

“Empowering Clinicians and Patients with Personalized AI Co-pilots” (Kingsley Ndoh, MD, MPH) [#146]

Brad Power
June 4, 2025

“If you think about the patient’s cancer journey, there are a lot of things that patients have to deal with, from the diagnosis down to treatment planning, insurance scheduling, navigation, survivorship, and side effect management. It is a lot, and it’s so difficult for patients to wade through this while dealing with such a heavy diagnosis that they will have to navigate for the time being. This is where AI technologies like ours and others are really important, especially in this day and age for patients to have a better experience, better adherence to treatment, and just manage all the things that come with cancer treatment.” – Kingsley Ndoh, MD, MPH

“Whenever something comes up, you want to call a friend. That might be a doctor. You want to go to Google. You probably want to go to ChatGPT. The problem with that is that a lot of those things are missing the full context of you.” – Kingsley Ndoh, MD, MPH

“It takes about three to six years for any new update to the guidelines and new research to be implemented at the bedside in a community center, versus three months in an academic cancer center.” – Kingsley Ndoh, MD, MPH

“Only 32% of the time community cancer centers would interpret all the necessary markers for that patient that could be incorporated in patient care.” – Kingsley Ndoh, MD, MPH

Meeting Summary

Doctors, patients, and caregivers often don't know about the latest cancer tests or treatments. As a result, patients can get worse outcomes than they should. They don't know how to navigate the complex decisions they need to make with the latest information. 80% of patients are treated in community hospitals, where the doctors don't have easy access to the specialized and latest information for treating the wide range of cancers they see.

Kingsley I. Ndoh, MD, MPH, is uniquely qualified to lead a discussion on the use of AI in guiding community oncologists and cancer patients and caregivers in their testing and treatment decisions. He is an entrepreneur at the intersection of oncology, artificial intelligence, and global health equity. As Founder and CEO of Hurone AI, he leads the development of revolutionary AI-driven technologies that are transforming cancer care delivery across both developed and emerging markets. A recognized healthcare policy influencer, Kingsley has shaped the future of AI in medicine through his contributions to the U.S. President’s Cancer Panel, directly impacting critical outcomes including CMS reimbursement pathways for cancer navigation technologies. His unique vision combines cutting-edge technical innovation with deep understanding of healthcare delivery challenges in diverse global settings. Under Kingsley’s leadership, Hurone AI has established strategic partnerships with world-leading institutions including the UCSF Brain Tumor Center, Johns Hopkins Sidney Kimmel Cancer Center, and the National Cancer Institute of Kenya. These collaborations demonstrate his exceptional ability to bridge academic excellence with commercial execution. Kingsley’s groundbreaking work has earned him the

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Washington Global Health Alliance Rising Star award and recognition in leading publications including Forbes, World Economic Forum, Fortune Magazine, and Axios. He has assembled an elite team and advisory board from organizations including Microsoft, MIT, Fred Hutch, City of Hope, and Daiichi Sankyo, with proven experience scaling startups to successful exits.

How can an AI co-pilot help guide your cancer care?

- Get clear, simplified explanations of your diagnosis and treatment plan
- Prepare specific questions to ask your doctor before appointments
- Track and summarize your medical information in a concise format
- Identify potential clinical trials or new treatment options relevant to your specific cancer
- Ensure you understand medical terminology and side effects
- Empower you with knowledge about the latest research and guidelines that your local oncologist might not be aware of

What are the challenges in accessing the latest cancer tests and treatments for community oncologists and patients at community cancer centers?

- **Oncologist shortage:** There's a global shortage of oncologists, especially in underrepresented communities.
- **Slow guideline updates:** It takes 3-6 years for new research and treatment guidelines to be implemented in community cancer centers, compared to just three months in academic cancer centers.
- **Information overload:** Oncologists (and patients and caregivers) struggle to keep up with hundreds of new research results published monthly.
- **Limited time:** Community cancer centers see about three times more patients per oncologist compared to academic centers, making it difficult to stay current with the latest treatments.
- **Diagnostic gaps:** Community centers often miss identifying all necessary genetic markers or potential treatment targets, with only 32% of markers typically interpreted for patient care.
- **Lack of precision:** Community centers may not always provide the most effective treatment protocols due to limited resources and knowledge gaps.

How can AI co-pilots overcome these barriers to accessing the latest cancer tests and treatments?

- Ensure you receive standard of care treatments and get early information about new tests and treatments you may want to consider before they are incorporated in your cancer center
- Bridge the knowledge gap between community centers and academic cancer centers, e.g., provide up-to-date treatment guidelines to those who may not have access to the latest research, identify potential clinical trials and genomic targets that might be missed
- Help patients advocate for themselves by giving them clear, personalized information about their specific cancer type and considering their comorbidities

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- Offer real-time insights and recommendations based on the most recent clinical research and trial data
- Improve the patient experience and personalization, e.g., customize language complexity, gender of the AI agent, incorporate social determinants of health data

How can you learn more about using AI to guide your cancer care?

- Conduct your own research to find emerging AI tools for navigating your care; participate in patient groups and webinars focused on AI in cancer care; then try an AI tool to answer some of your questions, e.g., your testing and treatment options, side effects, your care journey, questions you should ask your doctor
- Contact Kingsley Ndoh at kingsley@hurone.ai.
- See previous conversations at the Cancer Patient Lab on using AI for cancer patient navigation:
 - ["Using ChatGPT to Learn and Guide Individualized Complementary Cancer Therapies" \(Robb Owen\) \[#125\]](#)
 - ["Empowering Cancer Patients: Navigating the Complexities of Diagnosis and Care" \(Ari Akerstein and Brad Power\) \[#130\]](#)
 - ["Using GenAI to Assist Rare Cancer Care" \(Bill Paseman\) \[#132\]](#)
 - ["Navigating Relational Health Through the Challenges of Cancer" \(Jason Binder\) \[#127\]](#)
 - ["How AI Is Shifting the Dynamics of Your Next Doctor Visit" \(Ezra Cohen, MD\) \[#121\]](#)
 - ["Functional Drug Testing and AI/ML for Treatment Decisions" \(Noah Berlow and Diana Azzam\) \[#18\]](#)

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For the video recording of this conversation, please see [here](#).

For a transcript, please see [here](#).

For the slides, please see [here](#).

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Meeting Notes

KEYWORDS

AI chat bots, cancer patient navigation, precision cancer care, community cancer centers, oncologist workforce shortage, AI co-pilots, patient treatment options, comorbidities, clinical decision support, patient data, genomic testing, patient retention, clinical trial data, wearable integration, patient advocacy.

SPEAKERS

Kingsley Ndoh (72%), Brad Power (7%), Matthew DeAngleis (7%), Hurona Chatbot (5%), Russ Hollyer (3%), Jane Wilkinson (2%), Burt Rosen (2%), Raj (1%), Rick Davis (1%)

CHAT CONTRIBUTORS

Rick Davis, Russ Hollyer, David Plunkett, Raj, Jane Wilkinson, Alexander Lalov, Burt Rosen

SUMMARY

Kingsley Ndoh of Hurone AI discussed their AI-driven platform designed to enhance precision cancer care navigation. The platform, currently being validated at UCSF, personalizes treatment options for oncologists based on patient diagnostics and comorbidities. It aims to bridge the gap between community and academic cancer centers by providing up-to-date guidelines and improving patient navigation. The system is HIPAA compliant and interfaces with EHRs like Epic. Future plans include incorporating genomic data and clinical trial information. The platform is intended to empower patients as their own advocates while also benefiting community oncology centers by reducing litigation risks and improving patient retention and revenue.

OUTLINE

Introductions

- Hurone AI is a startup addressing gaps in precision cancer care using AI co-pilots.
- There is a global oncologist workforce shortage, particularly in underrepresented communities and community cancer centers.
- Amy, a cancer patient, received less effective treatment at a community cancer center compared to the Mayo Clinic.
- The challenges faced by community cancer centers include high patient loads, outdated guidelines, and the importance of 24/7 navigation for patients.

Hurone AI's Clinician Platform and Patient Support

- Hurone AI's clinician platform makes guidelines personalized and available to oncologists based on diagnostic workups.
- The platform considers patient comorbidities and produces treatment options with pros and cons, aiding in joint decision-making.

