Digital Health is India's Next Infrastructure Revolution, Big Ideas Ep 75

Episode 75 | Big Ideas

Dr Indu Bhushan

Transcript

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Abstract

Digital health has the potential to reshape India's healthcare system the same way fintech reshaped its financial sector. The core argument is that India does not need to wait for more doctors and hospitals before improving health outcomes. The existing system can be made significantly more efficient, accessible, and affordable through digital tools.

The conversation covers three interlinked problems in Indian healthcare: scale, scarcity, and uneven quality. It walks through how digital health addresses each of these through telemedicine, longitudinal health records, and interoperability. It also examines the roles that patients, hospitals, insurers, researchers, and policymakers each stand to gain. The conversation then turns to the challenges: data privacy, the digital divide, and the risks that come with AI adoption. A clear framework emerges for what the government must provide versus what the private sector should build.

The detailed notes below unpack each of these themes, including the specific infrastructure government needs to create, the accountability gaps in AI, and why Indian health data must be treated as a distinct requirement for AI model training.

Supplementary Resources

- **India's Evolving Digital Health Strategy** by Aditya Narayan, Indu Bhushan, and Kevin Schulman (Journal article) [1]
- **The Lancet Commission on a Citizen-Centred Health System for India** by Vikram Patel, Anuska Kalita, Kheya Melo Furtado, et al. (Commission report) [2]

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Introduction and guest background

[00:00:09] **Sanjuktha:** We are here today with Dr. Indu Bhushan, a former Indian bureaucrat and economist. He was also the first CEO of Ayushman Bharat.

[00:00:17] **Sanjuktha:** Hi Dr. Bhushan.

[00:00:18] **Indu Bhushan:** Hello.

[00:00:18] **Sanjuktha:** Welcome to our Big Idea series.

[00:00:20] **Indu Bhushan:** Thank you for having me.

[00:00:21] **Sanjuktha:** I'd like to ask you, what is your big idea for us today?

Digital health as India's fintech moment

[00:00:25] **Indu Bhushan:** Well, I want to share my big idea about digital health.

[00:00:30] **Indu Bhushan:** You know, digital health, um, is something that can prove to be for health sector what, say, UPI or fintech has done for the finance sector.

[00:00:42] **Sanjuktha:** So, tell us a little more about why digital health and why you think it could be so transformational for India?

[00:00:50] **Indu Bhushan:** Well, you're actually absolutely right because a lot of people ask me that, uh, how will digital health improve the quality, access, and affordability of health services? Uh, don't we need more doctors, more, uh, hospitals, and more services for doing that?

[00:01:09] **Indu Bhushan:** But digital health can actually improve the efficiency and uh, access to whatever services that we have right now.

[00:01:21] Indu Bhushan: Uh, you know, India, if you look at the health sector, we have a problem of scale, we have a problem of scarcity, and we have a problem of uneven quality. Uh, whatever you want to do, we have to reach 1.4 billion people.

[00:01:38] Indu Bhushan: And, uh, we have to, we don't have, uh, doctors or hospitals that can right now cover the entire health sector. Uh, for example, we have only one doctor for about 1500 population and we need at least uh, thirty or forty percent more.

[00:01:59] Indu Bhushan: Uh, and also the problem is that our health facilities are concentrated in certain areas. So there's a distribution is also a problem and the quality is also a problem. So the question is that how is digital health going to help in that way?

How digital health improves access and quality

[00:02:17] Indu Bhushan: So, first let's take access, you know? Uh, digital health through say telemedicine, uh, or many other ways actually has been able to reach uh, places uh, where there were no doctors available.

[00:02:34] Indu Bhushan: Uh, during the COVID period, uh, e-Sanjeevani provided more than ten crore consultations, and many of them from very specialists, very highly, uh, specialized doctors. And so far, uh, e-Sanjeevani, which is only one of the many, uh, telemedicine platforms, have provided more than forty-three crore uh, consultations.

[00:02:59] Indu Bhushan: So what happens with digital health is that, you know, uh, your records, uh, at the personal level, your records are all digital and you can carry them in your cell phone. And uh, when you go to a doctor, uh, the doctor has the entire longitudinal record.

[00:03:21] Indu Bhushan: And earlier doctors would be making their judgment or diagnosis based on very narrow field of, narrow set of data. Now they have entire data, all- almost from your birth. And they can see what kind of vaccinations you've taken, what kind of earlier health problems you had, what kind of other co-morbidities you have.

[00:03:45] Indu Bhushan: And so they can actually provide, uh, their judgment or diagnosis based on better set of data. So that will actually improve the quality of treatment. Uh, apart from that, you know, it also allows uh, interoperability. Uh, you are showing it to a doctor, you want to have second opinion, uh, you can do that because, uh, you don't, you're not relying on, uh, the information of the record that some hospital had.

