Advancing Health Systems Podcast Series, Episode 2 - Full Transcript

Digital Health and Digital Finance

Kirby Crider (Host): Welcome to the Advancing Health Systems in low- and middle-income countries podcast. Sorry for the long hiatus. We've been around the world, in a virtual sense, and we gathered a range of perspectives for this episode on digital health and digital finance. My name is Kirby Crider, and I'm a learning technology specialist working on the HFG project. I'll be your host again for this episode, and I just have to say that it's been a pleasure and an honor and a privilege to have you all listening. We have loved to see all the play counts on the first two episodes.

Before we get into the topic of this episode, if you haven't heard episode zero that's a good place to learn about what the HFG project, the Health Finance and Governance project, is all about. But if you missed that episode, just know that this podcast is part of the HFG project's efforts to share what it has learned with others in the development sector by capturing learnings on topics like domestic resource mobilization, which is episode one, health finance, health governance, health insurance, and this topic of digital health.

Digital health and digital finance are both really exciting and timely topics in the development sector. Over the past decade or so, we've seen an explosion in the use of mobile phones in low- and middle-income countries, and there's a dizzying array of different programs using mobile phones to improve people's health -- sending SMS messages to expectant mothers to remind them to go to a prenatal visit, using mobile phones to survey populations for public health purposes, and many more.

We are also seeing digital finance projects all over low- and middle-income countries that HFG works in. And what's exciting is that all of this technology adoption in these low- and middle-income countries means that we're able to connect isolated communities and isolated people. We're able to share information quickly through technologies that seem kind of basic, like SMS or text messaging, and we're able to use these technologies to solve what seemed like insurmountable problems in the past. But we're going to get into all of that in this episode.

To explore digital health and digital finance, we're going to answer three key questions: What are they? Why do they matter? What has HFG learned about them? Let's start with the first question. What is, or what are, digital health and digital finance? I'm just going to let our experts talk and then I'll introduce each of the voices you'll hear later in the episode.

Pam Riley: Digital health is really just the use of digital technology -- that means hardware, software, communication channels, internet, mobile -- for health service delivery, health education, supply chain, program monitoring. So, it's a very big bucket.

James White: You know, that can mean both on a supply and informational side to clinicians through SMS and telephone platforms or tablet-based programs, but also as we know on the health financing side, it can also be a method of transmitting or receiving vouchers, insurance, and other financial products.

Emily Mangone: There has been an evolution from mhealth, which was using mobile technology to achieve health objectives in development. That evolved into ehealth, which is more of the electronic technology in development and in health, which has now sort of morphed into digital health, which is more encompassing.

James White: I think it's fair to say that digital health has become a foundational part of health systems around the world. Countries have health information systems. They have human resources information systems that are digital. They are using technology to collect data already. Of course, there are ways to do that better, to have those information systems talk to each other for example, or to do the data collection better, but digital health finance is fairly established.

Digital finance, on the other hand, has its own set of benefits, and using digital finance in health is emerging as a sort of new application. And digital finance has a bunch of benefits. It can help people with savings, with developing credit, with getting health insurance, which is often a new concept for people, as we'll see. And it has economic benefits for users, for the people seeking health services, and efficiency benefits for health programs and health systems. But let's step back just a little bit. What is digital finance?

Pam Riley: Digital finance is the act of putting financial services through a digital medium. So whether you're talking about deposits or withdrawals, savings, transfers -- if they use digital technology, such as mobile phones, it's called digital finance.

Kirby Crider: That's a clear, encompassing definition of digital finance, but what does it actually look like? In practice, let's look at one example called mobile money. So, this is using mobile devices to send, save, and work with money.

Pam Riley: Kenya was an example where the mobile company really served as the bank. You went to the corner vendor, you gave your cash that was then connected to your SIM card. And now by sending a text, you could send that cash. The person you sent it to would walk to their corner mobile vendor and say here's my code and the vendor would give them 10 shillings, so that the mobile company was actually acting like an A.T.M. In other countries, they are reluctant to do that because the banks have different security and protections to make sure the money is accounted for. It's been a slower rollout in those countries where they require banks to be partners because that banking infrastructure serves the big cities where the money is.

It really changes the economic opportunities for those villages. They've done research now in Kenya, because it's the most mature market, and they were able to compare those villages where mobile money was introduced and those where it hadn't yet reached. And they looked

at things like how many people fell below the poverty line due to health shocks – like, oh, they needed an operation or the breadwinner got sick. Those that had access to mobile money, that could raise money from family and friends, that were able to expand their livelihoods beyond just cash-based transactions, showed economic development that is measurable.

Kirby Crider: Let me go ahead and introduce the voice that you just heard because she's going to be a key expert in this episode. Her name is Pam Riley and she's a senior digital health advisor and she's worked across the globe for many years in this area. I think her description of how mobile money works and why it is so transformative was one of the clearest I've ever heard. HFG as a project addresses both spheres, both digital health and digital finance, and kind of the Venn diagram where they come together.

