

AI Rx: Redefining Healthcare with Intelligence

Podcast Transcript

Ajay: Welcome to today's episode of AI rx, Redefining Healthcare and Intelligence, where we dive into how AI is transforming the landscape of healthcare and life sciences. From personalized treatments to predictive analytics to drug discovery and operational efficiencies, AI is shaping the future of medicine life we never knew before. I'm your host, Ajay Chankramath, and today we have an incredible panel of experts to break down the latest innovations, opportunities, and challenges in this space.

Joining us today are Karthik GV, who's the CTO of Healthcare at Brillio, and he'll be sharing some lights into how AI is revolutionizing the patient care and streamlining medical records. Also with me is Sean Alvarez, who's the CTO of Life Sciences at Brillio, who will be walking us through the AI's impact on drug discovery and clinical advancements.

And last but not the least, we have Kevin Slusarz, who is a domain expert within the space of Healthcare Payer and a consultant within the space. So, Kevin is going to be discussing a lot about the AI's role in tackling global health challenges and integrating AI into clinical workflows.

So, throughout this conversation, we'll explore how AI is personalizing healthcare, accelerating drug development, reshaping patient experience, and all of that. And of course, we'll touch upon some ethical considerations and challenges that come with implementing AI in such a critical industry. So, let's jump right in.

Right.

So, my first question is going to be to Kevin. Kevin, tell us a little bit about how can AI be used in health insurers and hospitals to address the global health challenges?

Kevin: Yeah. Thanks, Ajay. So, as I was kind of thinking through this question, I kind of identified three areas or use cases where I thought that there was broad applicability of AI being implemented across blockchain, both payers and providers. And I think the first is in doing risk assessments of patient populations.

So, I think one of the key tenets in the healthcare space is the ability for organizations to correctly identify the risk of a patient, and then they can basically plan accordingly, either from a financial perspective or from a care perspective. And so, you know, AI has the ability to take kind of huge amounts of data related to health history, diagnoses, treatment history and outcomes and really make meaningful context out of what has worked for whom in the past and why it worked.

AI can allow very specific population segments to inform what caregivers need to do. And I think using that data can lead to significant breakthroughs in determining, like, what the best treatments are and I think not only just what the treatments are when someone gets sick, but also preventatively based on what those risk factors

are. I think the second use case is really an extension of the first is about creating those individual care plans. You know, that data that is being used has the ability to kind of hyper personalize individual health record and look at what might happen with someone who has very similar kind of health history, demographics, et cetera.

And I think this allows caregivers to give to be aided with the best information possible that allows them to make the most applicable and personalized care plans for those patients. And in the end that's a good thing because the patients then get the best health outcomes possible. And it's good from a provider and a payer perspective because they are able to do it at a lower cost.

And then I think the last use case that I think is very broad is really around customer service. I think it's no surprise that payers want to reduce the cost, the total cost of healthcare while maintaining a certain quality. And so any scale that they can get on the customer service side will allow them to put additional dollars towards care.

And then from the provider side the same goes for them as well. Obviously, their primary role in healthcare is delivering care and so any dollars that can be redirected towards actually care delivery and away from service cost is going to be a positive outcome for the industry. So I think those are the primary three use cases where how AI can be applied to address some of these challenges.

Ajay: That's fascinating, Kevin. I mean, so when I sort of think through what you just said, right, it's all about looking at that overall ecosystem and look at all the stakeholders within there and then see that how do you actually improve their experience for all of them? Right. I mean that's it.

That's a really nice way of breaking it down. So,

thanks Kevin. Moving on to you Karthik, in your experience, how do you see the healthcare companies using AI to streamline sort of patient records and improve that overall patient care?

Karthik: Great question, Ajay. I love your way in which you're framing your questions. You're combining both the foundation layer aspects and combining that with the outcomes as well. So, from your question about the patient records and improving the outcome, I see that in two aspects. Effective management of the patient records, which is the foundation that leads into being able to offer the improved patient care in otherwise like stretching in the futuristic way.

What many of the payers and the providers combinations are trying to do is that value-based care aspect for the patients. So let me first try to pick up on the second part which is about the improved patient care and how AI can play a role in that. And then come to talk also about the foundation layer setup which actually aids to be able to deliver this improved patient care.

