Sattva Knowledge Institute SKI perspective

DECODING IMPACT
DIGITAL HEALTH

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Acknowledgements

Contributors

This podcast was arranged by the **Health Team** in Sattva Knowledge Institute and was hosted by **Rathish Balakrishnan.**

We would like to thank **Mr Badri Pillapakkam,** Partner, Omidyar Network India, for participating in this podcast and for contributing his valuable expertise, insights and time.

Disclaimer

About Sattva Knowledge Institute

Sattva Knowledge Institute (SKI), established in 2022, is our official knowledge platform at **Sattva.** The **SKI** platform aims to guide investment decisions for impact, shedding light on urgent problems and high potential solutions, so that stakeholders can build greater awareness and a bias towards concerted action. Our focus is on offering solutions over symptoms, carefully curating strong evidence-based research, and engaging decision-makers actively with our insights. Overall, SKI aims to shift intent and action toward greater impact by influencing leaders with knowledge. All of our content proactively leverages the capabilities, experience and proprietary data from across **Sattva**.

Introduction: *From Sattva Knowledge Institute. This is Decoding Impact, the podcast where we apply systems thinking in conversation with extraordinary experts to understand what it truly takes to scale solutions in the social sector. Decoding Impact is hosted by Rathish Balakrishnan, a co-founder and managing partner at Sattva. Welcome to today's episode.*

Rathish Balakrishnan (RB): [00:00:38] In the last few years, digital health has emerged as a potential game changer for enabling accessible, affordable and quality healthcare for all. The pandemic has only emphasised the role of digital health as a key enabler to achieve universal health coverage. The government has also launched the Ayushman Bharat Digital Mission with an aim to develop the backbone necessary to support the integrated digital infrastructure of the country. In spite of the high potential of digital health, the urban-rural divide, the digital divide, the low economic and social conditions, and the low return on investment deprive the underserved populations of its benefits. In order to scale and implement digital health solutions in the underserved populations, it is important to address the question of who pays for the service and how. In this episode, we will explore the current landscape of digital health in India, and specifically take a look at the financing landscape. We will also understand innovative ways of addressing the gaps, both in innovation and financing of digital health solutions, along with understanding how each of the stakeholders can play a role in the scaling of these solutions.

Joining us in today's conversation is Badri Pillapakkam. He's a Partner at Omidyar Network India. And among other sectors, healthcare is a key focus area for him. He's had the experience of being part of the growth journeys of leading companies like Hexa Health and 1mg. Badri, thank you so much for joining us today.

Badri Pillapakkam (BP): [00:02:08] Thanks, Rathish. It's an absolute pleasure to be here. As you mentioned, I think digital health is a very core focus. It's close to heart for us at Omidyar Network India, and I'm happy we're having this chat.

RB: [00:02:28] Badri, I'm glad you said that, because, you know, there are some areas where I feel like we are in the middle of this whole *idea whose time has come* type of a phase. And digital health does seem to be a phase like that. As gruesome as the impact of COVID has been, I think one of the potential silver linings of that crisis was also the acknowledgment and the acceptance of digital health. And I also saw, at least from my perspective, it did seem like it unlocked a lot of entrepreneurial energy on solving health problems through digital access and so on. You've had a longer-term view on this sector. You've seen it sort of

from its nascency. I would love to hear from you. How do you see this time? And if you sort of take a five-year view of this space, how have things evolved?

BP: [00:03:19] Yeah, no, I think you're absolutely right. I think if you asked me in 2019, I would have said the time for digital health is going to come. It will be a bit slow. It will take time. But it's there for the taking, because a simple problem of access to healthcare and how the historical brick-and-mortar model has only expanded healthcare access to a very small percentage of the population. I think 2022 I'm a lot more bullish about the rate at which and as you alluded to, I think there are different stakeholders that matter in the context of digital health and financing. And in that I think the Government's focus has always been there. But I think COVID was a bit of a wakeup call in terms of kinds of, you know, options that they should be seeking. How do they accelerate the financing and the disbursements? And I think that was a wakeup call from a government perspective.

Equally important, I think the biggest shift we've seen is actually on the provider side, providers, which are the hospitals and clinics and historically, when you know, the healthcare solution that we're a part of, when they approached these providers for technology solutions, they'd be like, 'Yeah, yeah, nice, interesting innovation. But we will engage like, we'll do pilots or at most, you know, we'll engage down the line'. That has fundamentally shifted that mindset is now 'I need to adopt', um, otherwise, you know, they saw what happened during COVID, the supply of staff was suddenly a big issue. Now workflows need to be automated. So a lot of solutions that are provider led that we are starting to see innovations around. And equally I think lastly on the patient side as well, like I think people are now waking up to, 'hey, I need a basic cover which did not have… insurance cover. I need, you know, screening technologies which I did not have. I didn't know I had COVID until its symptoms were very serious'. So I think that fundamental mind shift. And I think the beauty of health care, unlike many other sectors, it doesn't discriminate based on income. It impacts all of us and in varying degrees. So in 2022, we saw a rise of education edtech. From 2016-17 onwards, we feel we are at the cusp as far as digital health is concerned. Definitely.

RB: [00:05:49] And thank you. So Badri, and I think as you were speaking, it was interesting that the range of solutions you talked about, you know, there is the provider-side solutions, there is the patient-side solutions, there is the screening technologies, and there is this entire preventive care space and wearables that is also becoming, you know, important. There is digital software, there is digital-as-hardware. And can you just paint a picture of

what is digital health actually contain, and how do you sort of classify this entire market space in a in a structured way as well, to understand where innovation is happening, and what do we really call as digital health?

BP: [00:06:27] Yeah. I think though it's still in varying degrees, but the universally agreed definition now is that hardware and software solutions, that technology solutions that are used in various applications of healthcare – so I can drill deeper on what that means – but with the fundamental aim of increasing access, which would not be otherwise possible. Right? So I think that access point is how the world views digital health solutions. There, I think we break the world into three types and then five pillars. And if I can just drill deeper into those. The three types would be those that are OPD driven. So outpatient department where, you know, digital health lends itself, which is your telehealth, you know, whether it's consultations, whether it's pharmacy, dissemination, where it just automatically lends itself to digital health solutions.