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- The platform also serves as a thought partner for oncologists, consulting with other specialists based on patient comorbidities.
- AI can help manage the complexities of cancer treatment, including diagnosis, treatment planning, insurance scheduling, survivorship, and side effect management.

The Future of AI in Cancer Care

- There is a symbiotic relationship between data, AI, and humans in the future of cancer care.
- Hurone AI uses vast amounts of data, including imaging, side effect data, and real-time data from wearables, to create personalized precision navigation for patients.
- The company aims to accelerate access to precision cancer care by leveraging AI, working with partners like the Cancer Patient Lab and big tech companies.
- Hurone AI has multilateral partnerships, including a pilot at UCSF and data sharing agreements in Kenya.

Integrations and EHR Access

- Hurone AI is HIPAA compliant for clinical decision support and communicates with Epic data for patient platforms.
- They are still figuring out the best way to integrate with Epic for patient platforms.
- Epic could be a potential acquirer given the importance of integrating with EHRs.

Demo of Hurone AI's Patient Platform

- Kingsley Ndoh demonstrated the patient platform, explaining how it helps patients understand their treatment plans and potential side effects.
- The AI agent, Hurona, explains the treatment plan for inflammatory breast cancer, including chemotherapy, surgery, and radiation.
- Hurona provides detailed information on side effects, such as fatigue, nausea, hair loss, and neuropathy, and explains medical terms like Muga tests.
- The interaction is live and based on de-identified patient data.

Data Ownership and Customization

- Matthew DeAngelis asked about data ownership and how the data is used for improving the system.
- Kingsley Ndoh explained that patients own their data and can consent to its use for system improvement.
- The system is customizable, allowing patients to choose the level of medical terminology and gender of the AI agent.
- Matthew DeAngelis asked if the system can summarize clinical trial data, and Kingsley Ndoh said that this feature is in development.

Sales Strategy for Community Oncology Centers

- The Hurone target market is community oncology centers.
- Their go-to-market strategy involves clinically validating the platform first with academic cancer centers like UCSF, Johns Hopkins, and Mayo Clinic.
- They are also creating a pipeline and demoing to community oncology centers.

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- Community centers need to adopt the latest guidelines and practices.

Patient Advocacy and Community Centers

- The system is designed to make patients their own best advocates, providing them with the information they need to ask the right questions during doctor visits.
- The system can also help community centers avoid litigation and improve patient retention by providing the best care possible.
- Closing the knowledge gap between community centers and academic centers is important.

Development Plans

- The system is developing the ability to incorporate genomic data to identify targets and match new clinical trials.
- The system is currently fine-tuned for the top five cancers but plans to expand to other cancers in the future.
- They are validating the tool with patient groups and getting feedback from users to improve its effectiveness.

Key Thoughts

- Collaboration between users, doctors, and AI is important to ensure that technologies are humane and solve the biggest pain points.
- User involvement is needed in the development and improvement of AI tools in cancer care.

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TRANSCRIPT

Brad Power

This is the Cancer Patient Lab, and this is our weekly webinar series.

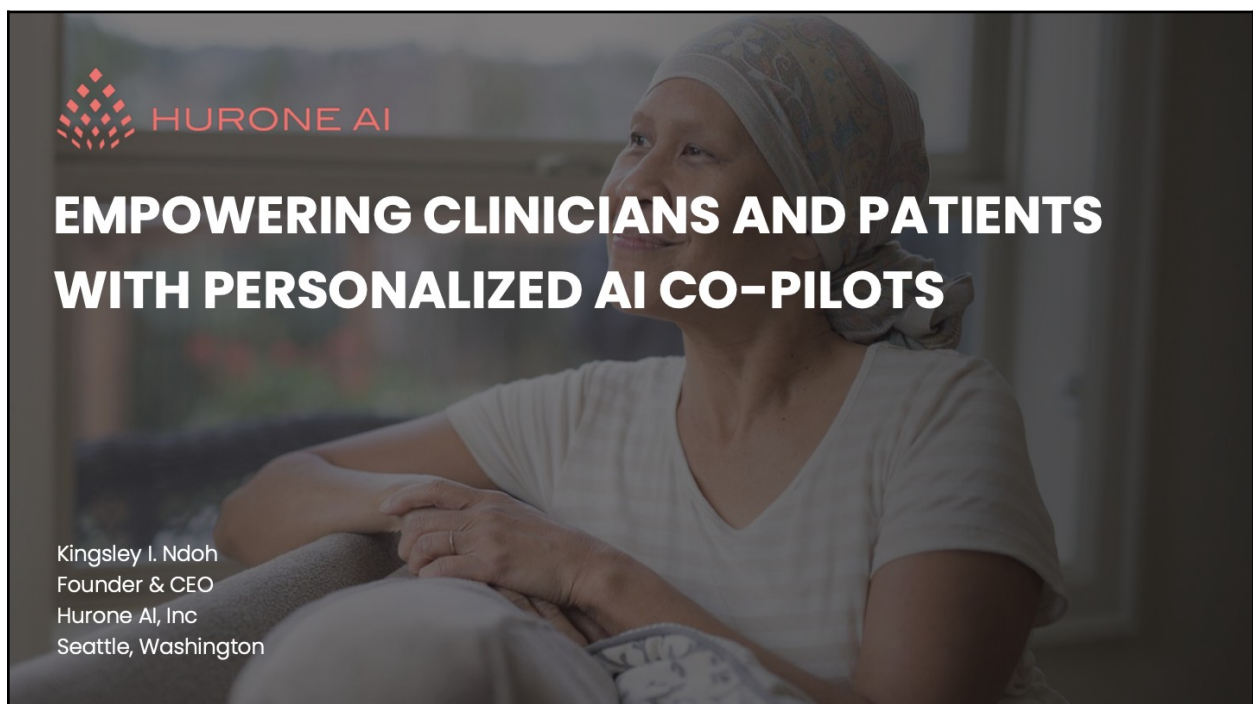
We're honored today to have Kingsley Ndoh with us. He's originally from Nigeria, and based in the Seattle area. He's been working on AI chatbots or AI-guided navigation for patients – co-pilots in medical care.

This is for informational purposes only. We try to arm our patients with information they can take to their medical team. This is not medical advice.

We are a nonprofit, 501(c)(3), and we welcome donations from people who would be so inspired. You can find our donate button on our website at cancerpatientlab.org.