So you can think of digital finance and these digital payments -- this mobile money -- as a way to get better data to make more rational allocations of money for health resources. And from the other direction you can think of digital platforms, so something that might be thought of as digital health, how that can support health service delivery and open some channels for some more targeted financing. This last definition that I think does bring these two concepts together is from Rahul Dutta, who works for HFG in India, and he frames the definition a little bit differently, not just talking about hardware and software.

Rahul Dutta: So, for me anything digital health and digital finance is basically the outcome that it drives. It's about access. It's about how much access do you have to information or to services. More information, perhaps, than services.

Kirby Crider: First of all, apologies for the slightly windy sounding audio. I was interviewing Rahul in New Delhi, where it was very hot and humid, so the windows were open. I would ask you as a listener, though, to keep his point in mind: Digital health and digital finance are all about access.

Rahul's description of access being the key thing to think about here brings us to a larger point. One of the Sustainable Development Goals is good health and well-being, and part of achieving that is universal health coverage. Universal health coverage requires four things: It requires access to essential services as Rahul described, which means that people can get the health care that they need. It requires that the entire population is covered and can get good quality services, can talk to and work with health workers, can get medicines and technologies that they need.

There's also an outcome of financial protection. This means that people are not subject to financial hardship and impoverishment from health care costs. And finally, the system should be responsive. Responsiveness is about whether people are receiving prompt attention, are treated with dignity, are receiving clear communication and messages, have autonomy to be able to choose their provider and choose their facilities. These four outcomes are all part of universal health coverage and should serve as something to keep in mind throughout the rest of the episode as we start listening to examples.

Moving on to question two: Why does the HFG project -- and why should you, why should we --care about digital health and digital finance? Let's hear from Pam again.

Pam Riley: One of the real values of digital finance for health systems is helping to speed the time decision makers have to get information. So, if you can see you know what health clinics are spending their money on more quickly, if you can identify where the stockouts are happening, there are opportunities to address, in a timely way, problems that were hard to identify and measure before.

Kirby Crider: All of that can be summed up by saying that digital health helps to solve health system constraints. It helps people get access to information in far flung villages, it helps get information to decision makers in real time and more accurate information. It helps case management support. It helps in mobilizing communities and helping to give them a voice. Digital health and digital finance impact systems and impact these decision makers, but they also empower people themselves, the people who are going in seeking services. Let's hear a little bit more about some ways that that happens.

Pam Riley: For many people in the world, they do not use digital for money at all. It is a 100 percent cash-based economy. They get paid in cash, they pay in cash, they save in cash. That means high risk for theft, for loss, and they never build a record upon which they can then build credit histories to be able to invest in a business. In order to send money to a family member two towns over, they have to take a bus ride because they don't have a bank account. They don't have any other means.

Emily Mangone: We often take for granted in the developed world that you can use a credit card for everything, you have a savings account, a bank account and all. So digital finance allows billions of unbanked people who don't have bank accounts to be more participatory and, in the context of health, to be able to save and plan for health blips. You have a baby or your son breaks a leg, how do you plan to pay for that? How do you share money with family who need to pay for those types of things?

Kirby Crider: The second voice you heard there was Emily Mangone, who's a digital health advisor on the HFG project. Remember those four elements of universal health coverage that I talked about a little earlier? Emily just brought one of them out very clearly, and that was financial protection.

A strong health system should protect people from financial hardship and impoverishment because of their health care costs, and as we talked about in the domestic resource mobilization episode, medical debt is the most common cause of bankruptcy even in the U.S. So you can imagine that in some low- and middle-income countries the problem can be even worse. This financial protection that Emily is referring to is a key element to reducing social inequities. I think to summarize why this matters is that the world we live in is digital, all these tools are out there and we can use them. There's great opportunity to use them to improve health systems, especially in low- and middle-income countries.

Before we get into lessons learned, let's look at two simple examples of what the HFG project has done in the digital space. The first one comes to us from James White. He's a senior associate and clinical advisor on the project. Listen as he describes the problems that they encountered in Tanzania, and then how the project sought to solve them.

James White: There were major constraints on public diagnostic capacities, so for things as simple as ultrasound or MRI, sometimes three, four, five-week waiting lists existing in the public health centers for those tests. We also found in interviewing the private sector that they had many of those capabilities and machinery but were horribly underutilized in terms of having enough clients to justify turning on some of the equipment on a regular basis. So you have this sort of constrained public capacity and available private capacity, but not really any knowledge of where things were.

So we undertook a process with the Medical Laboratory Scientists Association of Tanzania to create a directory of laboratory and radiology diagnostics available in the Dar es Salam region first, and then nationally later. That was first conducted as a bit of a paper-based experiment to see if we could create somewhat of a yellow pages, if you will, of what diagnostic tests were available in Tanzania. That was quickly migrated to an online platform, which now functions as a sort of Yelp-styled service that lists where on a Google map, how far you are from a local diagnostic provider and what tests they offer.

It’s not a really complicated solution but again, just bringing what we have available to us in terms of mapping capabilities and online directories that can be adapted to provide information to those who need it. With this experience and others like it, I think we face some of the same challenges that any new website or technology solution is facing, and that's getting their daily user rate up, that's making sure information is entered comprehensively. What we did have working for us is that we went through an existing association, and in doing so, we were able to reach a broad range of public and private providers who could enter their information.

