



EPISODE 179 AI in Healthcare - How It's Being Used And Opportunities For Physicians Part 1

With guest Dr. Ramin Rafie

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HF: Welcome to The Doctor's Crossing Carpe Diem podcast. If you're questioning your career in medicine, you've come to the right place. I'm Heather Fork, a former dermatologist and founder of The Doctor's Crossing. As a master-certified coach, I've helped hundreds of physicians find greater happiness in their careers, whether in medicine, a nonclinical job, or something else. I started this podcast to help you discover the career path that's best for you and give you some resources and encouragement to make it happen. You don't need to get stuck at the white coat crossroads. So, pull up a chair, my friend, and let's carpe that diem.

Hi there, and welcome back to the Doctor's Crossing Carpe Diem podcast. I'm your host, Heather Fork, and you're listening to episode number 179. Today, we're diving into the first of a two-part series on AI in healthcare, that's artificial intelligence, how it's being used, and opportunities for physicians.

My special guest is my primary care physician, Dr. Ramin Rafie. Dr. Rafie developed an early interest in tech and AI, which led to him becoming certified in AI through the American Board of Artificial Intelligence in Medicine. In addition to his clinical work, Dr.

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Rafie has been leveraging his knowledge of AI in his role advising remote patient monitoring companies in this technology.

Ramin is passionate about keeping abreast of the developments in AI, networking with leaders in this field, and serving as a resource to other physicians interested in this area. As part of his mission to help other physicians who are interested in AI, Dr. Ramin created an AI resource document to accompany this podcast. This freebie will have detailed information from the podcast, including AI courses, leaders in the field, and steps you can take to start exploring this dynamic area. There will be a link in the show notes where you can download this great resource, or simply go to doctorscrossing.com and hit the freebie tab at the top of the page. Without further ado, onto our podcast. It is my true honor and pleasure to welcome Dr. Ramin Rafie to the podcast. Hi, Ramin.

RR: How are you? Hi, Heather. Thank you so much for inviting me to your podcast. It's an honor to be here. Thank you so much.

HF: Well, I'm delighted to have you, and this is such a great topic. The stocks in AI are going crazy. People are really wondering how is this going to change healthcare, how can it help them in their lives and how can they contribute. So I'm excited to dive in with you.

RR: Yes, it's called the fourth industrial revolution.

HF: Oh, I love that.

RR: Yeah, they call AI the fourth industrial revolution. I guess the internet is the third one.

HF: Oh, that's the first time I've heard this. I love it. Tell us a little bit, Ramin, about how you got interested in AI and how you started making your way into this field.



RR: Well, I've always been interested in technology. When I was in medical school back at UC Irvine, I was probably one of the first three people in my class to get a Palm Pilot back when it came out. I've always believed in leveraging technology to its full potential in every capacity of life, including work. And medicine is, unfortunately, the industry that's a laggard in every other industry to adopt technology for good reason, because there's patient care at risk. And there's also a lot of middlemen in the way.

I became a primary care physician. I'm only 49 years old. When I first became a doctor, EMRs were not ubiquitous yet. When I started working as a doctor, it was still on paper charts. And then EMRs came out, and I looked forward to it, but it ended up being a bit cumbersome because the user interface was not very friendly. But nevertheless, this is the direction that healthcare is going into. Every other industry has adopted IT to help expedite the workflow. And healthcare has adopted IT.

I think as AI is being rolled out, and it's being rolled out in every capacity of healthcare, hopefully, it will lessen a lot of the burdensome and lighten the load and improve the quality of life, not just for the physicians, but for the patients, while improving care, lowering costs, hitting the quadruple aim, quintuple aim, whatever aim there is.

This is the future. And ultimately, it provides a great opportunity for physicians because physicians need to take the lead in developing these. And although tech companies might be developing it, they cannot do this without the help of physicians.

HF: I am really excited, actually, for the first time that there could be a solution to this burden for physicians in their charting and all the things that they have to do that take away from the pleasures of medicine. I think AI can really be a player here. I don't think it's quite there yet, but I even had a company reach out to see if I would sponsor them on the podcast. They have software that helps with physician charting, but I still think it might be a little bit early to be where we want it to be.



RR: Well, that's true. I think it depends on the platform. Obviously, there are some that are more ahead of others, and they are looking for physicians to partner up with. And I think one of the reasons, Heather, they reached out to you is because you have a strong social media presence, and those are the kinds of physicians that these companies target.

