HEALTH TECHNOLOGY

Making Medical Decisions with Uncertain Science

by **Dan Gorenstein**

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Dan Gorenstein, Ishani Ganguli, Vardit Ravitsky and Christine Yu Moutier discuss making decisions amid uncertainty at Aspen Ideas: Health on June 23, 2026. Credit: Photo by Nick Tininenko

Two physicians and an ethicist discuss how to make the best decisions in areas like artificial intelligence and gender-affirming care when there is limited evidence in a live conversation recorded at Aspen Ideas: Health.

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How do you make good health care decisions when the science isn't clear?

I explored this question in a live conversation at **Aspen Ideas: Health** — a conference that gathers policymakers, clinicians, researchers and industry leaders to talk about some of the biggest issues in health care.

I spoke with two physicians and an ethicist to explore **how we can better navigate the uncertainty** that permeates our health care system. They spoke about guiding their patients through difficult health care decisions when the science is unclear, helping hospitals make ethical decisions about implementing artificial intelligence, and one panelist shared her personal experience as a mother grappling with uncertainty when her child sought gender-affirming care.

Watch the video of our panel, "Making Medical Decisions with Uncertain Science":

Making Medical Decisions with Uncertain Science
The Aspen Institute

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Dan Gorenstein (DG): No one likes uncertainty, especially in health care.

We all want to know *for sure* that *this* treatment will cure our illness or *that* policy will save money and improve outcomes.

But in health care, there are very few sure things.

Many decisions involve imperfect evidence and unclear outcomes.

On June 23, I moderated a panel with two physicians and an ethicist about the best way to make clinical and policy choices in the face of so much uncertainty.

The conversation took place at Aspen Ideas: Health, a three-day conference that brings together policymakers, clinicians, researchers and industry leaders to talk about some of the biggest issues in health care.

Today, we're bringing you that honest, nuanced and sometimes raw discussion.

From the studio at the Leonard Davis Institute at the University of Pennsylvania, I'm Dan Gorenstein, this is Tradeoffs.

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DG: The conversation you're about to hear was recorded live and has been edited lightly for length, clarity and sound quality.

Good afternoon, everybody. Thank you so much for coming in. What a gorgeous day. What a wonderful conference. My name is Dan Gorenstein. I am the founder and executive editor of Tradeoffs.

We are a nonprofit health policy news organization. Our primary product is a podcast. We're at the intersection of policy, money and people, and more than 70 colleges and universities around the country use our content in their classrooms. We like to think that we're educating the future leaders of the US health care system. With that said, I will. We'll go down the line for introductions.

Ishani Ganguli (IG): Good afternoon. My name is Ishani Ganguli. I'm an associate professor of medicine at Harvard Medical School, a practicing primary care physician, former journalist, current health services researcher studying health care policy, payment and delivery models. I also teach medical students and residents, and I do some work as a journal editor. Glad to be here. That sounds like a lot in retrospect. Okay. Go ahead.

Vardit Ravitsky (VR): Vardit Ravitsky. I'm president and CEO of the Hastings Center for Bioethics. And in Shameless Promotion, I left our strategic plan and one pager description on the tables because a lot of people don't know what bioethics is as a field. So you have an explanation there. I also teach at Harvard Medical School, we're Harvard buddies and excited about this conversation.

Christine Yu Moutier (CM): Hi everyone. I'm Christine Moutier, I'm a psychiatrist, and I serve as the chief medical officer of the American Foundation for Suicide Prevention. And I come out of academic medicine, where I was dean for Medical Education and Student affairs for the School of Medicine at UCSD.

DG: So today's session is all about uncertainty, which, as uncomfortable as it may be, is actually a foundational element of science and healthcare. Vardit, you talked about this really clearly in our prep call. Can you please explain to folks why, in your opinion, uncertainty should not be a dirty word?

VR: I actually think uncertainty should be the word, first of all, because the scientific method is not about having certainty. It's about getting better and better information. And if we communicate to the public that as experts, as evidence based people, we always have certainty.

We're actually shooting ourselves in the leg because we're sending the wrong message about what science is and what it is to do good health and good policy and good medical decision making. So the

first point is that lack of certainty does not equal lack of expertise or experts. And we're drowning in uncertainty. And that's the universe we operate in. So I think we should communicate transparently and honestly about uncertainty. Otherwise we would lose trust.

And one thing that is really important is to make the public, our patients, our stakeholders understand that our when we change our position, it's not because we don't know what we're talking about as we're sometimes blamed by the media, but rather because our level of certainty increased and therefore we had to modify our position. And that's how science works, and that's what we should be doing.