The second is chronic care, right? And chronic care again, globally, if you see, it's that's the segment that has moved fastest towards adopting digital health. Fundamental reason being, once you're diagnosed with diabetes or COPD, you don't need to go to the doctor again and again. Right? It's really about monitoring. And so chronic lends itself to a fair bit. And then you have your acute and critical care. Those will take a longer path to digital health adoption, and that's where the provider-led models come. So broadly, we break it down into these three. And as far as pillars are concerned, I think just building off of that for us, financing is an important pillar because we recognise in a country like India, it's massively important how we solve.

And financing has two components. It's because it's an out-of-pocket system. You need a lending. You know, I think you guys have written about returnable grants and other innovative instruments that can be used. So absolutely, I think that is important. But equally, having a well-defined insurance plan, and particularly for the impact segment or underserved segment that we care about, I think what the role of Ayushman Bharat is, but also other forms of insurance, right? So that's one important pillar in addition to the three that I spoke about. And the other is the provider digitisation itself, right? Which is beyond just the patient access. But there are things like data which we don't, you know, think about the you know, the privacy laws just came out a couple of days ago. Hopefully, these are the guidelines. So I think HIPAA, for example, in the US is well-defined. Right? So how do we bring those standards which are both data-led standards as well as medical standards? I

think that's the fifth pillar in addition to the three that I've talked about. So that includes things like EHRs, EMRs, but also this data and the standards and protocols that are required from a medical perspective. So those are the five pillars.

RB: [00:09:37] Yeah. And the point of data that you brought up is so critical because I feel like it's, and you know, we're doing this in India multiple places, about how we look at the data itself as a public good, you know, which can then spur further innovations, et cetera. Because a lot of the walled gardens happen because the data is not available. So I can you know, I know what you mean when you say provider adoption and provider adoption from a lens of data. Because once you're able to unlock that, then there is much more greater innovation, sort of starts a flywheel, for more people to come in and so on as well, which I think is a very, very important component.

BP: [00:10:10] Yeah. No, I think just on a lighter note, I remember my family doctor used to comment India is the… so he used to say medicine is not a science. Um, but I've practised so much in terms of number of people, just in terms of population that I can compete with the best doctors in the world. Right? I think that that's that is the nuanced version of data like, and if you were to now translate that into, say, there are digitised, you know, population-level data, I don't think people mix it to be patient-level. No, it's actually population-level data and then provider has other elements to it, right? Which could be the pharma companies. How do they create either vaccines or medicines that create solutions that have more Indian versions? Right. And there are a lot of, you know, acute conditions that are more emerging-market, more and more that we are seeing NCDs)non-communicable diseases) are a big incidence. So how do we use that? So I think that's what why data becomes important in the medical world.

RB: [00:11:16] I agree. And I think especially if you move the boundary beyond data to healthcare to look at public health, then this data becomes even more important to say, okay, where do we look at vaccinations? Where do we look at febrile infections, quality of water, nutrition, all of that, and then preventively look at all of these things. And I think it's a large topic. If there is time, I want to come back to it today. I do want to drill a lot deeper on the financing part. But before I go there, I think the three pillars from a patient-centric lens was very useful to say, hey, from outpatient to, you know, coming into chronic conditions to acute conditions. And I think a lot of us with parents in homes are now getting used to digital apps for diabetes, as if, you know, it has been there all around.

Two questions for you. One is, in which of these segments do you see the highest movement? You know, both in terms of adoption and accelerated adoption, where the speed is actually fairly quick? And the other point you made, which is earlier, which as you rightly said, the promise of digital is the promise of access, you know that this is actually available for everyone. Across these three segments, is the access component equally addressed as well? You know, do you see this promise of access actually playing out across all of first three pillars that you highlighted?

BP: [00:12:34] Yeah. Yeah. Great questions. I think on the chronic side, let me address that first. I think what we are seeing the most, plenty of innovative solutions, is in the diabetes world in particular, and PCOD, which is under women's health. So these two, you know, whether the companies like Wellthy, Vitor, Xyla, many, many solutions that we are seeing that specifically address chronic conditions of diabetes and to the point that, you know, think reversal is a stretch, but significantly reducing HbA1C. You know, we've seen plenty of evidence now that with just the right programme, adherence to the right programmes, you can reverse HbA1C to less than six, which is the threshold. So I think diabetes, largest market that we are seeing today, women's health, like I said, is probably gaining traction. What we would like to see – and this ties into your access question as well – is this is still a problem of the people who can afford. Right? Like a lot of this is still out-of-pocket and therefore, this is, you know, higher to middle income population. What we are seeing, and access has two components, the solutions itself and then the financing. So let me talk about the financing piece. For the first time, and I don't know how long this lasts, but I really hope that this is the way India moves. But essentially, if you look at the financing insurance segment, there were historically there were two segments. There were very well-covered. One is the segment in terms of just purely coverage may not, you know, health care facilities, number of beds, etc., we can argue, but it's still a very good coverage that has existed, surplus funds that have always been around.

So that's the less than ₹21,000 household income population. And so that is well covered actually. And then you have your top, you know, call it 4%, 5%, depending on which insurer, they'll say 10%. But there is that upper-income, which has always been well covered through I won't say fully covered, but well-covered as far as insurance is concerned. So there is a missing middle layer and which is starting from your ₹21,000 and above. And usually that cuts off at a ₹60,000-70,000 kind of household income for the first time group insurance, we saw many of them actually cover this population because the corporates said, hey, I need to provide this for my employees as a benefit, particularly during the COVID times. I

think that was a cutting-edge change that we are seeing. I hope that continues, like I said. But in order for access to improve, we believe that middle income segment financing and insurance becomes very important. Second, on the solution side, I think varying degrees. So we have investors in a company called Maija, which is targeted purely at teleconsultations for the bottom of the pyramid population. So telehealth solutions in general have very high adoption. Um, but the challenge in those tend to be… and access and quality I would say is decent. I don't think we need to improve the quality of primary care in this country. I think it's really awareness. Challenge in access is awareness of what the problem is, right? And there, you know, I compare often times with the average US patient and the average, particularly Germany, which we have seen very high education quotient in terms of their own awareness.