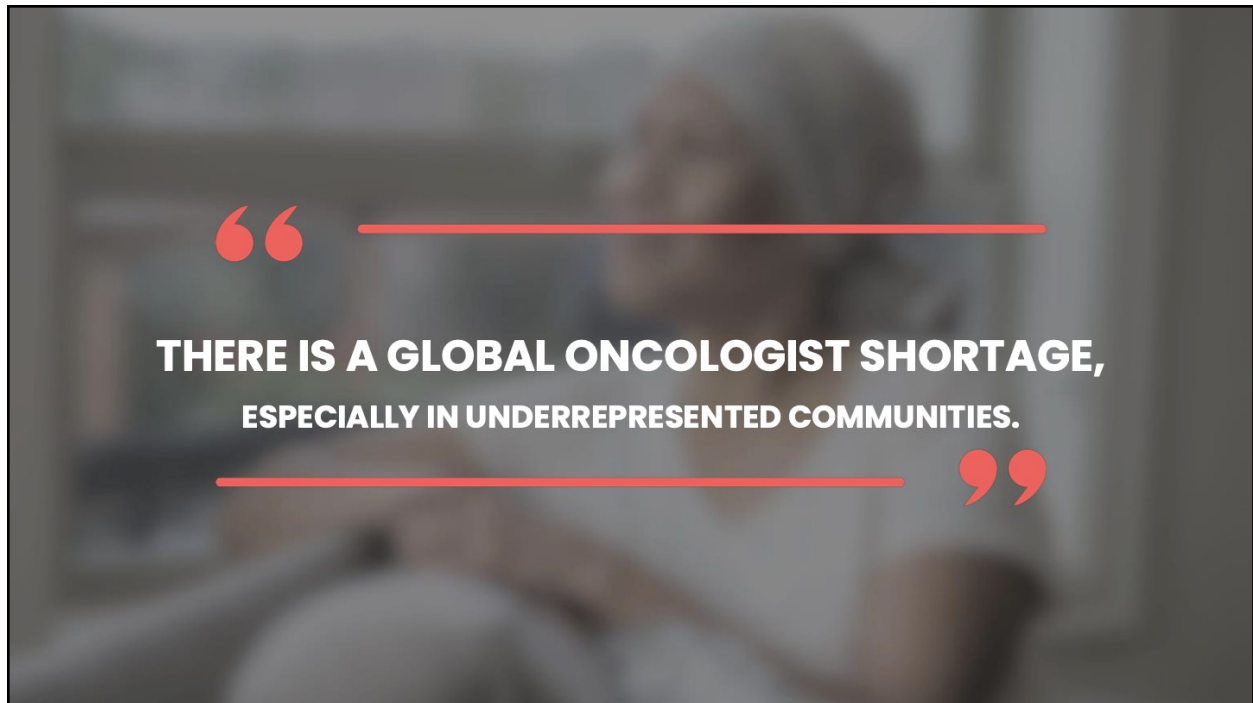
Kingsley Ndoh 1:39

I'm honored to be here, because a lot of you have lived experience, and it's a great group. I'm really excited to give this talk.



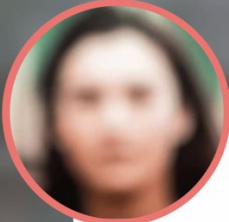
I'll just give you a quick background on Hurone AI. Hurone is a startup company where we're addressing the gaps in precision cancer care navigation using AI co-pilots that are culturally and contextually relevant to the populations that we serve. We're based in Seattle, Washington.

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There's a global oncologist workforce shortage, not just in the US, but in places like Africa and other countries, and especially in underrepresented communities.

THE PROBLEM



AMY
Cancer Patient

Amy, 48, from Alaska, relied on her local community cancer center for breast cancer care.

At Mayo Clinic, they found her treatment missed a protocol twice as effective.

Community centers handle **3x more patients** per oncologist and face **4 – 6 guideline updates every two months** —leaving patients like Amy at a risk.

I'll start with the story of Amy, which is not her real name. She is a cancer patient, 48 years old, mother of two, from Alaska, where she relied on her community cancer center for her initial breast cancer treatment. When she went to the Mayo Clinic, they found that they missed the

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protocol that would have been twice as effective as the protocol that she received in Alaska. This is the story of a lot of cancer patients, and it's not fair to Amy. It's not fair to the 80% of Americans that rely on community cancer centers.

Not all community cancer centers are homogeneous. Each has its own strengths and weaknesses, but they see more patient load than academic cancer centers, about three times more per oncologist.

The guidelines change really fast. There are new updates to the guidelines. Some of you went to the ASCO meeting, and you can see the major trial results that came out. It's not everyone that is on top of that, and so patients miss some of the new advancements in treatments. **It takes about three to six years for any new update to the guidelines and new research to be implemented at bedside in a community center, versus three months in an academic cancer center.**

Patients need almost 24/7 navigation, from the time of their diagnosis to their treatment journeys, and even during survivorship.

The image displays the HURONE AI's CO-PILOT interface. At the top, the title "HURONE AI'S CO-PILOT" is prominently displayed. Below the title, there is a central circular portrait of a female doctor with a stethoscope. To the left, a "Homepage" view shows a patient summary for "Cristina Rogers" with a "Generate Treatment Plan" button. To the right, a "Cristina Rogers Treatment Plan" view shows detailed medical information, including radiology, pathology, and genetic considerations. At the bottom center, a white box with a blue circular icon and the text "Treatment plan is getting ready..." is visible.

The Hurone AI co-pilot solves two buckets. The first is the clinician side, where we make these guidelines in a personalized way available to oncologists. What oncologists just need is the patient's diagnostic workup. They just click a button and it produces the different treatment options that are best for that patient. It comes with pros and cons and rationale. Then patients and their families can choose what therapy they would like because it's joint decision-making. The doctor or the oncologist has all the options, all the pros, all the cons. It considers the patient's comorbidities, because a lot of times when a patient is diagnosed with cancer, they

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might have other things they might be dealing with like cardiac issues or diabetes. It considers all the other comorbidities of that patient to suggest the treatment recommendations.

The second thing our platform does on the clinician side is it also serves as a thought partner. I'm going to do a quick demo at some point during this conversation, where, just like in real world settings, where an oncologist is consulting with a cardiologist or an endocrinologist based on the comorbidities that the patient might have, and trying to figure out what the best part of treatment could be, our AI agent can do that and is running through vast amounts of data, matching it to the patient's clinical data and producing the best clinical recommendation for that patient.

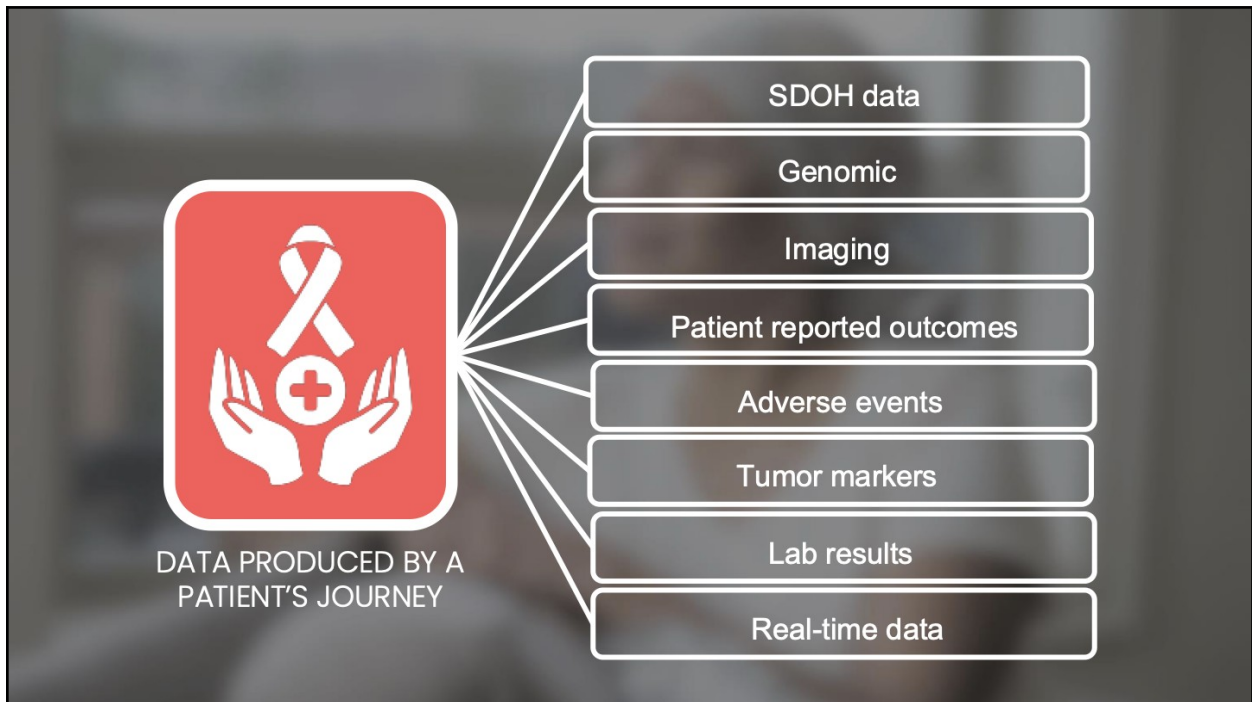


If you think about the patient's cancer journey, there are a lot of things that patients have to deal with, from the diagnosis down to treatment planning, insurance scheduling, navigation, survivorship, and side effect management. It is a lot, and it's so difficult for patients to wade through this while dealing with such a heavy diagnosis that they will have to navigate for the time being. This is where AI technologies like ours and others are really important, especially in this day and age for patients to have a better experience, better adherence to treatment, and just manage all the things that come with cancer treatment.