DG: Knowledge is gained.

VR: Ravitsky: Yes.

DG: And so can you give us a concrete example? I know you've spent a lot of time thinking about Covid. What's a nice example of Covid and uncertainty?

VR: So, you know, when the pandemic was announced, when it started, we knew so little about the virus. It was the novel coronavirus. Remember that? We didn't know. Was it airborne? Did it stick to surfaces? Remember, we used to kind of wipe the products we bought in case the virus lived on our milk.

As time went by, we learned how the virus operates, how it's transmitted. But in the early days, a lot of the public health recommendations were actually made in the presence of great uncertainty.

And as a public as a professor of public health, at the time I worked in Quebec, I collaborated with the government to implement the public health measures. And I think the overall attitude was, let's convey a lot of certainty to the public so that they will comply, so that they will follow the measures. If we show that we don't know if we're transparent about uncertainty, they will not follow the rules. More people will die.

And so at times, looking back, I carry guilt that we communicated more certainty than we had for a good reason. We wanted to save lives. It was a state of emergency. But I'm concerned that maybe that was not the best approach at the time because again, later on in a week or two, we changed our position and people felt like, oh, look at these experts, look at these politicians. They don't know what they're saying. Why should we believe them?

DG: And, and an example of this is masks.

VR: Absolutely. So one of the first measures before, way before we had the vaccines was the masks. But we really didn't know what should be the distance between people. Are the masks helping those who are sick or those who are still healthy? But we knew that it was safer in the context of uncertainty to have them than not to have them.

And of course, there was a lot of pushback. Remember the time that not having a mask was the expression of freedom? So I think we conveyed a sense of certainty about masks when actually we didn't know fully that it was supported by evidence or exactly how they should be used because it was the safer way to go. And sometimes in the face of uncertainty, you need to play it safe, but not being transparent about the uncertainty turned out to be a big problem.

DG: And just one more question here on this. You talk about feeling some caring, some sense of guilt. Can you say more about that? What are you talking about?

VR: On the issue of the masks, on the issue of school closures, and then of course, on the issue of the vaccines, um, we consistently communicated to the public more certainty than I knew we had in the inner circles. And again, I can see why we did it at the time.

And at the time, we were convinced, working with the government that this would save grandma. That this would, you know, overall reduce the level of burden on the hospitals, that it would really save lives. But when I look now at what Covid did to public trust in science and medicine were worse off now than we were before the pandemic.

To me, the pandemic was a sign of scientific achievement. We actually won the battle and saved millions of lives. But when all the surveys show that public trust in science is lower now than it was before the pandemic, so we did something wrong.

DG: And on some level, right. Not conveying. Choosing not to convey uncertainty was not trusting the public to deal with this. Do you think that's part of what's going on?

VR: Part of it was that part of it was the sense of urgency. Um, you know, I told you once, if you're a politician and you have two minutes on TV at the evening news to convey a message about a public health measure that people won't like, you know, they won't like it. You want to sound like you know why you're demanding this. The conveying nuance and certainty detail changes. That takes time. It requires patience. It requires a longer attention span, and we sense that the public doesn't have that. But maybe we were wrong.

DG: Very good. So, um, just just in case anybody didn't know, we are going to get into some real stuff in this conversation. This is fantastic. There's no obvious easy answers, right. And that's why we're all here. And you guys are really lucky to be in the company of these three incredible panelists.

So with this context, Ishani, Christina, I would like to turn to you. You guys are both clinicians and I want to talk about how you try to convey uncertainty to your patients in a way that actually increases trust. And Ishani, let's start with you about how you think sort of an almost like a population health way, how you think about uncertainty with your patients.

IG: Yeah. So I would say that in clinical practice, uncertainty is the rule, not the exception, right? It is what we are used to dealing with. We you know, there is not a lot of evidence to guide us on many

different decisions we make. I think especially in the primary care setting, where people come in with a range of symptoms.

One example that comes to mind is perimenopause, where we have such a lack of information about the symptoms and the causes of symptoms and treatments that are effective for that for that life stage, that half of the population experiences. And so when I think about and I have a lot of patients who are going through this or are coming to me with symptoms like hot flashes, or they're coming with their changes in their periods or headaches or mood changes, etc.