From improved patient care perspective. If I take the complete lifecycle journey of what a patient goes through, there are different kinds of patients with the same payer, who have been visiting the similar kind of provider where the data is mostly available, which means a patient 360 view is available to the provider.

And there are many cases in today's world where people keep moving locations for their job. The data is with multiple different payers and it's with multiple different providers. So, when the patient gets into a particular provider for getting their treatments taken care, the key important aspect is for that provider to be able to get a patient 360 view to be able to offer the best treatment for the individual.

Just not the immediate kind of treatments results

and results from the test that has been given, but also the history of the patient. To be able to suggest the best outcome and to be able to get into the value based care is important for the provider there AI can for surely play a role by trying to collate different information from the different places which in some form are unstructured and some places are in the unstructured way to be able to offer those important cues to the provider in a fraction of second while the provider is in front of the patient.

So that helps the provider to be able to look into those important data without missing them. To be able to suggest the best suggested and recommended treatment for that particular patient taking into consideration the history, the demographics and plus the reason results and all of it which the provider now has a view into and continuing on the journey in the payer...I'm sorry...when the provider recommends the medication details then AI is a huge role to play today in that journey, the pharmacy benefits management from the time the provider prescribes the medication to the time of pre authorization claims, the adjudication all have to happen in real time.

And think of the specialty pharma where the recommendations are for some acute illness related medications and all of it AI has a huge role to play in terms of ensuring all this. Overall things can be orchestrated much faster. To be able to get that medicines delivered on time for it to be utilized by the patient which also plays an important role.

And finally, it all comes down to the patient themselves to be able to take care of themselves in a much vague streamlined way as recommended by the doctor. And the metrics about the patient continuously flows into the doctor as and when needed. There the AI can play away. If we think aloud.

AI in the form of a personalized health concierge will have a huge impact in such situations where there are not many to take care of the patient beyond say the nurse and their relatives and all of it your personalized health concierge something which is there available in the phone giving them the reminders about when the medications are to be taken giving them the reminders about the refill details giving them the reminders about when the next visit has to be scheduled going and scheduling it for them.

Such kind of a personalized self-concierge is another role AI can play to drastically kind of improve the patient care or the value based care to the next level. Now it's important to address if all these has to happen the different systems. In the healthcare ecosystem has to work together.

And I'm sure that's where the federal mandates have been driving most of it in ensuring the interoperability of this data among the different payer-provider combination that allows your provider to be able to get a patient 360 view. When all of these systems work together with the FHIR recommended standards and the mandates, the interoperability stuff that's getting mostly adopted in majority of the fields where also AI can play a huge role in transforming and kind of translating the different formats into the required format.

It can have a super great impact to be able to deliver this value based care or improved patient care. That that's my view.

Ajay: Well, what a fantastic way to break it down Karthik, because you touched upon a lot of things with very specific examples. But ultimately it all comes down to that improved patient experience or the patient care and that value-based care. Because the example that you gave with respect to patients being not only reminded of having to schedule a follow up or something, doing that for

them, ensuring that some of those things are.

Because as a patient myself, I go through that, and we forget to do the kind of follow ups and things like that. This is something that's going to really elevate that play to that next level. So, thank you Karthik. This is fantastic. Moving on slightly to the life sciences side of things.

Right Sean, what is the role AI is playing in drug discovery, development and manufacturing this year? So how will it evolve? This is particularly pertinent because of the fact that there are a lot of, I mean after the COVID we've been having lots of discussions around the drug discovery and bringing it to markets and all those things. Those things have got huge focus these days. So what's your perspective on that?

Sean: Yeah, thanks Ajay. And I think, you know, it is a huge focus right now, especially post Covid for how do we discover new drugs, how do we bring them to market and very importantly, how do we make sure everything is cost effective as we get into the providers so that the patients can get these medications in such a way that, you know, they're still affordable.

Now it's fairly well known that discovery of new drugs can. Getting them to market can take 10 years or more and cost companies billions of dollars. And these costs do have to be, you know, recouped over time and there's various mechanisms for that. But with AI we can start to shorten that life cycle and we can start to make things more cost effective throughout that process.