So I think one of the important pillars of access is to recognise that unless there is a physical touchpoint, we may not even be diagnosing the right one, which is one of the reasons the government is very skeptical about expanding telehealth in a big way. And equally, I think I mentioned this earlier, you need point of care devices, right? Diagnostics. And think that diagnostics needs to be at-home diagnostics today. You know, in the urban context, you and I are familiar you know, we've probably had someone like 1mg come and take a test. Now that access doesn't exist. So unless you have those point of care devices and diagnostics that can identify that there is an event, healthcare is always event-driven. So that access, I think India can very actually become the home of medtech. I think the access point on diagnostics is also important. So unless you have ability to screen and diagnose in deeply underserved areas the follow ups… so health care is extremely event driven, right? So, the follow ups can happen only when we know that something has triggered and what is likely to be the situation. We also have to understand physical access does not exist in many of these areas today.

I think we personally believe that India can become the home of medtech innovation. You know, I mentioned the pillars earlier. We did have medtech, unfortunately, had to drop it for a variety of reasons. But there is a Medical Device Regulations Act that's come in recently, not too long ago. The challenge there is still adoption financing. You know, those set of issues. If we solve for that, for example, you know, two companies that we have funded, very, very early-stage company called Neo Docs, which can actually… they're working on multiple disease conditions, very strip-test-based, right? Think of it like your COVID test or the Rapid Antigen (RAT) test. Call it very similar to that. Can you extend that? And we are all familiar with pregnancy test kits now. Can you extend that to early diagnosis of CKD? You

know, so those kinds of conditions and so very interesting innovations that can come out. And that's one. And then we are also in a company called Axio. They make innovative wound care products, you know, acute condition, so all the way to lifesaving, traumatic events. And these can become extremely affordable because of just the innovation that's gone in the cost of making that very cheap and radical innovation. Right? So I think the innovations will come, but how to get them there? I think that's the fundamental challenge on access that we need to solve for. And a core part of that is the awareness and the financing issue.

RB: [00:19:17] Thank you for bringing that up. What you said earlier, right. 2016 was an edtech wave, and we've seen a financial inclusion wave as well. And when you look at a lot of how far we've gone ahead with financial inclusion, UPI and so on, compare that to healthcare, it does seem like in healthcare, we haven't been able to make that big a wave. And largely it's because, as you said, it's we've been in 'India One' product so far and India Two/Three sort of doesn't come in. You brought up some of the product points and the distribution points. I want to come in later, but let's jump into financing, Badri.

I want to sort of share with you my thinking around how I look at the financing challenge. And I look at it in four parts and I'd love to sort of run it by you to see if which of this is real and where do you sort of need to double down on. The one thing that you talked about is really the purchasing power of the people in the middle class itself or the rest of the population, right. The next half billion and above where through insurance and other mechanisms can we improve their purchasing power to be able to access some of the healthcare services, including, you know, health tech services that that they could get access to? That's number one. I think the second one is for me, the financing on the provider side, which is, how do we look at B2B hospitals, clinics, diagnostic labs, et cetera…adopting technology because the immediate ROI is unclear, and there is a certain cost to it. And given how distributed the healthcare market is compared to, let's say, banks and others, where there are just 12 banks in some sense that take care of everything, the mom-and-pop shops in the B2B space is huge so is there a financing gap on the provider side that we have to look at as well? And are there ways to address that? The third is the financing gap on the product and the innovator side. So there is this point where you have a product, it works, but you're not able to achieve economies of scale, because you haven't had that large order yet. So your product is still expensive, which means that you can't go to the markets that you want to. There is a volumes issue and almost, how do you kick start the flywheel in some sense so that they can get economies of scale and reduce pricing?

And is there a role of financing there as well? And the last part of it is the public procurement piece. And whenever I think of access, I do think unless this product reaches the public health system, there is always a challenge. But financing there again is a usual issue of how do you look at getting this to the government workers, the last-mile staff and those in the public health systems in general, which is a different financing problem and we might not be able to address all four. But one, wanted to get your validation of are all of these real problems today and would love to sort of get your thoughts on which one should we start looking at first as one of the more priority areas for us to focus on.

BP: [00:22:02] Yeah, I really like the way you guys have laid that out. I think short answer, all of them are problems and very, very complex problems to deal with. To me, the part that is relatively, you know, I would say *relatively easier* to solve would be the last piece because. And again, public health has two components to it and we can debate over what is the right model, but our view at least is the public health financing exists and that's your Ayushman Bharat right. So with Ayushman Bharat, other schemes – there are actually 14 different schemes, even central government and many state governments have schemes. So the financing aspect today is restricted to the patient, right? And if you look at global payer systems, they have moved towards saying 'we want technology solutions that will reduce the risk of incidents'. So they are moving more and more. Even there, I would argue, it has been slow, but at least the shift is there. So to the point on providers, which is the innovators, let's call them the medical innovations being funded, can we start to shift some of the payer money towards solutions that will reduce at scale the risk of incidents? Right. And that's always the logic that works for insurance companies. If my overall claims come down, then it makes sense for me to adopt this, right? So moving more towards preventive screening, early screening solutions, right. And those in other markets tend to be parallel in India, we're not that right. So I think the challenge of, again, innovation, medical innovation is being funded today. We think it's restricted to grants and we can have different types of grants. I think you guys have written somewhere about returnable grants and but let's call it philanthropic capital. You know, Gates has always been a pioneer in this, the Bill and Melinda Gates Foundation. So I think today it is still largely restricted to that. Can that expand to seed funding, more equity and more commercial? I think that journey early, but obviously we are optimistic that it will happen, right? It should happen. And therefore that I think that wave will happen. But it will take its own sweet time.