And so I'm sitting with them and I'm asking a whole lot of questions, trying to understand what they're experiencing. I'm talking to them about the uncertainty about the differential diagnosis that I'm thinking about. Right? We're going to think about other possible causes, like, let's say, hypothyroidism, which can cause some of these symptoms, like the period changes. We're going to do some of the tests that may help us figure out what what else it could be. There isn't a definitive blood test for perimenopause. If you're still having your periods, there's not a test that can tell you this is it.

And so it really is based on what you're experiencing. And then if it seems to be perimenopause, then I'm working with them on trying some treatments. And I have the benefit of the luxury really of time where we're maybe trying hormone replacement therapy and we're seeing how it goes. We're doing a follow up virtual visit in a few weeks to see, you know, are you getting better from it? If not, do we want to increase the dose? Or maybe there's another possibility of what's going on?

And so really just sort of leaning into that uncertainty, being clear with patients about what it is. I also really like to normalize uncertainty, not only uncertainty in the medical evidence, but also my own uncertainty, right? So I am one human being. I do my best to keep up with the latest literature, but I won't know everything. And so in the exam room, I will sometimes look things up with patients and say, I want to make sure I'm not missing something. And, you know, is this side effect you're reporting? Is that something that has been associated with that drug, or what is the dosing regimen that you should use in this case? And so those are a couple of ways that I think about it.

DG: And one thing that caught my ear when you were talking about this, about the perimenopause, you said seems to be perimenopause, right? Because there's no definitive. And so like, I don't know, I don't know how many physicians or how many physicians in the room. Okay, so some, but not a lot. I mean, how is that weird? Is that hard?

IG: I think a lot of our diagnoses don't have a single biomarker, right? So back me up here clinicians. Right. It's a lot of times it is the constellation of symptoms. It is the time course. It is the physical exam. There's different components we use. And I think being really upfront with patients about those different tools we have.

And we'll get to in a moment to some, you know, the idea of overlaying on tests, but there are many different tools we have that can help us figure out those. And one of them is the test of time, seeing

how things progress over time. One of those is just, you know, a treatment trial and you see if that works. And if it doesn't, you try the next thing. So it's much more sort of, you know, you have to trial and error than I think people might expect.

DG: Do you think as a result of the conversations that you have with your patients, Ishani, that more of them understand the uncertainty behind science because you have these conversations with them?

IG: I sure, I think so. It feels that feels boastful, but I think yes, I think I hope so. That's that's the goal. At least that is the goal, to convey that and to talk to them about, you know, there's we just there's a lot of things we just don't know.

DG: And how do you how do they how do the patients tend to respond when you tell them that?

IG: I think they're sometimes surprised. There's a sense there's a corollary here of like, patients also think when they come in that I know everything about that's happened to them. And unfortunately, because of just the huge amount of information in their charts, I don't always have that. And so I think I do have to do some education around, you know, like I, I want to know as much as I can, but there are, there are limits to my time and knowledge and in the in the field as well.

DG: Very good. Thank you.

CM: If I can just jump in quickly, just hearing you, the way that you think out loud while you're speaking with your patients, even when there is this uncertainty and being very transparent and thinking about this is the way I'm approaching it right now. But next step might be plan B and plan C, that is what I crave in A, in a primary care doctor that I cannot find very easily. So I really love hearing you express all of that. I think the communication skill is huge in terms of building that rapport and gaining trust.

DG: Because in your experience as a patient, you've gotten what?

CM: Not that level of communication. So you know, if I, a new diagnosis of hypothyroidism, for example, that I went through, I wanted to understand what has happened in the science. Why are the criteria now moving in time? Can you kind of give me the big picture? And there was not an interest in engaging in that. It was just, this is what we do now. Take this and we'll recheck your thyroid in in a few weeks. And I found that dissatisfying. I'm a physician, so I go looking in the literature myself. But why can't we have that kind of relationship?

DG: But also dismissive?

CM: Yeah.

DG: Did you feel dismissed?

CM: Yeah. Basically just kind of not not heard. And like what I'm looking for in a physician is I want to understand, I want to learn what is the big picture, even if it is a, you know, one of those more difficult, which I think like you said, uncertainty is more the rule actually. So especially in those circumstances, I want to know what you're thinking, not just the literature, but your clinical experience. And, you know, if, if I were your family member, how would you be approaching this? Like all of those ways.

DG: And Christine, over your career as a psychiatrist, as a psychiatrist, you've treated a lot of pregnant women, women who have just given birth. Could you share with us a case that helps us understand how you've handled a tricky moment when there's a lot of uncertainty in the room.