If you look at, you know, these patient records, these patient 360 records that we have, it is tremendous amount of data to look through, not only for how a new drug might interact with a patient, but how a drug might interact with other drugs that are already in the ecosystem that that

patient may be taking.

And AI driven platforms can look through this huge amount of data to try to find areas where there might be a potential interaction. The machine learning models can look at the patient history and other things that they've done and try to identify new pathways based on biomarkers that they might have or genomic data that we have.

Once we do have the drug developed and identified, we have to look at clinical trials for that. And we can identify patients based on this 360 data very quickly with AI that could be suitable for clinical trials. And by doing that now, the clinical trial is much more likely to be successful through stages one, two and three, because we've identified the patients that are most likely to benefit from it, that are least likely to potentially have side effects from it.

And using all of that data effectively, when we do get to manufacturing the drug, one of the things that's important to recognize is that will develop a recipe, for instance, of how to manufacture a large molecule. And those are put into manufacturing execution systems, MES systems, so that once it goes to the factory, we have automation to develop these and getting recipes that are developed by a chemist through to how do we get it into the machinery to manufacture. Historically has been a fairly time consuming, intensive process because you're taking this chemical steps to machine steps.

But with AI now being able to do, you know, OCR, being able to read documents with LLMs now we can use AI to simply look through those steps, generate the machine code we need, get this to manufacturing and very quickly and remove a lot of the manual work in between.

So now we have the clinical trial, now that we

have the manufacturing. Another huge step that has been a bottleneck to many companies in the past is the medical and legal review that's required to be able to advertise this drug to providers or directly to patients to make sure that the language is correct, that nothing is from the clinical trial data is being misrepresented, nothing about potential side effects is misrepresented.

And again, it's a very heavyweight process that requires a lot of people to look at everything that's being put out before any advertising, any new information on a website can be put out there that'll be compliant to government standards. And with using AI, we can look at the history of mlr processes within an organization.

What has caused problems in the past, what has caused things not to pass MLR review and shorten that cycle by using AI to detect problems.

Probabilities of this is where there may be issues in the content that you're trying to put out and fix all of that before it gets to that very final stage of acceptance of the compliance and really reduce the time to market once we know that we're going to be putting the drug out.

Ajay: And that's a fantastic analysis, Sean. So, the way I understood that is that it's not only optimizing or speeding up that molecule to market workflow, but that life cycle, but is also ensuring that each step along the way it's sort of improving the quality and the compliance and the regulatory requirements and all those things.

Right. Because you know, if there is one industry where that safety and the compliance is most important, it's this industry. Right. I mean so it's, it's fantastic to see the kind of accelerations that this can really bring about within that whole cycle. So thank you Sean for that. Switching back to you Karthik.

So what role do you see AI playing in transforming

that member experience while contacting the healthcare payer? Because this has been one of the big challenges, at least in the US that's been one of the continuous challenges. Probably not as much in the rest of the world but here this has been one of the bigger challenges.

So how do you actually approach that?

Karthik: Absolutely Ajay. And that is one of the major spend area as well. And trying to make that particular digital front door more cost effective is going to actually help in reduction of the overall cost of the healthcare and all of that. Because that money that gets spent in that digital front door when gets normalized, when gets minimalized, it's going to be passed on as a benefit to all of us in terms of how we pay our insurance and all of that.

Great question. So, I see it as two aspects. The digital front door today all happens via two mediums, either a voice based or a chat-based thing. And things have evolved much more the role AI can play because the journey, either the chat based, or it is voice based has to look very similar.

And where AI can help in that is transforming and moving away from those templates or SOP driven kind of interaction that used to be there. Press one for this, press two for this kind of a thing to more of intent-based conversation and more of a human like conversation that can be had which is more now real with what we all go through.

In using some of the chatbots and the AIs right? That's where a can play a great role. Let me take few examples when a particular member is calling in or trying to do a type in to understand and as simple as what is my copay or the rather the first thing is is a particular vaccine covered in my plan?