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In the future, and the present of cancer care, there is a symbiotic relationship between these vast amounts of data. That is not unique to cancer, but one can argue that in oncology, you're dealing with so much data than any aspect in medicine, you're dealing with imaging, with side effect data, and so a perfect symbiosis between data, AI, and humans is exactly what the future is for healthcare in general.

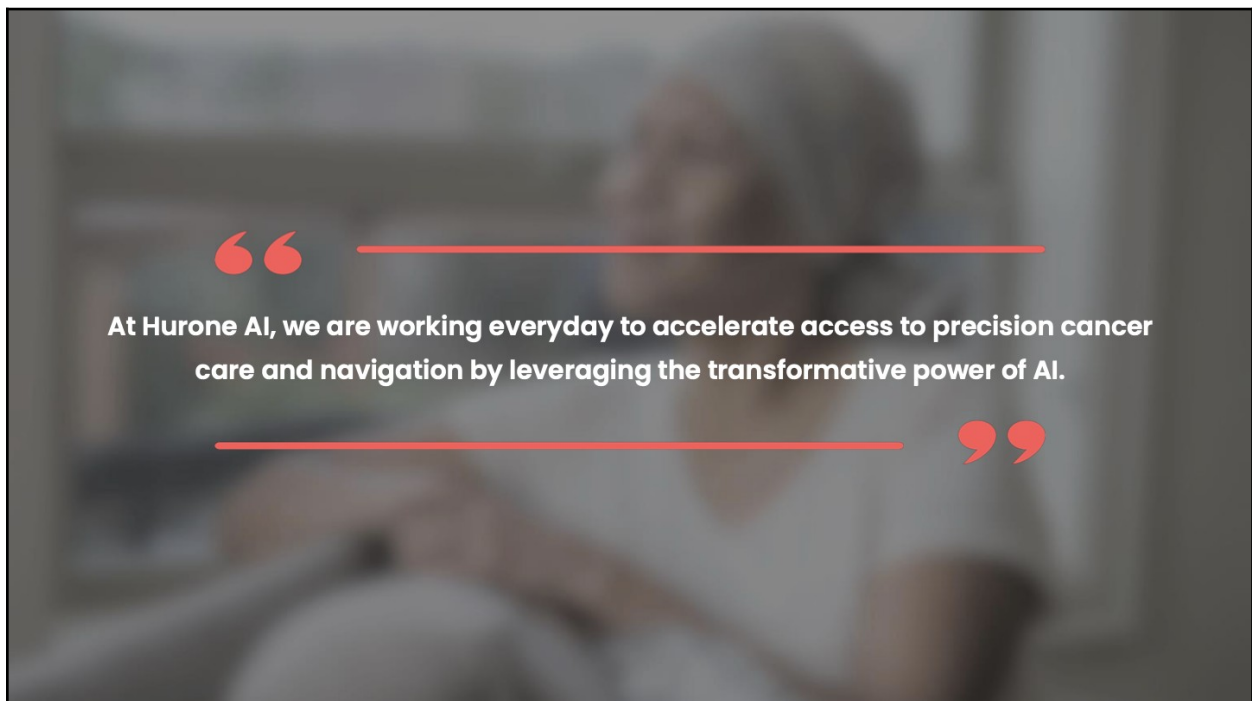


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The patient produces a lot of data during the cancer patient journey from social determinants of health, data like where you live, your income, imaging, your reported outcomes, like side effects, tumor markers, lab results, real time data, like your sleep, from wearables, all this can be used to create a personalized navigation for patients.

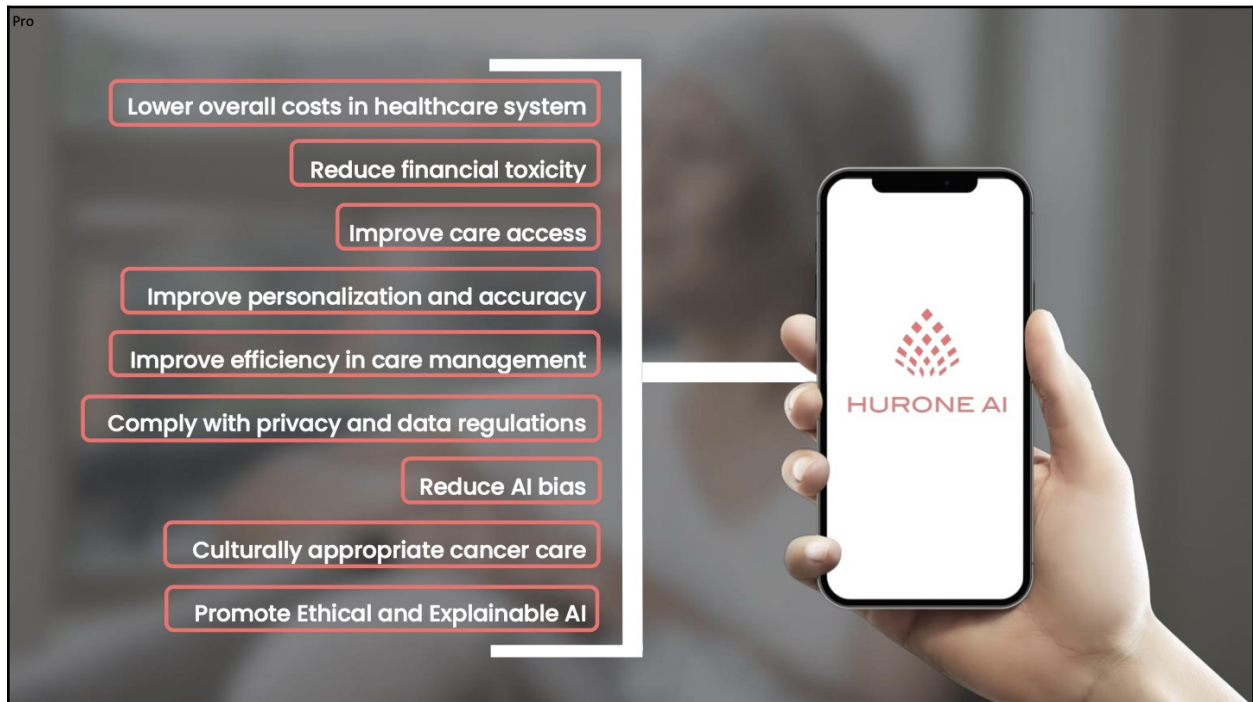


This is where crunching all that data in real time would lead us to precision oncology.



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At Hurone AI, we're working every day to accelerate access to precision cancer care and navigation by leveraging the transformative power of AI.




To do this, we have to work with different partners. We're proud to be part of the CancerHacker Lab (an accelerator for cancer diagnostic and navigation startups). We're working with big tech companies, cancer leaders.

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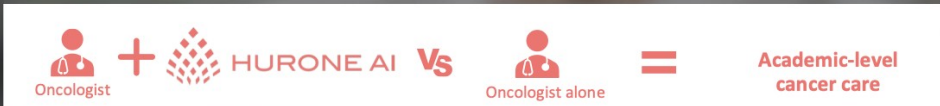



We started in Africa before we moved to the US. It involves multilateral partnerships. Here we've been piloting at UCSF.



WHAT SETS US APART

The unique approach Hurone AI has developed for integrating molecular data with clinical decision support addresses a critical gap in current oncology workflows that no other solution we've evaluated has matched.



 Data moat: UCSF's 2M+ cancer datasets & globally e.g Kenya

This is the chair of the UCSF Brain Tumor Center. For our clinician platform, they validated it to show that the outputs from our platform, at least in brain cancer, is comparable to what a neuro-oncologist at UCSF would recommend. We're thankful to UCSF because we're using their

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cancer patient data to train and refine our outputs, and also we're using other forms of data, like a data sharing agreement we have in Kenya. We started in Africa, where we first piloted our first product.