CM: Yeah. I mean, I think all of us as physicians are taught to go through a process of gaining informed consent from patients. That's very, very important. And in order to gain informed consent, people need to understand the risks of treatment, the risks of not treating, and all the alternatives to treatment, especially for pregnant women and postpartum women who are continuing to breastfeed when they are in a let's say, in the case I'm thinking of, it was a woman in her 30s, postpartum with another baby, another toddler at home and a new baby, and she was breastfeeding. And she came in presenting with very severe depressive symptoms and anxiety.

It was impacting her life, her family life. Her husband was terribly concerned. And, to just pull out for a moment that can be a life threatening health condition. And so, but the fear about treatment, especially if she's continuing to breastfeed and the topic of medications, there's a lot of fear about that. So basically I approach it by expressing in a in a sort of clear way. We're going to look at the risks and benefits of a particular treatment that I'm thinking might be helpful for you versus not using that, trying other things that are non-pharmacological.

And if her depression had been more in the mild to moderate range, that could have been a good option to not use meds. But so in terms of data, there's, there are always levels of uncertainty in this instance. And this was some years ago, the data was missing a whole lot in terms of for a child, a baby who is breastfeeding and then grows up with the exposure of breastfed SSRI in the breast milk.

But there were some studies and there were also registry studies of the SSRIs. So I would go over that and I would explain the limitations, but where it was reassuring as well. All of that said, I think what was helpful in this particular instance is explaining to her that doing nothing was not neutral, that the presence of depression is not just out here in the airwaves or in your mind. Wherever that is, it is brain and body, and there are physical changes that go on that that the baby is being exposed to through breastfeeding. So we needed to look at it kind of apples to apples in a way.

DG: And so you really walked your patient through the pros and cons of the various options. And do you feel like that, that conversation you said, you told me in our prep call that this sort of happened very quickly because it was so urgent, like over a week. How why do you think you're one? If you

could share with the audience, what did the patient ultimately end up deciding to do? And do you feel like at the end of this process, the patient trusted you more? And if so, why?

CM: Yeah. I think that when people are experiencing especially severe depression, their brain is playing all kinds of tricks on them. I say in our healthiest state, our our brain plays tricks on us. We have cognitive distortions. We do. And we're influenced by, you know, things going on in our life biologically and environmentally. So she came in very distressed but also extremely fearful of medications. But I had also heard already from her spouse that this was getting to be a very dire and concerning situation.

So I do think just taking the time, really listening to her fears and not being dismissive of them, explaining what my clinical experience is, what I recommend were the limitations of the data. But then again, I would say to my patients, not infrequently, if you are my friend, here's how I would be thinking of it. If you were my sister, here's how I would be thinking of it and presenting the data through that lens, a kind of, of, of, um, just a more holistic approach of being human to human as well as a clinical expert.

DG: And one, one thing, we have a whole run of show. This is not in the outline. So sorry, I don't mean to really throw you guys too much of a curveball, but this conversation, all three of you at one point or another, have talked about time and the role time plays. I'm just curious, do any of you have thoughts about how we grapple with the tension between the limitations of time and the realities that to talk about uncertainty requires that time?

VR: I'll jump back to the public health level, because I find this conversation between the clinical patient encounter and decisions at the level of public health so insightful. Think about the rollout of the Covid vaccine and the resistance that emerged at the same time. And how did we deal with this at a policy level, vaccine mandates, if you're not vaccinated, you can't go. You can't do. And that created more resistance. And it escalated.

And a lot of my colleagues were very insightful. Like you guys said, if we had time to talk to the people about their concerns surrounding the vaccine, we would discover that they're not all made the same. Some people are just afraid of a needle. Some people heard a story. Some people went down a rabbit hole on social media. Some people engage with them. Listen, take a more holistic approach. Understand where people are coming from, what they're exposed to. The conversation could lead to change.

But we didn't have time. And so we went down with these like top down measures that penalized rather than engage. And I use this as a metaphor for a lot of things that we do in the absence of time, if you're a doctor and you don't have the time, you'll just tell your patient what to do and expect compliance. And so whether whether individually or at a public level, the absence of time that is just like a pandemic is leading to shortcuts, and those shortcuts lead to more authoritarian attitudes that lead to exacerbating the crisis of trust. So I think you're bang on with the issue of time.

DG: Have you seen at a public health population, health level, people try to grapple with this in any meaningful way?

VR: Yes. For example, during Covid, there were a lot of local leaders in communities, you know, in churches who held like a townhouse and listened to the concerns of the community and understood where the lack of trust is coming from and brought in the right professional to discuss. And that takes time and investment. But it was.