On the patient side. I think for us, like I mentioned earlier, group insurance is the big shift. We have to be aware of, you know, there are pros and cons of a fully insurance driven

market, obviously costs, rising costs, coverage, etcetera. But safe to say group insurance is a product that is tried, tested. More and more people, with the new labour code and the impetus on gig economy are getting social security benefits, I think those kinds of things, natural extension, we should see that happening on the coverage and the patient side. On the hospital side or the smaller clinics et cetera, I don't think that that happens over time. What we are already seeing there are, you know, three types of financing that hospitals see, right. Which is your cashless – and today the cashless coverage is from a number of hospitals perspective, will be very low relative to most of the markets. But insurance companies recognise, I think there is this common mistrust. Are these smaller mom-and-pop shops reliable, etcetera. But I think we are seeing people who are building out that network, building trust and how to increase your cashless network. Second is the reimbursement financing. There is an equal amount of importance that needs to be given and that we are seeing solutions like Hexa and others like Pristine, there's a company called Sparsh which is focused primarily on hospital financing and so they are solving that problem. That's your reimbursement financing.

The third is the out-of-pocket. Out-of-pocket tends to be the patient financing. So as far as providers are concerned, they care about one and two. And there, you know, if it links to adoption of digital health and financing, I don't think it's that expensive to begin with on the provider side. Right. So I don't think we need to worry about that. And there are other ways to do it. So many of the solutions globally are on a pay-per-use basis, right? Like whether it's basic or, you know, vitals monitoring, you can have health care analytics in the in the hospital beds. Different kinds of solutions, but they have moved towards a patient model. And so with the patient being covered, then hopefully you can pass through. So it's a question of reimbursement. Does that fall under a reimbursement line? So that's the way we see the transition happening on the different segments.

RB: [00:27:19] I want to get to the next level of detail on some of these Badri, but very, very useful. On the public part that we talked about – and for me, this is, as you rightly said, the easiest thing to do – but it's also for me the most critical to do because I was recently in a conversation with some very senior bureaucrats in the healthcare space. And one area everybody acknowledged is the fiscal burden on the state to promise insurance to every patient when we don't fix our public health systems and our early diagnostic systems, because the more downstream you go in covering for healthcare expenses, the more expensive it's going to get at population scale. So there is actually the business case for the government to actually invest in screening solutions, diagnostic solutions, and to be able to

deploy them at population scale so that early warning systems are improved and we are addressing more preventive care. I think the just the financial burden on supporting every patient and ensuring that they get covered for tertiary expenses comes down. And over a period of time, I think it just ensures that we are both a healthier country, but an economically more secure healthcare ecosystem, because as much as anyone would want, the budgets around health care are what they are. I mean, we can't go too far ahead on them.

So one, I wanted to just acknowledge your point that there is a value in sort of establishing that sort of a model where early capital can go and, you know, we can enable that. And the other part of that is if the government can actually look at models of supporting innovations, it also allows for, you know, after a certain level of clinical validation is done and on-ground validation is done, it allows for certain level of volumes to happen for innovators to then get to, you know, models of manufacturing, which then reduces the cost, which again has this flywheel effect. I wanted to get your thoughts on are you seeing things like this either in India or globally, where such partnerships are actually happening? And, you know, this can actually be demonstrated in some states in India as well.

BP: [00:29:21] Yeah. First up, I think you mentioned preventive and diagnostics. I do want to highlight something there. You know, I mentioned this quite often. Preventive is the privilege of the privileged. And what I mean by that is when we speak to, you know, obviously we are on the field, we speak to consumers at the lower income population in terms of what are your core problems, right. Healthcare comes up, I want to say in the top three, but it does come up as an issue that we don't have access. But when it comes to - forget the financing aspect - what are the solutions you want? It invariably links to education, jobs and other things. Right. So and that to me is was an 'aha' moment when it said where there is some awareness, but there is absolutely no prioritisation because healthcare hits you when it hits you. There is no journey to that right, and we have honestly experimented with preventive solutions, financing to save up for the future medical events and none of those have worked. And I don't think it works for the BoP. I did want to lay that out there. And it's a journey. It'll happen someday. So our view on any form of health solutions, particularly for the BoP, has to be provider- and payer-led, right? And there I think like, you know, Dvara, for example, they're working on a new HMO, which is a health maintenance organisation for this population where you pay their subscriptions and you get primary care access. So the whole theory there is if you solve for the primary care access, the family doctor concept, and then we will control the network that you need to go to, you

can manage the cost very efficiently through this and make our care more accessible, right? I think the model itself is quite interesting and relevant. The key there would be if providers wake up and say, can we participate in this HMO? And instead of having the family pay for this, can we pay for that? And that's where we need to do some pilots and see where they go.

As far as your question on, let's call it public private partnerships, I interpret it that way. I think we are seeing that where it is acute, like, for example, Andhra Pradesh has done a fair number of projects on tuberculosis. Gates obviously has done a lot of projects on malaria, willing to participate. And so our learning on the public private partnership is if it is defined population level and where the results and health outcomes are tangibly visible within a short period of time, states are willing to participate. The other kind of partnership you mentioned on the public health systems we have seen is where the public health system is providing the medical facilities, but the financing is done through a private kind of an instrument. I don't think that works. Our view is that the public health care system, just not for any other reason. It's just the volumes and quality of care, still has a long way to go. So more to your question, more interested in public-financed private health care partnerships and how do you make. So even like Villgro had done some projects with state governments on innovation. So point of care devices, the ASHA Anganwadi system, we've seen that as well as a channel for delivering some of these screening, I think maternal and child care, we've seen that in pregnancy, you know, different kinds of solutions that have reached the base of pyramid population. But ideally state-sponsored will be the way to scale those.