HF: Thank you, Ramin, and I appreciate that. I will be looking into it because I always want to bring great resources to my listeners. Where would you like to start off on this conversation?

RR: Why don't I just start out with my brief background so people understand perhaps where I'm coming from? I went to medical school at UC Irvine. I was an undergrad at UCLA. During my time in medical school, my father, who had been a dentist, he struggled for over 10 years to get his California dental license. California is a pretty saturated market when it comes to every specialist, and I think they make it a little bit more difficult for foreign physicians. My brother actually became a dentist first and helped my dad get his license. My dad finally got his license after a 10-year struggle. Unfortunately, two years after he got his license, he was diagnosed with Parkinson's. He never really worked as a dentist. And that was during my time in medical school.

I took that hardship as my motivation to become a primary care doctor. And I basically went through the other end of the country. I did my internship in Massachusetts. I did a PGY-2 in family medicine in Columbus, Ohio. I got my Michigan license and I started working. And I worked for a company making house calls doing primary care. This house call practice ended up growing to be the nation's largest house call company.

And throughout my years of working for them, I think Medicare was trying out new payment models. And that's when ACO started. Initially, this company joined an ACO with a hospital. But the hospital kept all the savings because they were like, "Well, we have the administrative staff." The owner of the house call practice decided to make the house call practice its own ACO. And in the country, there were 504 ACOs. This company



ranked number four out of 504 companies because we saved Medicare so much money. We were the largest players in the independent at-home study that Medicare sponsored and we helped prove the cost-effectiveness of the hospital-at-home model of care before COVID.

The gentleman who owned the company exited. He sold it in 2014 for \$350 million to an insurance company. In 2019, Medicare passed a waiver allowing every Medicare recipient to get a visiting doctor. Before that, you had to be homebound to get a visiting doctor. Because of this program, we basically showed it is more cost-effective to provide care in your home.

And as we all know, in 2020, COVID came. Ironically enough, because the company was owned by an insurance company, they had deep pockets and they had connections with Medicare and we were able to pivot seamlessly to doing telemedicine. And we did telemedicine. Ultimately, they didn't see an end in sight. And I parted ways with that company because of COVID. My father-in-law died of COVID. So I stepped away from clinical medicine during that time.

During COVID, I got my MBA and I got certified in AI in medicine and I wanted to leverage my experience as a physician to work as a consultant. I realized the future of healthcare is outside of the home. That's the value of healthcare is providing care outside of the most expensive place, which is the hospital. I've been trying to work as a consultant for RPM companies, which is remote patient monitoring. I've gotten into this whole world of AI, which is its own endeavor. And that's what I'm here to talk about.

HF: I'm really sorry about your father that he didn't get to practice dentistry very long. But it sounds like you're carrying the torch for him and doing everything you can. Would you like to give us some ideas of how AI is being used in healthcare?

RR: AI is being used in many aspects of healthcare. Right now, there are AI scribes embedded in most EMR. So people can use voice dictation instead of typing stuff or writing stuff. Voice dictation is becoming a commonplace. The lowest hanging fruit for AI in medicine is fields that are image-rich, like radiology, pathology, dermatology, and even ophthalmology. Those fields are very easy for AI to help expedite because it's just images and it can learn from the images a lot more.

When you have primary care and it's more of a subjective sentence, it's called natural language processing. And that's unstructured data, which is a lot more difficult for AI to learn. That's going to have a longer learning curve. But the hard images, like pathology, in particular, I think play a big role in AI.

Also in 2030, Medicare is mandating interoperability of all EMRs. And that is going to be expedited by AI. Every hospital is developing its own AI division. Some are a lot more resource-rich, like the Mayo Clinic and academic institutions versus community hospitals. Hospitals have a very thin profit margin. Hospitals, for the most part, have a 1% to 3% profit margin. It's really razor-thin. If they leverage AI to their benefit, it will not only lighten the load on their workers, physicians, and nurses, it will improve patient care while improving their bottom line. And ultimately the hospitals that figure out how to use it the best are the ones that are going to thrive and continue to be profitable.

HF: Do you have any other examples you want to share?

RR: A lot of hospitals were trying to figure out AI on their own and they were having difficulty. I know, in particular, that Mayo Clinic has partnered with Google, and Duke University has also partnered with Microsoft. And they're working relationships with each other to help develop AI for their health systems. That's one example.