DG: But it pays off.

VR: It paid off. It caused more change than the you have to or else. So yeah, there's examples across the board from public health all the way to individual patients.

DG: Any thoughts from either of you.

CM: In medicine, the field of medicine has evolved from a much more paternalistic approach to a patient centered, you know, the medical home and where you're working on this together. Patients autonomy is very important, but the rapport matters very much. So. I think the field has changed as well. I, I want to think that certainly there is this tension with time.

But if you, you know, tracked how much time it took you to just go through your thinking, it was not like it was 20 minutes. It was probably 90s. So, you know, I would still make the argument that we need to prioritize that level of communication and rapport building and listening.

DG: You and I talked about this this morning over breakfast. You are there are fewer clinicians like you who actually really value this and want to engage in this. What's it going to take to have more clinicians practice the way you practice engaging with your patients as you do.

IG: I want to start by saying I'm not the only one. You're embarrassing.

DG: Me. I said fewer, I said fewer.

IG: I think people feel pressure to get through. You know, this is the when you talk about time, my mind goes to payment models. I know it's I'll explain. I think that the way that we pay for health care in this country has led to some of these challenges, right? So we pay on a fee for service system. And so physicians are incentivized to do lots of quick visits to make the revenue they need to make their practices sustainable. That's true in primary care in particular.

And so we've created this situation where patients don't have that time with physicians because of that. Right. And so I think a lot about how you can come up with other structural solutions, like other payment models that are that pay for time well spent or allow for that time. And so I think physicians want to do this. I don't think it's, you know, it's like a dying art in any way. I think we need to create the structural solutions to make that possible.

DG: So we've talked we've talked a lot about clinicians so far. I really want to turn it around to, to us as patients and how we look at this as patients because we're part of the uncertainty conundrum. So your patients will come in and they're seeking medical certainty, right? They're experiencing some kind of pain. They want that test, that image to help them understand what's happening. That's all completely understandable. You've studied, though, how this can go wrong, like very wrong. And you can you call it cascade of care. Can you explain to us what cascade of care is?

IG: Yeah. And so I think, you know, as humans, we want some kind of certainty in, in our knowing that we are healthy, knowing that the headache we have is not a brain tumor, but maybe is something like a migraine. And we can't always offer that to patients. And I think people will come in, they, they're looking for that certainty, for example, in an imaging test. But the truth is that any kind of test most often cannot provide a sense of certainty. Right?

So I think about this in terms of, you know, when people come in for low back pain without any red flag symptoms or a headache where they've had the headache for years, and I have other tools in my toolbox to know that this is not something where an imaging test will be helpful, but patients will often ask for that. And we have that conversation. Where the Cascades come in is that this test may show things that are these small imperfections that would never.

DG: Call them freckles, sometimes.

IG: Freckles. Exactly. Internal freckles that would never have hurt you if they were never found right. But once you see it, it's really hard to unsee. And so you find yourself. We find ourselves as the doctor and patient, sort of chasing down this very slight risk of a bad outcome, right? This is the cascade of care.

So one example of this, a colleague of mine had a patient who had an abdominal CT. There was a small ill defined mass next to the kidney that they did an MRI to follow it up that showed it was unlikely to be malignant, but there was a possibility. So then they ended up doing a biopsy that was also uncertain. And so they did a surgery to take out the mass and they took the kidney with. It turned out to be a piece of fat, like a lipoma. And so really not a good outcome.

Turned out years later, my colleague was telling me that she lost function of her other kidney as well. So a really, really, that's a, that's a dramatic story right there. Not all that dramatic, but we see so many examples of smaller versions of this where especially when that first imaging test or test was probably not something that at a population level would have helped the patient, which is what we call low value care, or when it's an incidental finding, it's not what you were looking for in the first place.

Those cascades of additional tests and treatments where you're left worse off often when you start are really problematic. And so, and I think it's coming from a place of trying to find certainty in your medical care and not being able to find it.

DG: And so like for the folks in the room here, what advice, what guidance might you offer? Because I'm sure many of us have some kind of medical uncertainty. We want more certainty. Right. What would you how would you advise us?

IG: Yeah. Um, I would say that that's just sort of it sounds really Debbie Downer, but like there's, there's no, it's just that concept is impossible. Right? So, um, you can't have it is what I'm trying to say. So there's no such thing as complete certainty, right? So any kind of imaging test is that point in time. It can, it could miss something that's really there, or it could find something that's not really significant, etc.