RB: [00:33:34] Two thoughts there. One, just wanted to play back what you said about education and livelihoods being like the way to look at it. And this is aligned also to what I have seen. Everybody seems to look at the opportunity spectrum, which is what is going to give me the life chances to sort of go up the social ladder. And education is, of course, now everyone's belief that this is really what is going to take me off poverty and where I am. The risk spectrum thinking is completely absent. Like you sort of always discount the fact that there are any risks that you're going to face, which is why I think even in insurance I was recently talking to somebody who said that even in flooded areas where almost every year there is a flood and almost every year the livestock is lost, people still don't insure the livestock. And the government benefit that you get when you lose livestock is 15,000. The cost of livestock is 75,000. So in some sense it's a recurring risk and you know that every few years it's going to happen. You still discount the risk that you might lose your livestock, which is probably your primary source of livelihood. And that risk discounting in some

sense is what I'm hearing you say as well for health, saying I know people get sick, but I'm not going to fall sick or it's not going to be that bad.

On the point you made about private finance, publicly executed, publicly financed models. I think this is a very useful classification. I wanted to add one nuance there. Badri, and I don't know if, you know, this is a useful way to think about it. A lot of issues or not issues, a lot of opportunity getting unlocked in public models and publicly funded models stops at the place of procurement. The procurement is just a massive challenge. Contracting gaps are a massive challenge et cetera. And now with the GeM portal coming in and so on, they're trying to find a way to make procurement more transparent and effective. Do you actually envision a model where, you know, healthcare devices for point of care, etc. are available in a GeM portal where public hospitals funded by the government can actually procure them at volume because it's win, win, win. The government creates a transparent mechanism for purchasing, private players get access to healthcare markets in a way where they don't have to go to every state, sign MOUs, do the change management, etcetera. And hospitals have choices. Even public hospitals have choices on where to buy. Am I oversimplifying a model like this for public procurement, which offers volume guarantees and allows for publicly financed private innovation to happen?

BP: [00:36:09] No, not at all. I think spot on. We're seeing early signs of that. GeM is actually, I would say a reasonably well functioning portal. Axio, for example, participates. Many of our biggest clients are public hospitals and even the defense, right, because they make… So I think GeM is one way to go, I would say. And what GeM doesn't necessarily do is reduce the cost. So I think that that's actually a good thing. There's one learning from NHS in the UK is that everything is an L1 and the lowest cost and it just becomes very difficult for innovators to provide and make any solutions at scale, right? So I think fortunately that's not the case. And there are and they're very receptive to the fact that there are certain ways of that procurement. And we are seeing a fair number of distributors as well, on the portal now, participating medical devices and all of that. I think, you know, when we think about public health system procuring and I think that part I don't know that it's fully happened at scale. A lot of that is also to do with awareness, right? If it's products that they're using today. And that's where GeM becomes a more transparent way. And there are perverse incentives there in terms of why they may not want to go there as well. But despite that, I think if we can also solve for awareness at the public health systems in terms of what is most relevant for you. I think you alluded to this point around data. What is a population health and what are the likely incidences? And therefore, are you equipped that journey

mapping is simpler, easier said than done. But if we move towards this system, you know, I think systems like Canada, Singapore, globally that we have seen, they're just phenomenal. I think their readiness for any kind of event that is likely to come and have a significant impact on the public health system is because every hospital in the network is already sharing what information, what patients are walking in with, and they even have patterns around symptoms. So these symptoms are equal to this likely condition. So that is even starting from something as simple as a viral infection that is affecting people at scale to something that is much larger like a pandemic. Right? So I think that we need that evolution. We need that understanding. One of the things that don't exist, and we see this in a lot in medical device companies, the convergence at the public health system is very low, so automatically their sales pitches are navigated towards private hospitals and many of them end up going global. And how do we divert that towards public hospitals is a challenge. I don't have an answer for it. It's a much bigger problem.

RB: [00:39:16] I want to come back to the point you made earlier around the provider's ability to pay and the group insurance model. And this is something I've been thinking about Badri, is that one of the challenges for us with insurance in general has been the labour market structure in India. Only 8% of India's workforce is the organised workforce. 92% is unorganised. Two chief industries that we work with, agriculture and construction, are like the most deeply informal sectors. You know, when you talk about group insurance, you also alluded to the gig workers, you know, which is an important play because that's in some sense, the in-between between purely, you know, private or organised sector to unorganised sector. But how do you see this labour market structure challenge when you talk about group insurance? Are there ways to sort of overcome that, to actually scale it outside of the effort that the government is actually taking?

BP: [00:40:14] So first of all, I think awareness has gone up significantly. People may not be willing to spend out of pocket right away, but at least health insurance is needed, right. I think that mind shift has led to some pull-based demand. And, you know, we even work with construction workers and their accidental policies. Right? Like it's very, very different. Like are they for the first time they're waking up and saying – the trigger was COVID. But are they saying, do I have accident coverage? What happens? Right. I think that pull-based is something we are starting to see for sure across segments of construction workers, the delivery boys, etcetera. Right. So all of them are asking for that.

On what is the right financing instrument. I think it could be a combination. We have seen, for example, one of our companies experimented with a…sorry, before that I think Zomato's, Swiggy's of the world during COVID at least ensured that all their gig workers were covered, had a reasonable, decent coverage. On the insurance side, people have come up with very good, interesting Rs 1 lakh coverage products, Rs 5 lakh coverage products that are very, very applicable to this segment of the population. So I think that provision instrument is also there. I think there's still the challenge will be who pays for it in the long run and at scale. Right. And there I think that's and that's probably a question on the financing side.