If yes, what is the co-pay? If no, then what's the

full pay that I going to do? If that's a simple question today to ask that question and for them to get that answer it takes anywhere between like 25 to 40 minutes depending upon whom they call in the level of experience of the person.

Because the largest churn that happens in the healthcare industry is in the digital front door side where the people in the call center continues to churn and trying to train them, getting them up to speed has been a continuous challenge for the payers. And that's the important experience that has to be taken care of in this whole journey.

Think of AI in this particular use case where a conversational AI based bot is given to be used by this particular agent or made it as a self-serve for the patient itself. Where the patient goes and puts in the data or asks this to that person whom they are talking to.

And behind the scenes AI now has the ability to be able to understand okay, the person is Karthik belongs to so and so health plan. So, I can go and pull up the particular health plan the person belongs to and in this year how much of out-of-pocket expenses this particular patient has already met what is remaining?

Taking all this information available to me, I'm giving a personalized contextualized response to them saying for your specific question that you asked whether this vaccine is covered or no, yes, it is covered and your copay is good. Going to be 'x' \$, say \$30.

But since you already met your out-of-pocket expenses, it's going to be of no charge to you. Think of that as a response. And that too coming in the matter of minutes as opposed to like 25 to 30 minutes is going to be the huge advantage. I'm not talking anything super futuristic.

This is, as we speak, is now and then happening as

there are many payers, both the national players and the state players whom you work in with implementing such use cases and being tried out at the different levels without compromising anything around data, which is the critical thing.

As he just spoke about few minutes back, that's the way I see where AI can play huge role in this digital front door. I just picked up one example. There are multiple such things like agentic AI for the whole journey. How can you understand the intent faster when the intent is understood whether it can be addressed by an AI or has to be addressed by a human.

There are a whole lot of different things that are happening. We can keep talking about it, but certainly I see a huge play already happening in the healthcare industry with harnessing the power of AI to completely help the experience to be improved for the members like all of us.

Ajay: Yeah, I mean that's so fascinating because every time we talk about AI, at least until a couple of years back, it was more futuristic and even when we started talking about some of these things, it became like, yeah, we could do these things. But I think what you're really saying is that no, no, it's not about what we could do in the future, what's happening today and how could we sort of improve that.

And I think that's really fascinating. So, if the listeners are, you know, taking a couple of points from this response that Karthik. And I think that's the critical thing, it is happening today. So, if you are not doing it, you are already getting behind the eight ball, so you should definitely be thinking about it.

So, switching back to you, Sean, so I know you gave a good explanation of how do we actually go through that overall drug discovery and production process and how do you optimize and

all that. But if you were to just dig a little bit deeper, right. How do you see AI sort of improving the diagnostics in fields like radiology, pathology, genomics and all that?

Sean: Yeah. So, you know, one of the unfortunate side effects of COVID in the industry is that we've seen a tremendous lack of professionals that are available in hospitals in radiology. Labs. And I don't see AI replacing people, but what I do see it doing is enabling the people that are in the industry to do their job more efficiently and prioritize what they need to so that when we do have a lack of professionals in these areas like we do now, compared to the demand, they can still function and provide the best care possible.

So, if I think about radiology, you know, enhanced image analysis from radiology screens, AI can look through thousands of images, thousands of pathology slides, whatever it may be, in a very short period of time and identify the ones of maybe the highest risk patients based on what's being seen or can detect very subtle anomalies.

If you think about, you know, a scan that may be taken now and a scan six months from now, if you've got somebody to look through that, maybe you're not identifying a very small increase in a tumor or, or some other tissue, AI can pick up on that and give a better probability.

So that now instead of having to look through hundreds or thousands of slides, I get a result of 10 or 20 that seem to be the highest risk that I need to pay the most attention to. When I think about it in terms of genomics, I mean, genome sequencing, it's just a huge amount of data, and we've made a huge amount of progress in the amount of genes that we can sequence and the ones that we've identified that could potentially cause hereditary issues or make someone a little bit more likely to develop a condition.

And there's a number of other genes that we just don't know. You know, we know what they are, but we don't know maybe what they're related to. And by having AI look at this, by having it look at worldwide health data, even anonymized, it can start to help us identify maybe what those genes could show a predilection towards and help us make faster and better diagnoses again, without requiring us to dramatically increase the number of people that we have in the industry and let them do their job more efficiently.