One of the major challenges was making sure that providers were guided through the process. So there were some workshops held to help providers do that on site. Although technology knowledge and computer knowledge is increasing in these parts of the world, when you're introducing a new platform like this, it does require a bit of investment to help them load up their information and so on.

Kirby Crider: James' example of a simple website is a good one to talk about how digital health can bring together information and help these disparate systems and databases talk to each other, strengthening the health system in the country by supporting the public sector, the private sector and even the people seeking health services. The project has been successful and led to multiple substantial public-private partnerships for diagnostics in a bunch of different regions in Tanzania. The website is still online and still accessible, and it's continuing to be successful and grow.

Now let's listen to a second example. This one comes to us again from Pam Riley and describes a digital health solution for improving how supervisors support clinics all around Nigeria.

Pam Riley: HFG, with partners, created a supportive supervision mobile app that the supervisor carried. And what that enabled a supervisor to do was to pull up all the history of conversations with that same clinic, look at how that clinic compared to all the other clinics in the system, to identify things like, “Wow there's really a gap here in stockouts. Why does this clinic have so many more stockouts? Oh, it turns out this warehouse is the weak link. Let's get that addressed!”

So it enables much more on-the-spot, again, collaboration. It requires the supervisor to be much more thorough, and provides suggestions for how to solicit some solutions that might not otherwise come to mind in a very cost efficient way. So if you've got a clinic that is still relying on pen and paper, and that's true in many rural areas, this is a way to kind of do a stopgap because you have the supervisor able to send in that data from the clinic. There are still plenty of places where we work where the mobile signal is weak, but the supervisor can work offline, and then when they get back to their home base, they now have a much better picture of what's going on.

The algorithm was based totally on the insights and history provided by years of doing the supervisory visits. Because of the digital channel, you can also stay engaged in a more routine way. This was just a very small pilot to start and it immediately bore results. That is why it is now scaled up across Nigeria. Evaluations that have been done have shown there are fewer patients lost to the system and fewer stockouts. So, just the access to real-time data and guidance on the phone has really proved to be a very powerful tool.

Kirby Crider: The app that Pam describes is a really great example of building on an existing system of supervisors going out into the field. We aren't forced to put computers and high-powered, expensive equipment in all of the clinics in these rural, far flung villages. Instead, we can use a piece of technology that a supervisor can carry with them in their pocket and has all the benefits of tracking historical data and historical problems, and the use of an algorithm, a checklist, to help these supervisors help the clinics that they're supporting. A key lesson learned is that this phone app was built on the paper records kept by the supervisors over many decades. It capitalized on this existing knowledge and used the powerful tools associated with digital health, like smartphones, to drastically improve the supervisory support that these supervisors were providing.

Let’s move onto the third question. What lessons has the HFG project learned from the activities it has implemented in these low- and middle-income countries?

James White: Well, the first major lesson is to think about costs and the return on costs and if this is the right solution. It really is not about finding the coolest and latest technology, but making sure we are looking at some of the things we take for granted, such as SMS messaging or other really simple technologies that are not necessarily as cool as more advanced options but serve the purpose just as well.

Once you decide on a technology platform for health services, you really need to recognize how complex that is and that a lot of the providers that we deal in with health are not tech savvy and have not been trained on using a lot of these technologies. So that's where that additional technical assistance comes in.

Kirby Crider: James' lessons are about considering returns on cost. Is it really worth the opportunity cost to implement a digital health solution, even a fairly simple one? He also points out that we also need to carefully consider which tools we use, which technologies we use. Simple technologies might often make the most sense, so don't rule out old technologies like SMS. And finally, even if you choose a simple technology, technical assistance and capacity-building are critical pieces to the success of any digital health or digital finance project.

Let's end this section with one last lesson from Pam.

Pam Riley: Digital programs need to better document what's gone right and what's gone wrong in the process of implementing. So how the technology is introduced has a big impact on whether or not it is effective. There are now global stakeholders coming together to do these best practices for how to describe your digital health intervention in a way other people can replicate it, and they can be clear what steps you took to do the training, and how did you work with the end user to design it, and in what ways did you make your data available for others to use. So, more process evaluations that share common elements.

Kirby Crider: I would like to challenge all of us, as development practitioners, to continue doing this sharing of process, sharing of successes, and sharing of challenges. If you take one lesson away from this episode, the technology is important but it is how we implement that technology that makes it a success or not. So we need to share our processes, we need to share when things work and when they don't. That's what we are trying to do with this podcast, and what many people within our field try to do in a lot of different ways.

With that, we will conclude the episode with one final thought. The digital and technology revolution is here, and it provides obvious and really powerful potential across health system strengthening. We can't afford to ignore it. It's going to happen whether or not we are doing it. But we can make sure it is done right, in an equitable way. We can do it responsibly, we can do it urgently, and we can do it nimbly. I hope you find it as exciting as I do.

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About the Advancing Health Systems Podcast Series

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