Our view, at least at this point of time, is that there is a co-pay model. So similar to even your ESI, there is a contribution from the employee today. Group insurance doesn't work that way, right? So is there a co-pay model that can… there is an employee-employer and that is probably the way to go as far as that middle income coverage is concerned, where you reduce the cost that they have to shell out, but the coverage ends up being much more significant. Coverage has two parts. I think the limit itself, everybody talks about the limit. Equally important, India is probably amongst the largest partially insured population in the world, which is to say, that the likely thing that happens to you is not covered by what you're doing. I think both problems need to be solved, particularly for this.

RB: [00:42:38] Again, coming back to the labour market issue, you know, construction, for example, who knows who's actually sort of contracting this person because contracts are so informal. Agriculture has a similar issue. But I've always wondered that, you know, there is this BOCW Cess that is, you know, Rs 6000 crores or more now. It's probably much larger than a few years ago that we are sitting on, where while individual contracts are missing, industry level contribution is already available and unspent. You know, and similarly, the agriculture accounts for the greatest number of subsidies that the government has, which is really farmer-led subsidies. Let's even take construction for the moment. Is there a model of co-pay that can be structured where it builds on the BOCW Cess for the industry contribution? And then there is the worker contribution. And as you rightly said, workers see value now. You know, COVID has made risk a reality. And if they know that, okay, for X amount of payment, I get Yamount of co-payment contribution from the cess or whatever. Is that actually a possibility to structure payment models for, you know, for insurance for informal sectors like construction? So that is one question.

Second question just related to that, Badri and I think also connects to the point of partial payment. Bindu Ananth you know, the chairperson of Dvara Trust was also here as part of

the podcast, and one of the points that both of us discussed was also just the lack of innovation in the product of the insurance itself, you know, like the actual value proposition, communication, etcetera, partly because insurance is so highly regulated, But this whole contextual products that can be built either in credit or insurance is also, you know, a challenge. I don't know if you see it that way, too. So is there a last mile product innovation that can happen, which we've seen a lot happening in Thailand and Indonesia and so on as well. So wanted to get your thoughts on that to say, (a) how do we solve co-pay models for informal sectors like construction is the type of a structure where it's not the provider that's paying, but it's the industry paying as a whole an option. And two, do you see a lack of innovation, or do you already see innovation in the productisation of insurance in some sense that makes it easier to sort of sell this to workers as well?

BP: [00:44:53] Yeah, no, no. I think both are very, very interesting dimensions. I think on the who pays, I think the BOCW Cess is a great idea actually. We had discussed that at some point. So, so if you look at the 2 or 3 pools of capital that remain massively oversubscribed and underspent, it's actually BOCW Cess and ESI. So these two pools are highly relevant for the population that we're talking about. So absolutely diverting those funds. So, for example, ESI today is restricted to utilisation in ESIC hospitals. Why can't you extend the funding to other hospitals that are willing, right. So the GIPSA-equivalent of that. Or can you make it like a GIPSA programme where you actually even private hospitals can participate in the public insurance side, right. Like so that's the GIPSA programme. So all the state insurance, state led insurance. So extending that logic here is a state or a public financer. Can I divert that to private care and have people participate? So I think absolutely way to go. And more and more pools of capital for each of the industries is that that's, I think, a very interesting innovation that we could see.

On the product innovation, I think we I agree with you. I don't think it exists today. But for example, we're investors in a company called Toffee. Their whole idea has been to create microinsurance products, which are extremely relevant, right? Like at one point malaria insurance and dengue insurance in Delhi during peak season was massively oversubscribed. And we were seeing people from all segments of population. So the product level innovation, the whole thesis is micro/bite-sized, highly event-driven. And that kind of an approach framework if you do, honestly, I don't think the regulatory piece is a big challenge. It is the scale and economics and can that work? I don't know. As you alluded to, it doesn't exist fully today, but we are seeing a fair bit of innovation on that side. There are other companies like Toffee which are also doing that, even the likes of if you talk to ECHO,

and for the first time they've entered health post-COVID and they are thinking a lot around these kinds of innovations and for all segments of population. So I think the innovation will happen fast.

RB: [00:47:32] I think once we create the public data to be able to understand the risks involved in some of this, it actually becomes easier to build the models for ensuring insurance into this. You know, like I've recognized that innovation in insurance also is hinged on the data that we have access to at population scale that tells us, hey, what is the risk of this incidence? What is the cost of this incidence? Where do we see this more of, where can I do this? Because then that creates this microinsurance product that's very targeted to specific geographies, specific people and so on. So let me segue to the data part, because, you know, in the beginning as well, we framed it as, financing is one issue, but the innovation is another issue. And maybe we start with the data piece and then come into the larger innovation question.

For me, the promise of the Ayushman Bharat Digital Mission really is the promise of public rails that offer us data at scale onto which private innovation can plug into. You know, what you talked about in Canada to say every hospital has this, but the data then available as a public data system. And I know we are at a very early stage here and we are still, while there is uptick on the number of ABHA IDs we are creating just to enroll populations, health records are maybe a few years away in terms of population scale. And then there is the rest of the information exchange that they want to create.

Since you've looked at the global landscape with data, you're looking at the ABDM piece with respect to the public rails understanding, how do you see the promise of this to be able to kick off some of the innovations that we're talking about, either in insurance or in products and devices and so on as well?

BP: [00:49:07] Yeah, I think the current innovations seem to suggest to me that it will be more on the insurance side where we will innovate faster. So I often joke India has very highly sophisticated actuaries who don't need to do much because most of the products are cookie-cutter, right? So for me, I've always found that baffling. I've met some very smart actuaries in the country, but they don't have enough data. And anyway, the regulators don't allow even something as simple as risk-based pricing, right. Which exists in other markets. So I think we have to think along those lines. Like, for example, if you're over 65, doesn't mean you need to pay the 50% extra premium that you're paying if you're extremely fit in

your likelihood of any incident. So we have to start thinking along those lines and move towards it. And that will fundamentally change the way people understand and accept insurance. I think there's a little bit of a chicken-and-egg, right? Like, why am I paying that when I don't need that much? So I think that mind shift has to change. Data will also solve the problem of, like I mentioned earlier, what interventions are required. You know, are there certain kinds of acute conditions for which we don't have enough medicine availability in particular regions which the public health system can become smarter at? So I think the interventions piece it will become… But as far as the innovations go, I think those will take more time and a lot of that is to say today we are creating innovations in silos and not married necessarily to what the situation or the need of the different pieces is, at least that we are talking about. I don't think there is sufficient information that is relevant. So you could make it at a, you know, like a neonatal care, in a respirator, you know, those kinds of solutions, those are much easier. But when it comes to more specific problems, I don't think honestly, India understands how the BoP... what is the incidence of non-communicable diseases at the BoP. We don't have that data. Right. So things like that, because there's never been diagnosed, right? Like you don't have a health checkup. So I think that shift will need to happen before we can see more innovations that are targeted.