There are also examples as I mentioned in the remote patient monitoring space. Remote patient monitoring is a new technology that Medicare actually only started reimbursing

in December of 2021. And a lot of physicians out there still are not very well aware of what RPM is. The RPM creates a lot of data and ultimately they will all use an AI engine to sift through the data and highlight the key points, kind of like what a Holter monitor does. There's a lot of room for AI there as well.

HF: And I'm sure there are more to come, different ways AI is being used and also ways that we can use it as physicians in our career.

RR: Yeah, actually there's a couple more examples I wanted to give Heather, if that's okay. One of the reasons, I met, he's a GI doctor and he showed me that on his phone there's an app, a program that links into the colonoscopy camera. It's from Medtronic, it's called the GI Genie and it points out lesions that a GI doctor might miss with their own eyes. For example, the GI assistant picked out a one-millimeter lesion for him to biopsy that he may have missed otherwise.

Another big avenue for AI to help in healthcare is actually drug discovery. I didn't know this, but it costs about \$1.3 billion for a medication to come to market with all the research and development that companies have to research. But if they utilize AI to their benefit, that cost can actually come down to less than \$200 million per medication. So, it will lower the cost and allow the companies to make better use of their limited resources.

There's also the space of digital twins where people can do studies online using digital twins, creating virtual studies. Unfortunately, there are companies that are all going to use AI to their own benefit. Insurance companies use AI as well to help deny claims as well as prior authorizations. But hopefully, there are more good things that come out of AI than not.

HF: Now, I hear from a number of physicians that they are afraid that AI could potentially replace their jobs. They're a radiologist or a pathologist. And then some physicians have

already transitioned who might be in medical writing or copywriting. There are concerns that “AI can write so well, why would they need me? Or if AI can read the CT scan, why would they need me?” Can you speak to these concerns?

RR: It's a very good question. And I've thought a lot about this. I don't think physicians will ever be replaced by AI. Because ultimately, the AI continues to make mistakes. Granted, there are very small mistakes, but there's a matter of accountability and you want to have a practicing physician who has years of experience behind them to make the ultimate decision. AI should not be practicing medicine autonomously. AI is designed to augment a physician in helping them practice medicine better. I do think there will be situations where there are no physicians, like in the case of pathology, in which case there are machines that will read pathology slides. And that's only because there are no physicians to do the job.

But I think if a physician wants to do a job, even as a primary care doctor or a hospice director, ultimately AI cannot do what I do. It has to be a human that makes the final decision. And the human is the one that's going to have the accountability.

HF: We also can underestimate the effect of coming in and seeing a real-life person and the healing energy that empathy can have, someone really understanding you, listening to you, the placebo effect. It's a huge aspect. People I know who have a choice of doing a telemedicine appointment still often prefer to come in and see the doctor because they want that human connection. And even if you're coming in to see an AI robot that is dressed up like a doctor and can do everything very efficiently and maybe run on time, there still is that human element that no amount of technology I don't think will ever replace. Hopefully, it can help us and really benefit us and I think it really can and will and already is but people want people.

RR: I agree with you. I think telemedicine is here to stay. And there's a place for telemedicine, but telemedicine is really not to replace the long-term relationship



between a primary care physician and their patient. That's a whole other discussion though.

But I think ultimately, AI will augment what every physician does in every aspect. Ultimately, you're still going to have dermatologists who are going to be the most urgent to do the procedures. You're still going to have interventional radiologists to do their procedures as well. And I think AI will just help bring everything to a higher level.

HF: Do you have any examples of physicians who are leaders in AI currently and what their roles are?

RR: The biggest name in AI and medicine, in my opinion, is Anthony Chang. Anthony Chang is the gentleman, he's a pediatric cardiologist. He's a guy who basically started the ABAIM, which is the American Board of Artificial Intelligence and Medicine. He's a pediatric cardiologist out of Children's Hospital of Orange County. And one of his many hats is he's also the chief intelligence and innovation officer of that same hospital. However he created the ABAIM, which he created the curriculum that teaches AI to physicians.

He is spearheading the movement. He is actually really trying to integrate this AI curriculum into medical schools. He's trying to get ahead of the curve before the new generation comes out because this is the technology that every physician who comes out needs to know. Unfortunately, I do think he's getting some pushback. Academic medicine is kind of slow to change for other reasons. He's the biggest name.