“
Hurone AI has significantly reduced off-duty calls and provided valuable treatment insights that have made caring for my patients easier and more efficient.
”

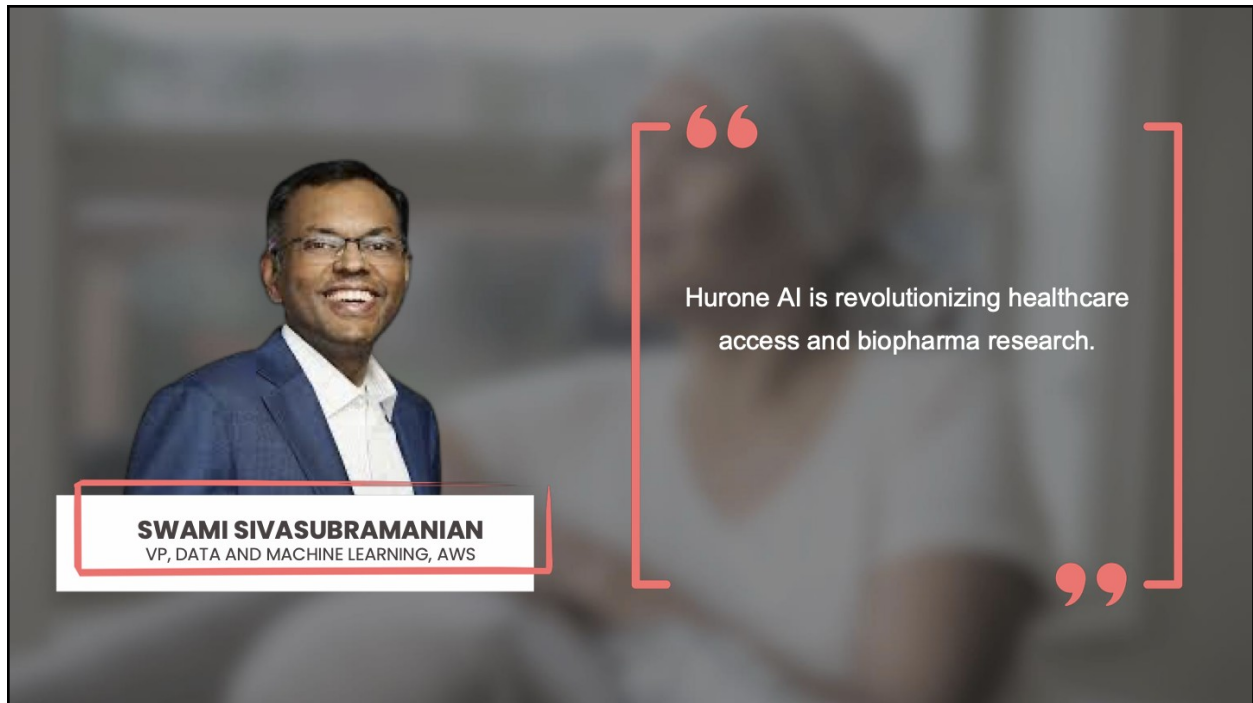
DR. DIANE ANDREA NDOLI
RWANDA CANCER CENTER

“
Gukiza has saved me a lot of time and money. I don't have to go to the hospital to chat with my doctor because I can get treatment details easily and quickly on my phone.
”

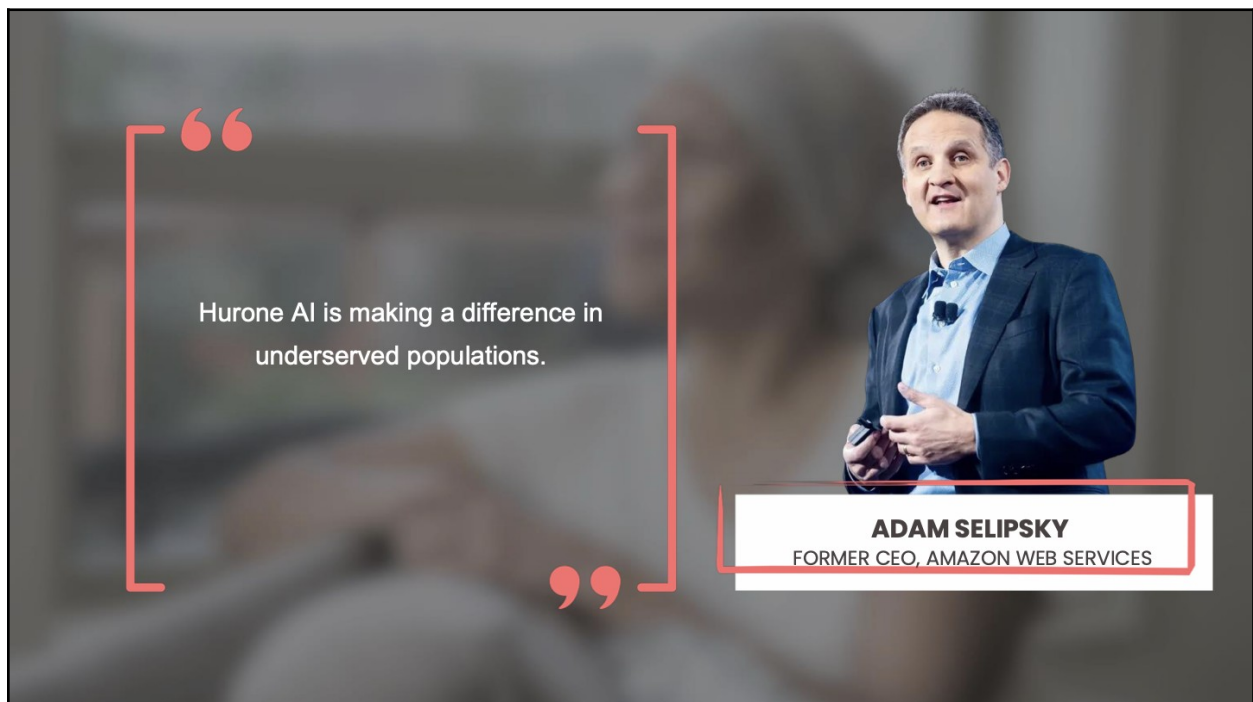
Brain Surgeon
UCSF Brain Tumor Center

These are some testimonials.

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This is the VP of data and AI at AWS. We are using AWS as a backbone of our platform.



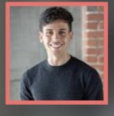

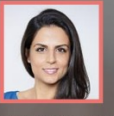



He was a former CEO of AWS.

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OUR TEAM

						
Kingsley I. Ndoh Founder & CEO	Lior Romanowsky Chief of Product	Max Ebong Chief Strategy Officer	Raymond Ononiwu Cloud Architect	Marijana Ruiz Finance & Operations	Uroš Pajić Senior AI Engineer	Floria Nyandaya Research Fellow

ADVISORS

					
Adam Yala, PhD	Irene Dankwa-Mullan, MD, MPH	Nasim Eftekhari, MS	Doyin Oluwole, MD	Damian Page, PhD	Susan Morgensztern

I want to thank our team for this work. It is not just me, it's a team of talented individuals, advisors, and investors.

**To make precision cancer care available
to everyone everywhere,
we need strong collaboration.
We need you!**

I'll show you some demos so you have an idea of what our platform can do.

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CONTACT US

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Seattle, Washington

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Burt Rosen 11:13

Can you please talk about integrations with the EHRs? Do you have access to Epic data? Are you HIPAA compliant? If as a patient, if I could use Hurone, what could it tell me about me? Does it access everything?

Kingsley Ndoh 11:53

For the clinical decision support, we are HIPAA compliant on that product.

We're not fully integrated in Epic, but we have a data exchange platform where it communicates with Epic data to produce the outputs for patients. For the patient platform, we're still figuring it out. It might be that we'll download the patients. We might use a similar means we're using for the clinical decision support for patients, because at the end of the day, it has to be with the workflow of the EHR. Eventually, we will probably integrate with Epic. But right now, the best we can do is to communicate back and forth with Epic. Epic owns 70% of the market share for EHRs, and they are gatekeeping. There's a means where we can communicate back and forth with Epic data.

Burt Rosen 13:07

Who can acquire you? I would assume Epic is on that list. If you need patient input or patient thoughts, feel free to reach out. I'm happy to chat.

Kingsley Ndoh 13:22

Let me do a quick demo, on the patient side, with the communication with Hurona.

Hurona Agent 13:56

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Hello, I'm Hurona.