RB: [00:51:34] As we enter the last part of this conversation, I'd love to specifically ask you in terms of, you know, we've talked about where we are today. We've talked about a whole bunch of ideas around, you know, how public procurement can work. How can we look at informal workers, group insurance models, product innovation, et cetera. If you had to sort of look at the view of all the stakeholders involved, and if you have recommendations from your side on what are some of the critical things that we should push for, based on the conversation we've had in your thoughts to actually accelerate adoption of digital health, what would they be? You know, across, let's say, governments, markets, civil society, philanthropy and so on?

BP: [00:52:17] Yeah. No, I think, let me try and address this through first. What are the problems that exist today? And then who plays what role? We can try and figure that out. I think the fundamental problem at the core – and this actually applies to all income segments – is low awareness and how do you solve for that? It's a massive problem. We all talk about financial education. We talk about, you know, general education, but why not health education and much more importance to that. So I think that problem needs to be solved. Most likely, I would say by philanthropists. But equally, I think state has a…I think they tried that with the ASHA-Anganwadi system, which was then quickly pivoted towards

delivery as opposed to creating that awareness. But I still believe that unless we solve for that… We for example, you know, even in our own companies, 1MG, the number of searches that we see or even a Hexa when it comes to surgeries, information on surgeries, we see a massive demand. And this again straddles all segments. Hexa is working on a Telugu version, Hindi version, et cetera, because they're seeing that demand come from very, very different segments. And so I think that awareness problem… who solves it is an important one.

The other side of it, which is are we providing the correct information? Right. Today while doctors have a liability, certain set of rules that they have to comply with, there isn't a standard or a protocol in terms of medical information or diagnosis that is universal in the country. And I find that baffling. I think we need to solve for that. And there are enough examples globally, if you look at it in terms of how like I would say on that piece at least, US is probably the most evolved, they spend a ton of money and time trying to figure this out in the right way. So lots of learnings that we can do from there.

The third is financing. So on the financing piece, the insurance piece, India is an out-of-pocket system, right? I think we spoke about that before. We need to first clearly define what system are we moving towards. And there you can have, you know, the Beveridge model, which is what the UK follows, right? And where there is the NHS, there's only one NHS and everything revolves around it. I wouldn't recommend that model, but that's, that's one model. Then you have the what's called the Bismarck model, which is what Germany, France, et cetera, which is payer-led, right? So employers and employees will administer what they want. The closest is actually a PF-equivalent for health care, where even the administration happens within the employer-employee framework of the healthcare services. Right. So I think with the group insurance, can we move more and more towards that? That could be a possible way. And the third is the national health insurance, which is the Ayushman Bharat. But I don't think just having that layer alone solves for these other pieces. So picking which model we're going after. Out-of-pocket will not work for India at scale, I think that's very clear. So we need to identify what paying system we're going to adopt and pros and cons of each which we can discuss.

And the last is the medical innovation itself. And this is where I think the role of funders is most critical. We have tried to be very candid to garner commercial capital at one point, you know, the likes of Accel and Shirati, they've done some very interesting investments in medical technologies. I think if you ask them hand to heart, they will say we're de-

prioritising that. And that to me, that's where that I think you spoke about that digital health journey has not evolved.

I think on the philanthropic side, the experience has been relatively better. So we use both checkbooks as well as you know, Rathish I think for us, we apply it in education and other sectors. We are, as we speak, figuring out where we want to do within healthcare, where the grants are best utilised. Our view of the world is that the grant side is relatively more evolved. There is not much more we can do incrementally. There could be instrument innovation. I think whether we do DIBs, development bonds, returnable grants, and we could innovate on those kinds of structures to allow more people to participate where it's linked to health outcomes. I think that's something Dvara also speaks a lot about. I think so I think we can do something like that.

But I think the more important problem to solve is on the true seed innovations. You know, let a million metric and digital health solutions bloom, right? I think that's a much harder problem. I wish we could get more funders more interested in that space. And for that, again, it's a chicken-and-egg if you solve the other pieces. And as people see more adoption, I think health financing, if you look at even though 2022 has been a very dull year, if you look at which sector has as far as funding, commercial, VC, et cetera is concerned, health and financing has actually done very well. So a lot of, you know, the Plum's and Kenko's and all these health financing, converting or Loop Health, all these converting into delivery of primary care themselves. So Loop and Klinik in particular are figuring out ways to become care providers and insurance distributors. I think that's a very interesting combination, which, if done well, can actually solve a fundamental problem. So I think the long story short, I think that's to me, the hardest part to solve. How do we get more innovations funded such that we get access? I think then the next part would be the cost to serve question that often comes up as far as the underserved population is concerned. So we need a much longer patient capital approach as well.