[00:03:45] Indu Bhushan: You, you yourself have that record.

[00:04:20] Indu Bhushan: Also, what happens is that it reduces cost, and you'll ask how. So, what happens now is that people go to a doctor or hospital with a lot of paper and some of the papers are not available. And doctors don't know that sometimes that what kind of uh, diagnosis has taken place, what kind of tests have taken place. And many times they prescribe those tests again, and which is basically a waste.

Benefits for hospitals and insurance companies

[00:04:49] Indu Bhushan: So now if the doctor knows that already you've done those kind of diagnostic tests, they don't need to go through those again. So they can that can reduce cost as well.

[00:05:01] Indu Bhushan: Uh, for hospitals also, uh, adopting digital health can be a great boon because right now, when they are raising the claims with the insurance companies, so for different insurance companies, they have to send those claims through paper. They can't, uh, trace them, they don't know where the claims are stuck.

[00:05:25] Indu Bhushan: Now with digital health, they would, they can use the same form, they can provide to uh, different, uh, different insurance companies, and they can trace where the, uh, this thing is, uh, stuck. And also from insurance companies, uh, it's also a boon because, uh, now with digital health, uh, they can also account for it better because it's, they can be audited well because all the treatment which has been given is in digital form. They can clearly see what the diagnosis was, what was the treatment given, and what was the outcome.

Value for research and public policy

[00:06:03] Indu Bhushan: So for, from the patient perspective, from hospital perspective, from insurance company perspective, all digital health will help. But not only that, uh, there is also a big value from the researchers' point of view because when all the data is digitized, uh, then, uh, what happens is that that can be used for, uh, for research.

[00:06:31] Indu Bhushan: Uh, earlier when the data is in paper form, it's very difficult to get that data and do research, but with digital health, that helps. Also for public policy perspective, it is actually very helpful because, uh, if all the data is in digital form, uh, policy makers can see how their programs are functioning, what kind of diseases are happening in which areas. Therefore they can design uh, them in much better way.

[00:06:59] Indu Bhushan: So digital health actually is a win-win-win situation where, uh, patients will benefit, uh, providers can provide better treatment, uh, governments can have better policies, researchers will have data for future research, and insurance companies will have a better and more auditable data.

Challenges: privacy, security, and digital divide

[00:07:18] Sanjuktha: So, I think we're understanding how this can be a win-win-win if implemented correctly. That's correct. So, some of the capacity problems you spoke about, I mean, that is true for any kind of health care service. But when it comes to digital health in specific, what do you think are some of the problems that could come about when we try to implement?

[00:07:36] Indu Bhushan: That's a very good question, Sanjuktha. Uh, in digital, because you know, when data is on paper in some register, uh, it's very secure in the way that it can't be misused. But when data is digital and you have that data for the say entire country or entire state, it's extremely easy, like much easier for it to be stolen or it can become, it can be leaked out.

[00:08:04] Indu Bhushan: And it has happened in some big hospitals already. And so privacy and security uh, is one big issue uh, that one needs to deal with when we talk about digital health. Uh, but in addition, uh, you have a problem of digital divide because we know that about forty percent of the population doesn't have access to internet or smartphones.

[00:08:28] Indu Bhushan: So ensuring that, you know, whatever we do with digital health does not increase the this gap between haves and have-nots is a problem. So any solution that we provide for digital health will have to take into account the fact that, uh, a lot of people don't have access to internet or digital devices. So how to address their concern is one challenge as well.

[00:08:54] Sanjuktha: So, we see a lot of these digital health innovations coming from the private sector. That's correct. But what role should the government be playing in implementing uh, these methods? And I mean, when we talk about uh, things like data being stolen and all, then naturally we start thinking about regulation.

[00:08:54] Sanjuktha: So how does regulation also balance this between the new innovations coming about and public interest?

Government's role and regulatory framework

[00:09:20] Indu Bhushan: Uh, very good question, Sanjuktha. Because, you know, uh, this field, you're right, that lot of innovations will have to come or will come from the private sector and that's what we are seeing in say Fintech, where government has provided backbone and through NPCI, uh, but all the innovations have come from the private sector.

[00:09:42] Indu Bhushan: Uh, that is exactly what will happen uh, in, in this field. And government will have to provide three things. One, uh, they'll have to provide very robust infrastructure. And when I say infrastructure, that means that they need to have registries, registries of all individuals with unique ID, all the health care providers with unique ID, and all the hospitals with new unique ID.