Kingsley Ndoh 13:58

This is a skeletal product. The clinical decision support is the full-on product, but, I can demo this. This patient has inflammatory breast cancer and was just diagnosed, and so I would talk with the navigator.

Hurona Agent 14:30

Hello, I'm Hurona, your oncology support companion. How are you doing today?

Kingsley Ndoh 14:35

Hi, Hurona. I really feel terrible about the diagnosis I had. I really want to understand my treatment journey in very simple terms. I also want to know the kind of side effects I'll be expecting, because this is really devastating. I was just shut down when I met with the doctor earlier.

Hurona Agent 15:01

I understand this is a challenging time, and it's completely normal to feel overwhelmed after receiving a cancer diagnosis and treatment plan. I'm not a doctor, but I can help you track symptoms and prepare so your care team can focus on treatment decisions. It sounds like you'd like me to explain your treatment plan in simpler terms and discuss potential side effects. Is that right?

Kingsley Ndoh 15:18

Yes, please.

Hurona Agent 15:20

Okay. Based on your recent appointment, your medical team has outlined a treatment plan for your stage 3b inflammatory breast cancer, or IBC. This plan includes chemotherapy, surgery and radiation, followed by ongoing medication. The goal is to shrink the tumor before surgery, remove the affected tissue and prevent the cancer from returning. Does this sound like what you remember from your appointment? Your appointment?

Kingsley Ndoh 16:22

Yes.

Hurona Agent 16:24

Great. Let's break down each phase a bit more. First, you'll be receiving chemotherapy. This involves a combination of drugs, including docetaxel, carboplatin, trastuzumab, and pertuzumab, often referred to as “TCHP”. These drugs work together to target and destroy cancer cells. The first two, docetaxel and carboplatin, are chemotherapies that stop cancer cells from dividing and damage their DNA. Trastuzumab and pertuzumab target a protein called HER2 on your cancer cells, blocking its growth. Does this make sense so far?

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Kingsley Ndoh 16:18

Yes. And what kind of side effects might I be expecting in this first phase?

Hurona Agent 16:24

During this first phase of chemotherapy with TCHP, some common side effects to watch out for include fatigue, nausea, hair loss and neuropathy, which is numbness or tingling in your hands and feet because you're receiving trastuzumab. Your heart function will be monitored regularly with echo or MUGA tests. Your blood counts will also be checked weekly to monitor for infection risk. Also, because IBC affects the skin, it's important to keep an eye out for any skin reactions. Would you like me to go into more detail about any of these potential side effects?

Kingsley Ndoh 16:53

You mentioned MUGA tests. I'm not familiar with that. What's that all about?

Hurona Agent 16:58

I can explain that. Because one of the drugs you're receiving, trastuzumab, can sometimes affect the heart, your doctors will monitor your heart function regularly. A MUGA scan, or multi-gated acquisition scan, is a type of imaging test used to assess the function of your heart's ventricles, which are the lower chambers of the heart. It involves injecting a small amount of radioactive tracer into your bloodstream and using a special camera to take pictures of your heart as it beats. This helps doctors evaluate how well your heart is pumping blood. Was this helpful? Or would you like me to explain it differently?

Kingsley Ndoh 17:30

Yes, that's helpful. Thank you so much, and I think I'm good for now. Thank you. Thanks a lot.

Hurona Agent 17:36

I'm happy I could help explain your treatment plan and potential side effects. Have a wonderful day.

Kingsley Ndoh 17:41

You too. Thank you.

That's just a quick demo.

Brad Power 17:50

That was pretty conversational, pretty clear. Is that pre-wired, or was that a live interaction with the AI?

Kingsley Ndoh 18:03

That was a live interaction. We have a deidentified patient that was diagnosed with inflammatory breast cancer, so it's reading from that data.

Matthew DeAngelis 18:22

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As a patient, for the data that's uploaded into your system, who owns the data, and is the data used for any purpose other than directly benefiting me as a patient, to answer my questions and drive insights?

Kingsley Ndoh 18:42

The patient completely owns the data. The patients would have to consent for the data to be used for that. The other consent will be using the data to make the system better. The more data is better for you, the patient and other patients, but the ownership of the data is the patients'.

Matthew DeAngelis 19:09

When you say that it makes the system better, does that mean that my data as a patient, and what happens to me, what treatments I'm on, how they go, does that data roll up somewhere where it's used to do things other than help me figure out my situation?

Kingsley Ndoh 19:26

Yes, if you consent to it. For this to get more intelligent, we would have to train on vast amounts of patient data, but it's only going to be trained by those patients that consent. During the onboarding the first consent is that your data will be used for personalizing the outputs to you. The second part of the consent will be that your data will be used to make the AI better, which would not only affect you, but you have an impact on other patients that are going to be using the platform.

Brad Power 20:13

It would seem, from your setup for this, that community practices where they take longer to adopt the latest and greatest practices would be the ideal target. So that an oncologist who's seeing all of 20 different kinds of cancers and isn't really up on the literature and the research would have the latest and greatest guidelines and ideas,

Kingsley Ndoh 20:40

Absolutely. Yes.

Brad Power 20:42

You're working with UCSF. How are you getting sales to community hospitals? How's that going, and what's the challenge there?

Kingsley Ndoh 20:55

Community cancer centers feel inundated with all the technologies we have out there. The key thing is, they're going to be looking at what brands, the academic cancer centers they trust, what the clinical validation has been. So based on that, our go-to-market strategy is essentially clinically validating the clinical decision support with very well-known academic cancer centers. We're working with UCSF. We're just beginning to work with Johns Hopkins and Mayo Clinic. By time they are seeing results of this validation from these centers, then we can point to that and say, “Hey, you know this center is already using it.” It would reduce the time in marketing or in

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trying to make entry to community cancer centers, and also the customer acquisition costs. In parallel, as we're clinically validating this with the big academic cancer centers, we're also creating a pipeline and demoing to community oncology centers so that we prep them. As we're getting these validation results, we can now see adoption in the community cancer centers. And so far with the ones we're talking to, there have been some very strong interest. The ones that have pushed back a bit, they have just been looking at what HHS policies will be and how that will affect them. So they're like, “Let's see how things go in the next few months.” Some of the changing and evolving policies at HHS have been driving a wait and see attitude, but overall, we have very strong interest from some community cancer centers.

Russ Hollyer 23:01

Would I be able to give someone else permission to see my transcripts for information, like my MO (medical oncologist)?

Kingsley Ndoh 23:14

The goal is, when you're having all these conversations as a patient, by time you're going for your next appointment, the key information from all the things that have been interacted back and forth will be in front of your medical care team, your oncology team, to read and to determine how that data, patient-doctor interaction would go. The other thing that we're going to be integrating will be wearable devices. We'll have an API connected to whatever wearable you're wearing. If you're having less sleep or it shows that your pulse rate is very high, you have a fever, all the interactions, plus wearable data will start making some inferences to your care team. But this is still the patient platform. It is still early days.

One of the institutions that really pushed us to do something for their patients is UCSF. We'll start piloting this with UCSF patient groups. The first product we have, which is the matured products, is clinical decision support, and that's what where we've had the most traction with all these partnerships I've mentioned. But we're still like hearing from people like you and seeing what we can incorporate to make this a much better experience.

Russ Hollyer 24:56

You've mentioned wearables. If I have a Fitbit or a Garmin, would I be able to connect that up? Or is it proprietary?

Kingsley Ndoh 25:12

Yes.

Russ Hollyer 25:15

My MO (medical oncologist) would potentially have, if I give her permission, transcripts in front of her. I was going to ask that question to the Hurona Agent. Would I get that in a video or a chat record, text or something where I could look at it later, like those drugs, for example?

Kingsley Ndoh 25:34

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It'll be able to do that for sure, because you don't want to have another conversation whereby you're just like, “Oh my goodness, this is again, too much.” We're going to be simplifying that conversation to simpler language that explains everything in very simple ways. This transcript will make it as easy as possible for the patient.

Russ Hollyer 26:07

Is this customizable? So, for example, could a researcher MO (medical oncologist) look at it? “I want to look at clinical trials. I want academic data. I want you to talk in a high level language for me.” Or you can say, “I want you to make it understandable for me, to keep it simple.”