I think about this with full body MRI. You and I did an episode that was a lot of fun on this topic, where it's marketed to try to to give you a sense of certainty about your health, but really you can find these things that let that make you better off, worse off than you were.

And so I think just maybe sitting with that and talking to your doctor, thinking about the potential benefits and the potential downsides of following up one of these tests or following up one of these findings.

And there are other solutions. It can be that you, if there's a finding a patient who had, you know, incidental findings of certain lymph nodes in his, um, in his underarm. And rather than putting him through a painful biopsy where the chance of it being malignant were very low, we just check every year for any symptoms that may be relevant. Right. And we've been doing this for years. He's always been fine, but there's other ways of handling it that are not necessarily more invasive.

DG: Right. And some of this is about understanding this is a shameless plug. It's sort of about understanding the trade offs, right? Like you can, you can sort of try to chase certainty and that may lead to something, but there's a potential downside. There's certainly a potential cost to this. Or you can monitor it and have a little less certainty. But in some way you get the benefit of it being less invasive. And maybe things are okay.

IG: And it's not less certainty necessarily, right? It's just a framing. And some of this is on us as physicians to to provide the evidence that exists. Some of it is also that there's there's often evidence, lack of evidence about whether a spot on an MRI would progress and what the likelihood of that outcome would be. And so we need to fix all of those things. We need to get better at research. We need to explain it better to patients.

DG: When we come back, our panelists talk about helping hospitals navigate the uncertainty of artificial intelligence and how one parent dealt with her child seeking gender-affirming care.

BREAK

DG: Welcome back. We're listening to a conversation I moderated about medical uncertainty at Aspen Ideas: Health on June 23.

On the panel were physician and researcher Ishani Ganguli, psychiatrist Christine Yu Moutier, and ethicist Vardit Ravitsky.

Vardit, I want to kind of talk about institutions here a little bit. You spend a lot of time talking with hospitals who want your advice on how they can ethically implement artificial intelligence into their work. That's obviously a big unknown question in many ways.

You told us that the introduction of AI into healthcare, quote unquote, keeps you up at night, but yet major institutions are looking to you for answers. What's an example of how you convey your uncertainty around AI and healthcare? It's it's truly.

VR: It doesn't just keep me up at night. It keeps the CEOs and, and the, you know, the entire C-suite of, of health care systems and hospitals up at night because the uncertainty when it comes to integrating AI safely and effectively and ethically into health care right now is just across the board. Let's take, for example, the simplest thing, a diagnostic tool.

You know, we all know, I think I think most of us know that right now, if an AI algorithm read your mammogram, it probably outperforms your clinician looking at the clinicians, nobody's denying. Okay. And yet this is new. The evidence is emerging. So you could have uncertainty around the reliability of the tool and the bias of the algorithm. You can have uncertainty around the accountability if it makes a mistake, who's accountable? The doctor who used it, the hospital that bought it, the AI company that developed it.

Where do you go to to get justice? We have uncertainty around De-skilling. Once doctors start using it, how quickly will they use the ability to do it themselves? So these are just three examples of many of the areas where we have uncertainty around AI. So how to prioritize the decisions.

I go back to your concept of trade offs because in many cases and this is happening as we speak, this shift is happening under our feet. Using AI is safer for patients than not in some cases, and in some cases not. So how do you do the trade off of not letting the perfect be the enemy of the very good? Prioritizing the outcomes for the patient while knowing that you'll still have uncertainty in other areas. Maybe this algorithm from mammography is actually better than not having it, but we still don't know who's accountable for mistakes, and we still don't know how it will impact the workforce.

So you have like a slice of small certainty and an ocean of uncertainty, and it's all about the trade offs of letting AI improve patient care and safety. Against the backdrop of so much uncertainty. And this will continue to be the situation for years to come, because, you know, with diagnostic tools, maybe we're a little ahead. But when it comes to the AI scribes that take clinical notes, when it comes to chatbots that provide mental health support, we're in early days, and there's so much more uncertainty than certainty.

DG: What's the most common question you get from hospital executives about AI right now?

VR: How much should patients know about how we use AI? Should it be full on consent, like sign a form? Before I record this conversation and I need to tell you exactly how many days we keep the recording and who we share it with. Is it used for training? Does it leave the institution? Do we really have to share all of this? Is it real consent that we are expected to to to do or is it just disclosure? I'm going to record our conversation now. That's it. And you know, AI will help me take notes that I will then approve. Done. Or is it just transparency at the institutional level? In this hospital, we use AI for A, B, and C, there's a poster on the wall. You don't want AI go elsewhere.