RB: [00:59:19] This is a wonderful summary. And I just want to pick a couple of reflections I had as I heard you speak. One, of course, as you said, is that the amount of commercial capital that health tech needs, versus what it gets is still a big challenge. And hence this is the Valley of Death, promising ideas hitting a certain scale and then not moving beyond, except if they are like a Fitbit or a, you know, a software type of a solution. And I think that is worrying because we need more, as you rightly highlighted at the beginning, point of care devices, at the point where care is delivered for us to build the events, et cetera. So I think

the effort in some sense is to grow the market, then grow the innovation themselves because then the capital starts to follow. And as you rightly highlighted, it's a chicken-and-egg problem. Unless you're improving the purchasing ability of the stakeholders to procure the health tech devices, the market doesn't grow and hence commercial capital doesn't come in, number one, unless you reduce the barriers of innovation. You know what you highlighted that we don't know what NCDs in bottom-of-the-pyramid even look like, like how do we innovate? We sort of innovating for a dark, unknown market in some sense. And that then means ineffective solutions, not really knowing what is the challenge, etcetera. So we need that data, fertile data and the environment for us to be able to do this effectively.

And the third part of it is, you know, as you said, the Bismarck model and let's say the NHS model, NHS model requires high state capacity, you know, which is not our strength. The Bismarck model for us, the challenge is we have such unorganised markets that the payee-payer and the employer's role often doesn't translate as it does in the developed market space and hence what is the right structure for us to do it. Incidentally, I was pleasantly surprised when you highlighted it as well. For me, the models like Klinik are the most promising aspects of what is coming in healthcare innovation as well. Because if there is somebody who then takes full responsibility for your care, you know, rather than saying, 'I am the provider, I'm the payer and I am the one who is sort of giving you medical advice', etcetera, to say, 'Hey, listen, this is a one stop shop. Here are ways for us to integrate all of this'. Their interest in actually getting large scale data, their interest in actually standardising, bringing down the cost of care so that they can deliver better value is actually higher. And in my mind, if we are able to find the right pricing for it, it's probably the model that works well for India, you know, because we, I don't think are currently capable of handling the fiscal burden of tertiary care when our primary systems are broken.

As much as we should continue to invest in the state's capacity to deliver primary care, I feel like alternate models that can enable and promise care at scale, you know, and combine that with the pricing models, I mean, the insurance models around that I think is an innovation that India needs because that allows us, if it works well, distribution for a wide range of devices, distribution for a wide range of services that we can deliver to people at scale. And for me, all the ingredients are starting to come into place. There's a lot of conversation on, you know, insurance. I know there is a large conversation on ESIC as well to see how it can improve their access. There is the ABDM, there is the entrepreneurial energy in this. And philanthropy is often seen as a catalytic capital. You know, you sort of say that, okay, all the logs are in place. Can we start the fire?

Specifically, not just for from an Omidyar lens, but overall when you see the philanthropic landscape and, you know, given the growing domestic philanthropic landscape as well, are there things that you think philanthropy can do to really just get the fire started here?

BP: [01:03:02] Yeah, no, I think absolutely the nail on the head. I think we've seen this in other sectors, right? Like if you look at the development sector and if you take financial inclusion, you know, the biggest success story we still talk about is microfinance was initially non-profit philanthropy-driven. Education in India was philanthropy-driven for the longest period of time, and a large part continues to be. So, what is the equivalent of that in healthcare? I don't think we've ever clearly defined that. It used to be the old age hospital, you know, used to come from nonprofits, et cetera. But beyond that, we haven't really thought about the role of philanthropic capital in provision of healthcare, beyond things like malaria and TB and eradication of large diseases.

And there I think the missing link is what said the same thing about commercial capital. It's the same for philanthropic. I don't think there has been enough focus on medtech innovations. I don't think digital health, even the telemedicine, you know, those could have been funded. So telehealth has been around for 15-17 years in India. Very little adoption, if you will. And I don't think there was a focus because people would gravitate, like I said, towards on-field what is you know, what is on the ground, not necessarily technology-led solution, the fundamental mind shift. And, you know, I think we are starting to see that happen, but it's still drip. So if I were to flip on that switch to say, hey, let's focus on creating, an innovative instrument, which is really around facilitating, diagnostics for the rural population or about facilitating cloud ICUs, right? Like can you have those companies like Cloudphysician, which are trying to do that where the patient is in one part, there is a facilitator, either a nurse or, you know, a paramedical, and then there is a hospital and a senior surgeon somewhere else and they're able to monitor, identify what the issues are, right?

We're going to have to move towards that. What is the right solutions or experiments that we need to undertake at the field level using technology, recognising that healthcare is, it is what it is right today. And what are those pilots? I don't honestly, we aren’t thinking about that, that is WIP as far as we are concerned.

As you alluded to, I think primary care is one area where it seems obvious. Lots of, you know, learnings from the likes of Vatsalya, Nationwide, Arvind Eyecare. So different learnings that we have gained. Industry has also gained in terms of what works, what doesn't.

Now the question is can we convert that into a sustainable, like you said, Klinik model could become the default for primary care, the Dvara model could become the default. So we don't know. But primary care seems like something philanthropic capital will navigate towards. But I think equally important is these other pieces. Technology-led solutions around access, around devices, around getting people to, like I mentioned earlier, screen earlier. So Niramai for example, they screen for cancer much earlier, not in a Stage three or Stage four, at a Stage one and most likely at a Stage two situation like. So how do you get those innovations to reach that population and see which one works. That would have to be funded by philanthropic capital. And then over time, as we see success, hopefully it sees the same evolution that these other sectors.

RB: [01:06:59] Badri, thanks so much. You've been very generous with your time and your insights. And for me, it was a very, very engaging conversation. I think we really were able to cover a wide range of topics and also recognise what are the knots. You know, some of these are more systemic issues as well rather than just point solutions. And there are never easy answers. But I think I'm actually leaving this conversation feeling more positive that solutions are possible, you know? So thank you so much. It's been a wonderful conversation and I'd love to sort of stay in touch to see if at some point we can do a Part Two where we come back and say, okay, hey, things have actually improved from the last time we spoke and here is what is happening.

BP: [01:07:34] Yeah, I think moving from the nots to haves, right? Like what? What works. I really hope they make that transition. I don't have answers today, as you would have figured out. So hopefully we'll have an answer.

RB: [01:07:44] Thank you. Thanks so much.

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