[00:10:07] Indu Bhushan: And one single source of truth so that it is there like Aadhaar, and anyone can go and see if that doctor X says that he or she uh, has this specialty, someone can go and check it and you should be able to, uh, verify that. Similarly, one person uh, has an ID so that all the records which are created are linked to that person and that can be, uh, that that can create a longitudinal record.

[00:10:35] Indu Bhushan: So that kind of registries and infrastructure and an infrastructure which uh, can also uh, communicate information, health exchange, uh, health information exchange infrastructure has to be provided by the government. So government will have to create that infrastructure. That's one. Number two, they have to create the rules of the game uh, in terms of security, privacy, uh, where the data is stored, how the consent has to be taken, uh, how consent can be withdrawn, and things like those will have to be uh, created by the government.

[00:11:11] Indu Bhushan: And third, like I was saying earlier, that there's a digital divide. So, and also government will have to see how to ensure that uh, the reach of digital health is not limited to only some, uh, some people, but the entire country. So in that sense, they'll have to work with the uh, system to see that it is accessible universally.

[00:11:35] Indu Bhushan: You know, you can take this example of, um, road. Uh, government will have to create the road and they'll have to create the, um, uh, rules that all the cars are going to be running on the left, this is the speed limit, and uh, so and so forth. And then all the cars will come from the private sector and they'll be running and providing, uh, the mobility.

[00:12:02] Indu Bhushan: And not only cars, but also other things like, uh, um, all these dhabas and services which are on the, uh, highway will also come from the private sector. So government provides the infrastructure and the use of that will be of course done by private sector, but all the services will be provided by the private sector.

AI in healthcare delivery and its risks

[00:12:23] Sanjuktha: So, I think whenever we talk about a new technology, now the natural topic that comes up is AI. It's correct. So, how do we think about AI fitting in here? And so, and I'm talking about AI in terms of both healthcare delivery as well as the decision making that is happening here.

[00:12:23] Sanjuktha: And also, what kind of safeguards do you think are necessary to make sure this AI adoption goes well in this field?

[00:12:49] Indu Bhushan: Uh, absolutely, you know, uh, so digital health is going to be creating that platform for AI uh, to in a way actually transform the this delivery of healthcare. And AI already is actually making a huge impact in terms of uh, improving the quality of healthcare because uh, so first what we're seeing is that the rate of screening uh, through AI uh, has gone up because uh, in a country like ours, if you want to screen everyone, for example, for TB or for cancers or for any other uh, non-communicable disease, uh, it's impossible because we have to do it for 1.4 billion people and even with our infrastructure, uh, it takes time.

[00:13:37] Indu Bhushan: It takes time also to um, but but with, uh, with AI, uh, we're seeing that, uh, we have increased the rate of screening uh, of TB. Uh, we have AI applications which actually now uh, can assess and the high risk pregnancies so that we can be more selective in terms of providing support for these pregnant women.

[00:14:02] Indu Bhushan: We are seeing that rate of screening of cancers have improved and that is going to continue. And like you mentioned, uh, our decision support system will also uh, become better. Uh, especially since, you know, we have the posity of specialized doctors, this is going to actually increase the productivity of our doctors and in terms of uh, providing better services and more services.

[00:14:28] Indu Bhushan: And uh, so that will that will happen. And AI is also going to increase the at the rate at which new innovations are taking place. Uh, uh, vaccine development, new drug development, that also uh, will improve with the AI. And that actually is already taking place in addition to all other efficiencies in terms of processes.

[00:14:53] Indu Bhushan: Uh, that will happen. But uh, as you mentioned that they are also some challenges. Many of the uh, AI applications which are based on LLM are not trained on Indian data. And of course, Indian body and Indian systems are different.

[00:14:53] Indu Bhushan: Therefore, there is a need for uh, training uh, many of these applications uh, on Indian data.

[00:15:18] Indu Bhushan: In addition, there are issues of accountability because many of these applications are like black box. If something goes wrong and uh, who is to be blamed? So that those legal issues have to be resolved. Then there are also regulatory issues related to uh, what kind of AI application should be uh, approved.

[00:15:18] Indu Bhushan: Uh, when all these AI vendors are going and visiting state governments, uh, peddling their uh, applications, how should they uh, select if they should select uh, those.

[00:15:53] Indu Bhushan: So in terms of regulating, certifying, uh, these uh, applications, that's a big role of the state. I think they have to uh, focus on that. Again, also, uh, issue of equity and uh, also comes in with AI that, you know, it should work for everyone, not only for just few people.

[00:16:15] Sanjuktha: All right, sir. I think that was a very clear bird's eye view of what digital health could mean for India as well as the components required for um, a well done implementation. Thank you so much for speaking with us today.

[00:16:28] Indu Bhushan: Thank you. Thank you for having me.

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