Kingsley Ndoh 26:31

That'll be part of the onboarding process. You can even choose the gender because some people might want a man and not a woman.” I want the highest level medical terminology.” “I want just simple.” Those would be part of the onboarding process, and the patients will have control of all that.

Russ Hollyer 26:56

Is there an option to examine clinical trial data, for example, or study data? Could you get a summary of that? Like, right now, I have seven RSS feeds set up for clinical trials. I have to grab certain things. I want to look through them, and I had a thought this morning that AI might be really good at just going out and grabbing that data for me and summarizing what I want for me every day.

Kingsley Ndoh 27:27

That's definitely something we would add to the stack I wanted to open up for clinical decision support. When it shows the clinician the different treatment options, it summarizes all the evidence and the summary of the clinical trials that led to that. Patients are always searching, where is there any clinical trial that might match. We're going to put that so that you can connect to databases, like clinicaltrials.gov, that summarizes, this for the patient. But we don't have it now. But that's definitely going to be in the works, however, because we're adding explainability to clinicians, because the way doctors make decisions, is that they're making sure that this is evidence-based, relevant clinical trials that led to that suggestion will be summarized, and then they can reference it. They can always check. Those are already done for the clean condition support. I'd like to just show you how a diagnostic works.

This was produced for the clinician side, where it's showing concordance for triple negative beta statistic, triple negative breast cancer patient. So you can see that everything in this output, everything is like, you know, it gives the rationale and where it's coming from. So you can see this recommended approach. It gives the rationale and evidence. It summarizes the trials like, for example, it says the Embrace trial demonstrated that every bullying improved overall survival compared to so the clinician can click, click, click, and see all the evidence. So they are very confident in what they are doing. And you know that there are hundreds of new research results every month. It's very hard to follow that. It gives this evidence for the clinician. This is just a whole printed version, but in the user interface, you can click, you know you want to check up

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on something, you can click and see, and even shows like experimental treatment options. Yeah. So it's very, very detailed, and so the clinician has, I know this is information overload when you're looking at it like this, because this is in a PDF, but in the user interface is something that, you know, clinician can just click if they want to be sure, and then they will see the rational evidence. Opens. Really comprehensive.

Matthew DeAngelis 30:52

How often are the data updated? You haven't gone into detail on how the data are uploaded, but just as a use case, see a lot of patients online forums and cancer get their lab result in hand, or get their scan result in hand. They're not seeing their doctor until next Tuesday, and they go on Facebook and they post it online in these groups. “What does this mean? Everybody help me out.” It's a use case for AI. How quickly after the patient gets pinged that they have a new lab result, they got a new scan, is it integrated into your system, such that they can – before they see their doctor – start asking questions? dls it minutes, hours, days?

Kingsley Ndoh 31:42

The way our engineering team has set up the agent is to crawl every day. If you think about workflows for when a patient is supposed to go for their next visit, their next appointment, a lot of times they want to, they want to have the right questions to ask their doctor. Based on all the discussions you've been having with Hurona, Hurona would say, “Hey, you know your appointment is tomorrow. Let's talk about that appointment.” It summarizes the things that you know you should tell the doctor the questions you should ask, and then you can print that and go to you to your doctor, and then you're very confident, very knowledgeable of everything that has happened, and you ask the right questions.

Matthew DeAngelis 32:33

You talked about decision support and being able to ask the AI about what the treatment options are. Is there a similar capability now or in the future for diagnosis? A patient with their rare cancer or cancer that isn't really defined, they're going through the process of trying to get diagnosed or understand what's really happening to them. Is that a capability the system currently has or will have in the future to refine what we know about the patient with respect to diagnosis, not just we know what you have, but what's the best treatment?

Kingsley Ndoh 33:09

When it comes to diagnosis – this is my personal opinion – it's best to have that in the hands of the oncologist. So the answer to your question is “yes”. For the patient, they can ask questions around that diagnosis. But because this is very complex, it needs a trained human in the loop. For regulatory purposes, it's best to have that human in the loop that will understand that human-AI interaction to to say that, “Let's consider this as a diagnosis of a rare cancer, potentially.”

But in the real world, a patient can enter a bunch of things. ChatGPT is general purpose AI. You've seen articles where a patient went to the doctor, and it was misdiagnosed. They went to ChatGPT, downloaded everything there, and ChatGPT gave them the diagnosis. They went

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back to the hospital, and it was confirmed that that was the diagnosis. In the future, that's definitely a possibility. In the US, it might take years to catch up with regulation. In places like China, I think that will happen within the next few years. It has to do regulation. It also has to do with having a human in the loop that is trained in that science, and really understands it. This is just my opinion on that.

Matthew DeAngelis 34:49

I think the tool definitely has a potential, even with the human in the loop. That same thing you said about the community centers and practice guidelines. You know things are moving so quickly, identifying how rare cancer subtypes and if the information is in the patient's record, but the clinician isn't well versed with the latest and greatest about new types of cancers being defined, that the AI could point in an important direction and for them to follow up.

Kingsley Ndoh 35:18

That's a very, very good point. That also could help patients to seek a second opinion if need be, or at least even ask the right questions with their doctors. Because the truth is in a meeting like ASCO that just concluded at Chicago, there are tons and tons of clinical trials, and it doesn't even mean that all the oncologists that went there and saw the major clinical trials that were announced. It doesn't mean that they'll go back to the clinic tomorrow and start implementing it on their patients. They might see, they might have it on their to do list, to read it, and work just takes over, and they never even implement that new strategy for the patient. I'm a huge advocate of empowering patients as much as possible. Because doctors are doing their best, but there is no 100%. It's the one who bears the weight that feels that pinch more, and has to be the advocate. If we can include that in the model that'll be powerful.

Brad Power 36:53

Does this address all cancers, and if not all, what cancers?

Kingsley Ndoh 37:04

The first one we fine tuned on is breasts, lung, brain, colorectal cancer, and prostate cancer. These are the top five cancers in the US, but we plan to cover at least 33 cancers.

Brad Power 37:22

What does this cost the patient?

Kingsley Ndoh 37:26

Because this is still new, we are still figuring out the pricing model. But at a minimum, there will be two levels. There'll be one with premium features, where the patients can do a lot, many more things. There will be one that would still give very good functionality for what the patient needs. But we're still, it's still a work in progress.

Brad Power 37:52

Is this test intended to make the patient their own best advocate, or is it intended to inform community practitioners who are not up-to-date?

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Kingsley Ndoh 38:02

The first is correct. It's intended to make patients be their best advocate. But the second too, it is intended to ensure that patients basically streamline their own navigation, navigating their own treatment. Whenever something comes up, you want to call a friend. That might be a doctor. You want to go to Google. You probably want to go to ChatGPT. The problem with that is that a lot of those things are missing the full context of you. With Google, there are so many view links it's going to give you, and it's very difficult to vet what you're reading. This is meant to for you to have a digital companion that understands you, that can make the cancer treatment more seamless, and ensure that you know things that you might not even communicate completely during your next clinic visit, all that can be captured and put in a very succinct way in front of your doctor, for your community oncologist, some level of advocacy, but the goal is to have our co-pilot tool that really work with them as clinicians.

Brad Power 39:26

Why would a community center want to encourage their patients to hold their practitioners to best care practices?

Kingsley Ndoh 39:34

I was talking to the former CFO of Cook County Hospital. I was trying to get his thoughts on incentives to adopt this system, especially the clinical decision support. One of the things that community practices fear a lot is litigation. They don't want litigation. And they want patient retention. They don't want a patient to go to another center and be told that, “This should have been started.” All of a sudden, they feel that the hospital that they trusted made their cancer jump from maybe stage two to stage three because of that delay, and that can trigger a lawsuit, which for community centers is much more significantly damaging from a reputational standpoint than an academic cancer center.

Secondly, once patients know that they're getting the best care in a community center, then there'll be increased patient retention, and from a business perspective for that community center, they see that as an LTV (lifetime value) that is much higher. They want that patient to get all their care from their own ecosystem, and as the reputation and as outcomes get better over time, they would have a better reputation. Clinicians across the board will get more patients that would come to the hospital with a lot of medical knowledge because of all the tools we have around. It's something that the next generation and even clinicians of today will have to deal with. They're not going to run away from it.

