the outcomes of the research in this important topic.

Schedule

The project will be completed 6 months after finalisation of contracts. Cenfri and Percept will work together as a as a team on each component of the project, i.e. specific components will not be exclusively done by certain consortium members. As such, both will be involved in various aspects of each of the phases, and each will contribute based on our relevant expertise. Cenfri will focus on the financial services component, whereas Percept will provide health system knowledge. Both organisations are in Cape Town, which will allow for easy coordination.

Table of activities

Activity	Month						
	0	1	2	3	4	5	6
Finalising contract	x						
Phase 1: Deep dives		x	x	x			
Phase 2: Innovation analysis			x	x	x		
Phase 3: Primary research				x			
Phase 4: Synthesis and report writing					x	X	x

High-level budget summary

Phase	Cenfri	Percept	Corporate Research Consultancy	Travel costs	Total
Phase 1: Deep dives	$35 141	$15 074			**$50 215**
Phase 2: Innovation analysis	$14 811	$7 741			**$22 552**
Phase 3: Primary research and interviews	$7 723	$4 481	$34 074	$ 8 055	**$54 332**
Phase 4: Synthesis and report writing	$22 224	$8 148			**$30 372**
Total	**$79 898**	**$34 074**	**$34 074**	**$8 055**	**$157 471**

The high-level budget covers costs to conduct primary research in two countries, Rwanda and Kenya. However, if only one country visit is deemed necessary, then the total will be reduced by $19 852 bringing the new total to $137 619. This is assumed that the country to be visited is Rwanda, but this can change, if necessary.

Deliverables

 We foresee the following deliverables coming out of the project:

- Engagement with USAID at key points in the project, such as at kick off and then at the start of each phase.
- Final report
- Report for monitoring and evaluating (as required)

Consortium team

Consortium: Cenfri will lead the project in partnership with Percept. Combined we have deep technical experience in DFS and health system development on the Africa continent and globally.

Cenfri (www.cenfri.org) is an independent, not-for-profit think-tank, established in 2008 and based in South Africa. Our work focuses on unlocking the contribution of the financial sector and the digital economy to alleviate poverty and contribute towards economic development. In the last decade we have worked across 35 countries in Africa, Latin America and Asia.

Examples of our work include diagnostics and market landscape studies to understand barriers and opportunities and develop actions to improve how financial services can contribute towards development. We have conducted diagnostic studies in over 20 countries with the focus ranging from financial sector development and inclusive insurance to digital skills.[7] These diagnostics include an assessment of consumer needs, provider landscape, regulatory constraints and political economy, as well as a roadmap to prioritise interventions. We have experience in developing and implementing financial sector market development approaches in Africa and other developing countries through multiyear programs that support private sector innovation and regulatory strategies. We have

---

[7] See: https://cenfri.org/geographic-scope/ to see research by country.

expertise in identifying key innovations that could act as solutions for barriers faced in insurance, payments, behavioural interventions and digital identity. We have worked with a range of partners and organisations including the UNCDF, DFID, GiZ, the Gates and Mastercard foundations, the South African National Treasury etc.

Percept (www.percept.co.za) is a multi-disciplinary consultancy established in 2017 and based in Cape Town, South Africa with extensive health sector expertise. We bring together public health, health economics, data science, actuarial, medical anthropology and health-financing skills. We have worked extensively on both public and private health financing mechanisms, healthcare innovation, digital solutions for healthcare, strategic purchasing of healthcare and technical tools to support health-system planning. We work across both the financing and supply-side of the health system and understand the ways in which these relate to each other.

Percept's past projects that provide an expertise base for this study include helping to design a low-income insurance product in Uganda that would have drawn extensively on mobile-based distribution and care delivery, involvement in various projects using alternative reimbursement approaches (and the data systems that support these approaches), costing of universal health coverage systems and the creation of health-worker-demand project models that require a deep understanding of the drivers of epidemiological change. The Bill & Melinda Gates Foundation contracted Percept to assist with a large project on primary healthcare redesign in the Western Cape of South Africa. The project requires the establishment of an in-depth understanding of the management information systems (MIS) that collect data on patient encounters with the health system, and the factors that enable and limit the use of data collected through these systems.

Bios for key Cenfri team members:

Christine Hougaard: Christine is a technical director at Cenfri and has been part of the team since 2008. She finds the interplay between regulation, markets and ordinary people's lives fascinating and has managed numerous studies in the microinsurance, retail payments and broader financial inclusion field. She actively contributes to the management of the FinMark Trust insurance and retail payment systems theme areas and, at a global level, supports the work of the Access to Insurance Initiative (A2ii) Secretariat. Through various projects, she has gained exposure to the country context in Asia (India, Philippines, China, Indonesia), Latin America (Brazil, Colombia) and Africa (e.g. Zambia, Swaziland, Tanzania, Mozambique, Nigeria and Lesotho).

Before joining Cenfri, Christine worked as an associate at Genesis Analytics. Her work there was focused predominantly on access to finance and more specifically financial education, microinsurance and AML/CFT. She has also worked on sector development and competition economics-related projects.

Christine holds bachelor's and master's degrees in economics (cum laude) from the University of Stellenbosch, South Africa.

Pamela Halse is an engagement manager at Cenfri in the Risk team, with a focus on insurance market development and the role of insurance in growth. Prior to joining Cenfri Pamela worked for both the South African and British Governments in a variety of roles that provided a unique insight into health, micro, macro and political economic analysis as well as international relations. Most recently, she led the healthcare funding technical team for the South African Competition Commission's market inquiry into private healthcare.

Pamela obtained a master's degree (MSc Finance: Economic Policy) from the University of London. She holds an honours degree in Economics from the University of South Africa and a Bachelor of

Science-economics and business administration- concentration in finance from Florida Southern College.

Bios for key Percept team members:

Shivani Ranchod is an experienced healthcare actuary, having worked across both the public and private health sectors in South Africa with funders, providers, policymakers, regulators and international agencies. She has founded two firms: Percept (a trans-disciplinary advisory firm) and Alignd (a provider of financing solutions for complex patients). She is also a long-term advisor to the Government Technical Advisory Centre (GTAC). She was previously the Head of Actuarial Science at UCT, where she is now a Senior Lecturer. She brings academic rigour, a deep commitment to the health system and personal courage to everything that she does.

Anja Smith is a development economist who is deeply familiar with health systems and health policy. She has a PhD in economics (that was focused on health system financing and user acceptability) and is a part time academic at the University of Stellenbosch's Economics department. Anja provides an economic understanding of system reform and change. Anja is experienced in creating economic models and conducting quantitative analyses for the public and private sectors. She is also a highly experienced consultant and strategist and has experienced in programme design and managing multi-stakeholder processes for donors.

Bio for Corporate Research Consultancy:

Iske van den Berg is a qualitative research specialist. Her work predominantly focuses on financial, socio-political, multilingualism, communication and media research. She has conducted qualitative and cognitive interviews in a wide range of countries across Africa and Asia, including Kenya and Ghana. Currently, she is the managing director of Corporate Research Consultancy, a firm specialising in doing consumer interviews to understand the challenges consumers face in using the services of providers. She has 25 years of experience in her field. Iske has a master's degree in business leadership from UNISA, South Africa.