Ajay: I love the predictive aspect of some of the things that you're talking about, right. Because that's always been something that is people wanted to do. We have tried to do it in so many different ways over the years. But now, I guess with what is happening in AI, you're able to sort of increase the probability of success and when you're doing so many predictions there.

So, this is really, really fascinating. I would love to have further conversations with you on some of these very specific topics. So, Kevin, so what are the challenges that you see from the point of view of US healthcare system, right, when in trying to integrate AI into the workflows? Because, you know, one thing that we have heard a lot across all kinds of, you know, regulatory side of things is like, are we regulating AI enough? Are we doing the right kind of things when it comes to adopting AI? And again, within healthcare, that is going to be far more impactful than pretty much any other field.

So, what are your thoughts on that?

Kevin: Yeah, no, it's a great question and I think really timely. I think, you know, I boiled the answer to this down to really one thing and it's, I think, I think you could say it in two ways. But historically speaking, the US healthcare industry has had extremely low NPS or net promoter score.

And so, to me, what that comes down to is trust. And so, I think, you know, and I think this number varies if you look at payers versus providers versus pharma, drug manufacturing. So, there are certainly like, this isn't broadly applicable to all of those because I think there is some variation.

But, you know, particularly on the payer side, you know, I think it's even more important to ensure that, that all of these things that we're doing, like all the things that Sean and Karthik have spoken about, like drug development, claim payments, there's a lot been in the news around that lately, clinical and care management.

And not only that it's done efficiently, which I think we've all acknowledged that the technology is there to do effectively and even more effectively with AI, but to do it ethically and with the patient at the center of it, I think, and that in turn will just create a better trust factor.

And I think that, you know, I think it's often overlooked as far as like, who are the right, like partners to work with on some of these things. But I think the way that we think about it as Brillio, or at least the way I think about it, is that you really have to, you have to know two sides to the equation.

You have to know the tech deeply, but you have to know the business deeply as well. And so I think, you know, it's not that the tech is there, it's that we're still early in the adoption cycle. And so, working with trusted partners who know the domain and know the technology is really important.

So, you can get to that kind of level of trust that allows you to say, okay, this is a, this is the best for our member. This is the best for the patient. And when that happens, it is actually best for the payer, the provider, the drug manufacturer, because they can either do it at a better margin,

they can do it at increased revenue or a lower cost.

And so, I think, you know, those are those that's gonna benefit both the businesses servicing these patients and the patients who are receiving care so broadly. I think that is the main challenge. I think, you know, certainly I think as people get more kind of ingrained with AI being part of their daily lives, that adoption will change over time.

But I think, you know, the onus is a little bit on organizations like us to push the idea that this technology can be done ethically, responsibly, and at a great benefit to who we're servicing.

Ajay: What a great way to bring us home. Kevin. So as a technologist myself, right, and one of the things I keep thinking about is it's all about technology. But I think what you're saying, which I think, you know, we as a whole, as, as a society is coming to terms with, is that it's all about understanding the domain as to what, where you're operating in.

Something like Healthcare and Life Science is a classic example, you know, even compared to something else. Right. So anyway, so this has been such an insightful discussion. So we have covered everything from AI driven drug discovery to predictive analytics to real time patient monitoring, operational efficiencies, everything, right? So, it's clear that AI is not just a tool, it's a transformative force.

It's reshaping the way we deliver and experience healthcare. So, a huge thank you to our panelists Karthik, Sean and Kevin for sharing your expertise and perspectives today. Your insights have given valuable understanding for any of our listeners. Talking about AI not only as immense potential, but how do you actually redefine healthcare using that?

So, to our listeners, we would love to hear your thoughts about what excites you most. If you want to learn more about any of these things, just reach out to us. We are ready to dig deep into any of these kinds of things. At Brillio, like Kevin said, we are actually thinking about how you actually bring in some of those domain capabilities in, into some of the technology aspects as opposed to the other way around.

Anyways, thank you for tuning in to this podcast. So, until next time, stay curious and stay informed.

Thank you all.