A colleague, provided this analogy to me. Pretty soon rejecting AI in your care would be like showing up in the emergency room and saying, I want you to take care of me, but I don't want you to to use electricity in my care. Well, sorry. Stay home. And we're moving very fast to that default where AI is just embedded into everything. And we cannot expect informed consent. But at this point, we still kind of do. So like healthcare systems are really losing it over the expectation of disclosure.

DG: What's the answer you give?

VR: I think we're still at a stage that we should strive for consent, but we're losing that stage very quickly for some of the tools. And so I think we're moving towards disclosure. It's not full on consent in the sense that I tell you everything that is relevant. But I got to disclose to you that AI is used in your care. And as much as time allows, tell you in what way.

DG: One perspective we've not been able to get at yet is really from the patient perspective, really the and one of our panelists actually has a patient perspective here. And Christine, I want to talk to you. So state and federal lawmakers and regulators often have to make sweeping policy decisions that will impact millions, tens of millions of people based on uncertain evidence and data. Covid obviously an example of this. There's a debate around gender affirming care for young people. That's another.

You've obviously followed that policy debate very closely. And as the chief medical officer for the American Foundation for Suicide Prevention, you and your organization are concerned about any population that has disproportionate rates of suicide. The risk for trans youth is much higher than the general population.

But I don't want to talk to you as a clinical expert. I want to talk to you as a mom. Your son at age 19, no longer a minor, had gender affirming care and there was real uncertainty for you. Can you walk us through how, as a mother and how as a family, you, your husband and your son navigated this.

CM: Absolutely. And I did have a quick call with my son and my husband, who's in the room to make sure that everything I say is okay with them. And it is.

So when our son came out to us, we had no clue. Even though my husband and I are both LGBTQ advocates and had been long standing, it was different when suddenly it was in our own family member whom we know and love and didn't understand that and didn't see that. So that there's an

aspect of uncertainty that relates to where does this go from here when it's smack dab new in your lap as a family member?

So I think, you know, the struggles around that were really, first of all, listening to our child really trying to understand how deep and thoughtful and sustained an experience is this with his gender dysphoria? I think another aspect of the experience was my husband and I, as much as we could, and we didn't do it perfectly. Staying on the same page in terms of a message of, of affirmation, of listening, of wanting to learn more.

When what we could sense with our son was that they were in a state of a journey, that they were on a journey of discovery and new things being revealed in their own insights about why they had lived with this, these feelings of discomfort being in their body for so many years and how that was expressed.

And over the years we have been able to discuss that openly as a family. And it's a really beautiful thing. But in that moment, that hadn't happened yet. Now, so the way, the way it went with Frankie was that he was going to college in Memphis at the time. It wasn't like he could just have immediate access to care and, you know, and get get the treatments that he was looking for.

So in some ways, that kind of bought us some time to be discussing, to be looking into the data. Tou know, what was known about long term effects of of hormones? In this case, testosterone was what he was looking for. And also there was one very specific concern I had, which was that Frankie has lived with a mental health condition over a long period of time, and there was no data to inform what testosterone would produce in that with that baseline condition. And I was petrified as a mom and as a psychiatrist.

But so we had to make a decision. Now, Frankie was a young adult, so it's not like we were going to stop their care. They were making decisions, but they were certainly looking to us. He was looking to us for support and affirmation. So we had to make the decision to support our son in his decisions. Even though we had fears we wasn't necessarily what we were ready for.

DG: I want to interrupt you for a second here. You you were terrified about the testosterone. What did you do to hold that fear? How did you hold that fear?

CM: Well, I mean, my husband and I process everything together, so that helped. And. But we both had that fear. The data was not very helpful. I did raise it with Frankie, and, you know, he said, you know, Mom, I've looked into this. The peers I know and the reports that are out there is that it looks helpful and not harmful even in the instance of having a mood disorder to begin with.

So, you know, I think the uncertainty was very real. But the decision to support our child and to, you know, listen, as a psychiatrist at AFSP, we're very familiar with the data around what happens in terms of family rejection. So that certainly played a role for us in terms of our choices at that time.

But just, you know, just to fast forward, not only has he not had ill untoward effects of that testosterone treatment, he has grown more and more stable, more and more confident in his being who he is in his own right, body and skin. There was also a moment when he had top surgery, and that was another, you know, getting surgery for for many people might have a different effect as far as sort of irreparable, you know, sort of changes to your body that you're making.