Brad Power 41:32

Does the AI express best practices or standard of care?

Kingsley Ndoh 41:39

I'll say standard of care. I'll say both, because essentially, there are two major guidelines that clinic that oncologists use is called the National Comprehensive Cancer Network, which is a group of experts from the NCI designated cancer centers that look at all the evidence and keep

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updating these guidelines, and this, this informs community oncology practices. That will be described as the standard of care. But there are many variations to that standard. AHospitals adopt that. So I'll say standard of care, and in some cases, best practices.

Jane Wilkinson 42:30

Can it ingest genomic data? Can it take that genomic report? Because it's really important that those reports are re-read and re-interrogated, especially as new clinical trials pop up, as new indications pop up, and especially with a lot of the basket clinical trials that are going on, which are tumor agnostic, but tend to be more biomarker-driven. How can it pull those data In?

Kingsley Ndoh 43:18

These are already in studies. If you send for genomic testing at, say, Tempus, you get like a 20-page document of different targets. They'll tell you some, but like you rightly said, there are lots of clinical trials that you might just discover that, “Wow, this is a target for immunotherapy.” The data out there shows that **only 32% of the time community cancer centers would interpret all the necessary markers for that patient that could be incorporated in patient care.** So, yes, it can incorporate genetic data to identify those targets and match the new clinical trials that might find any important target. It's still something that we are refining, because we need a lot of data to train and to fine tune. But absolutely, that's a game changer.

Community centers don't want to miss those kinds of therapies in their own domain. They don't want a patient to go to UCSF and they say, “Oh, this target wasn't found.” That's very important.

In terms of imaging data, not yet, but that's something in our future product pipeline.

Brad Power 44:53

Russ had a detail on that: are there input file limits in megabytes or gigabytes?

Kingsley Ndoh 45:03

I don't have an answer to that question. I'm sorry. Our engineers would know better. I know that one of the reasons why we've not incorporated imaging data is because it's very large, and it adds significantly to cloud cost. We're figuring out the best way to do it. But in terms of the limits in file size, I don't have an answer to that right now, but I can check and definitely get back to you.

Brad Power 45:38

Another question from Russ: When will you have your pricing available? And are there demos available now or soon?

Kingsley Ndoh 45:44

What I demoed for the patient side is just version one. Within the next four weeks, I want to be in touch with all of you and share that demo, and you can use it and let us what you think. Pricing will be available within within four to six weeks, we are working on it.

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Matthew DeAngelis 46:14

You mentioned before that the community centers' worst fear or biggest concern is lawsuits. I'm guessing the second one is revenue. Revenue from patients. What's your point of view on whether or not a patient interacting with the system and having access to their data at the community center is going to basically hasten them leaving? Just mine the data to figure out exactly why they need to be treated somewhere else and that they don't have the capabilities here. Is that a concern that the community centers have mentioned? And how does this tool help patients, but also not go against that goal of the community centers to keep them there and treat them there, if they can?

Kingsley Ndoh 47:06

I haven't talked a lot about revenue here, because I know that could be a sensitive topic. Cancer is devastating. Diagnosis is expensive, but there are business models for why these hospitals operate. I'm happy you brought that out. That's the number one concern for community oncology centers. We're testing this out a lot with the people we're talking to. One community oncology center is very concerned. I mentioned it indirectly: patient retention. They're very concerned about revenue, because if you lose patients to bigger community oncology centers or academic cancer centers, that is lifetime value lost.

The second thing is, if you're not identifying new targets from genomic testing, where 40% of community cancer centers revenue is coming from infusion and mostly immunotherapy. A lot of these targets are with immunotherapy, so if they leave to a Johns Hopkins or a major, those centers capture that revenue, and that's why looking at those genomic targets. We want to show a community oncology center that we are better at identifying than your clinicians, and that easily proves the return on investment for patient retention and also for identifying targets that actually make up 40% of your revenue. That's one from the patient side.

Honestly, most hospitals, and this is not just cancer, they're looking for anything that will improve the patient experience, even if it doesn't improve patient outcomes. That patient experience might be the difference between that patient sticking to you guys or going somewhere else. Our goal is to make sure that that experience is stellar with whatever we're doing, at least for UCSF for now.

Matthew DeAngelis 49:27

Potentially, you can be positioned to a patient as you can get access to the best insights without having to leave your community center and fly to Houston to go and just sit and talk with someone, where you could use AI to mine the data and come up with those insights and talk with your local doctor about whether or not we can do that here, or you really need to go to a regional center.

Kingsley Ndoh 49:49

Regardless of where the doctor is practicing with a rural community center, they have the clinical knowledge and the training to decipher that. You've closed the knowledge gap, but they

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have that clinical acumen gap. Say, oh, yeah, we can do this. Or now let's refer you. We can't do this in this center. Let's refer you.

Raj 50:13

I understand that your model is currently tuned for the top five cancers, but if the demo is used for other types of cancers, whether it's prostate or pancreatic, would it work? Does it? What kind of output would it provide?

Kingsley Ndoh 50:34

It's going to be in the context of the cancer that the patient has, and the attendant issues that they have around dealing with the cancer itself. With these large language models, you want to really fine tune it with the oncology knowledge so that it's not just spitting, it's not hallucinating, it's not doing things that might be potentially harmful to the patient, and we can rapidly ramp up the breadth of the cancers it can handle. The reason why we're starting with these five is because I don't know what the percentage is, but it makes up the vast majority of cancers in the U.S. If you get what is more common, if you perfect it, then it's easy to bring in more cancers, but to be in the context of the cancer and the issues the patient is facing.

Brad Power 51:54

Russ asks: Are there plans to validate the tool?

Kingsley Ndoh 51:59

That's exactly what we're doing. We're working with a patient group at UCSF. We're also talking with a patient group here in Seattle. It's called Sierra Sisters. A lot of you have lived experiences here, and your insights will be very valuable in making sure that it covers the things that concern you the most.

Brad Power 52:25

I would like to give you, Kingsley, the final word, any summary or major points, or key messages that you'd like to leave with the group?

Kingsley Ndoh 52:40

My key message is: any technology that doesn't involve the user, be it the hospital, the clinician, or the patient, or a survivor, it's an inhumane technology. We need collaboration with you, with doctors, to continue to gain insights, to ensure that we're solving the biggest pain points. We have to have the user in the loop. You are the bosses to these technologies. We can't stay and figure it out on our own. You can read as many papers as possible, but there's nothing that replaces talking to people that are being targeted.

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CHAT CONVERSATION

00:40:16 Rick Davis: I have questions....

00:40:30 Russ: Me first!!!!

00:40:32 Russ: Kidding

00:40:45 David Plunkett: Reacted to "Me first!!!!" with 🤔

00:40:45 Rick Davis: Does this address all cancers - if not, what cancers.

00:41:17 Rick Davis: What does this cost the patient ?

00:42:30 Rick Davis: Is this test intended to make the patient their own best advocate. Or is it intended to inform community practitioners who are not up to date?

00:44:11 Rick Davis: Why would a Community Center want to encourage their patients to hold their practitioners to best care practices?

00:44:48 Rick Davis: Does the AI express best practices or standard of care?

00:46:25 erika hanson brown: I love it!

00:54:14 Raj: Can the model ingest and analyze images such as CT and MRI files ?

00:54:34 Alexander Lalov, Indiana, USA: Reacted to "Can the model ingest..." with 👍

00:59:32 Russ: When will the pricing be rolled out? And are there demos available now or soon?

01:03:26 Russ: Input file limits? Mb, Gb?

01:06:23 burt rosen: i have to jump off, thanks Kingsley and Brad and everyone!

01:06:56 Rick Davis: Brad - admin: appears we can no longer send private messages unless that person has sent a message in the chat.

01:07:31 Raj: Understand that your model is currently tuned for the 5 top cancers but would the demo work for other cancers ?

01:08:07 Russ: Reacted to "Understand that your..." with 👍

01:08:12 Jane Wilkinson: Thank you all! Jane

01:11:00 Russ: Are there plans to validate the tool?