If you're in a radiology space, a big name to know is Matt Lundgren. Matt Lundgren is a practicing interventional radiologist at UCSF. He is a chief data science officer at Microsoft and he's a chief medical information officer at Nuance. He's the biggest name in radiology in AI.

Just a couple of other people. One other big name I'm going to mention, which I think is worth knowing, is Harvey Castro is a board-certified ER doctor. He's out of Texas. And he is not only an ambassador for AI Med, he is on faculty at UT San Antonio, I believe, UT Health. UT Health is offering the first dual degree in not only medicine but a combination of medicine and AI. They are acknowledging AI as part of their curriculum. And Harvey is taking a leadership role in helping to develop that.

HF: Do you find that physicians who are interested in AI or working in this area have to be tech-savvy? Do they need to understand coding?

RR: No, I used to think that. And people would say, "Oh, you should learn to code if you want to go into tech." But I don't think so at all. You need to understand how the technology works. And that's what the ABAIM course does. It teaches you the technology and it teaches you the blind spots of the technology. And this is a never-ending improving process. AI is continuously improving, but it's only improving on the dataset that's taught to it. And that's why like in dermatology, you have to show it skin conditions and every race and nationality out there.

It's a continuous learning process. But no, I don't think physicians need to be more tech. I think they need to be more clinicians and they need to know how AI works. So they understand the technology and how the technology can be leveraged to improve health care.

HF: We're getting close to the end of this podcast, but I want to remind people that we're going to have part two. In part two, we're going to be talking about some roles that you as a physician can have in AI and a little bit more about steps you can take to explore this direction.

But I do want to mention a resource that I'm going to talk to Ramin about in a minute, which is my resume kit. Is there ways AI can help you with your resume? If you're

interested in converting your CV to a resume to apply for nonclinical jobs, you can find more information about this by going to the products tab at the top of the Doctors Crossing website. And under the products tab, you can learn more about the resume kit. I'll also put a link to it in the show notes.

I'm back here with my lovely guest, Dr. Ramin Rafie. Ramin, I wanted to tell you about something. I just did a webinar on how to use AI in your career journey. And one thing I showed the physicians on the webinar how to do is you can put in your resume, you can put in a job description, and ask Chat GPT, the AI search engine to give you suggestions and even write a cover letter, improve your resume, do bullet points. And what blows my mind, and I still never get over this, is as soon as I press enter to enter my question, I just gave Chat a bunch of documents and information. Right away, Chat is typing the answer, telling me how I can improve my resume, and coming up with a cover letter before I can even blink. I don't know how that is possible.

RR: That's absolutely right. It's just the speed of technology. It's the speed of how fast technology works. When Google came out, they used to have the time it took them to do the search. And as the first years it came out, the time got shorter and shorter. They no longer show the time. But that's just a natural improvement of technology. And that's why as technology improves and AI plays a role in that, there's a tremendous potential there.

HF: It's just mind-blowing because it can think way faster than we can. It's scary, but it's also incredibly thrilling about the potential. And we're going to talk a little bit more in the next part too about how physicians can really have a role and you can do this right now without having any additional training. I'm excited to have you back next week, Ramin. Are there any last words you'd like to have for our listeners?

RR: I think we're going to talk about this at the end of the second episode, but there's just a ton of free resources available online. And we're going to have a lot of links on the show



notes. But if people don't want to pay for the course, which is understandable, people have their own financial constraints, there are a ton of free resources available online. And ultimately what I want to say is physicians who use AI are going to replace physicians that don't use AI. Any physician who's going to be practicing medicine needs to understand AI and how it works. It's as useful information and as essential as the EMR, but hopefully a lot better.

HF: That is such a great point because as long as we continue to adapt, we don't have to know what's going to happen with AI. We can say, "All right, we're going to be an adapter and figure out how to use it to our advantage and not be marginalized." Thank you so much for coming on the podcast and I'm excited to see you back next week in part two.

RR: Thank you, Heather.

HF: All right, my dear listeners, I just wanted to remind you that there is a freebie with this episode that has a number of resources that Dr. Rafie is sharing with you. You can get this by clicking on the link in the show notes or going to the Doctors Crossing website. And at the top of the page, click the freebie tab, and you can download this resource document on AI. As always, don't forget to carpe that diem, and I'll see you in the next episode. Bye for now.

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Podcast details

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