And I think for my husband, maybe a little bit more so than me, the question and the uncertainty might be, is this something that he might regret later? And I will say, even with that uncertainty. And again, you know, discussions with Frankie and respectful ways, hopefully, Frankie, if you watched this recording, we hope it was respectful.

We did go down to Memphis and got an Airbnb and supported him pre and post op and all the way through. And the day that he came out of surgery and came home and we helped him remove the bandages, the sheer joy on his face was something that I think for myself, but particularly for my husband that told the whole story.

And that in our case, our family's case that has been genuine and deep and real, it's now several years later and so, but yeah, it is difficult. And I haven't even talked about the health care providers involved, but they were mostly wonderful, actually in mostly this was, you know, Frankie telling us about these conversations with his surgeon or, or with his gender affirming provider.

DG: And I want I want to get audience questions. But but there's just one question that I have I'm really curious about. Do you feel like you learned something for yourself about uncertainty and like willing to tolerate a kind of uncertainty when you talk about Frankie smile, that that question just sort of popped into my mind.

CM: Yeah. The joy. I mean, I think that as a psychiatrist in academic medicine, I have been faced with, I think, unfair accusations of psychiatry, not having the data that other fields have, which I would say maybe in certain cases and maybe not in many other cases. So I don't know that that was more the thing. I think for us, it's more a learning about, in a way, trusting our in a way, our parental instincts, because we love and do trust our kid. As far as what he was telling us about his own experiences. So I think that's our walk away.

DG: Thank you. I'd like to open it up to you all for questions. Anybody anybody. Questions. Raise your hand. We've got a person with a microphone. Uh, the glasses and the pink and brown. I really like that shirt. It's nice.

Audience Question: Thank you. Great. Great presentation. I have a question because I was drawing a lot of parallels between all of your comments on your patients and speaking to your patients about the clinical care that they're going to get, but each of you as researchers, right? That also takes a lot of time, a lot of explanation, a lot of gaining of trust.

So where in your practice, if you've got a patient and you knowing that maybe there's an alternative for them or something, another treatment, do you come in and talk to them about clinical research? I know that there's times in which it's a little more sensitive than other times. If it's a patient that was just diagnosed with cancer or someone that's maybe diabetic and there's a new medication or you're repurposing.

But all in all, where do you draw that kind of continuation of medical management from being a primary care physician to the research? And then in the bioethics space, we didn't even talk about next generation and DNA sequencing and all that that entails, but that's a whole nother level of uncertainty. But again, thank you all very much for your great talks.

IG: That's a wonderful question. I would say that, you know, when patients I'm there are times when I'm there's a trial that I'm aware of that I can share with a patient. Oftentimes they're coming to me or they've heard through the health system that what's available. And I do think there's another level of uncertainty in terms of the randomization. Are they going to get the treatment?

And, you know, we talk about it in the context of, you know, advancing science. To Vardit's point earlier, this is part of the sort of our, our larger goals around reducing uncertainty in the literature. And I think patients are often really excited about that.

DG: Right over here by the speaker.

Audience Question: Hi, Bob Wales, and I'm one of those clinicians that is attending and really applaud your comments and comments and your opinions. It's wonderful to spend time with the patient. And we all do that in terms of consent and informing them about decisions and medications and so forth.

My question is that this seems to be almost the antithesis of what we're learning about AI intervention here. Most patients who would see me have already consulted with AI, and AI is not very good at nuances. Ai is very good at throwing out a diagnosis and these symptoms, and this is what you have. How do you put together the conflict between AI informing patients and what you need to do to express uncertainty when AI is not great at that.

IG: I might get a lot of those as a primary care doctor. Yeah, people will come to me with their ideas about what's going on, and I welcome it because it is just another source of information. I will ask more about where it came from.

And I think that and I'm let's be honest, I am also using it right to make sure I'm not missing something in my differential diagnosis. It's happening in all in all of those settings. And I think so I have exactly what you said, I think is what I aspire to do is to explain the limitations of AI in that context. There are times when they come in with the right diagnosis, and it saves me some time, and I welcome it. And we have a conversation about next steps.

So I think just being transparent, I think is that same theme applies. But, but yeah, as long as patients tell us where they're getting the information from, I think that can be very helpful.

VR: And it's an opportunity to highlight what we heard yesterday in the welcome talk that the algorithm is trained to sound certain. Yeah. And so now as clinicians, you have you have a bit of an uphill battle to remind that the uncertainty is not because you're not as good as the AI. It's actually because you're better.

CM: Yes.

DG: Here in the front row, the Adidas shirt. I like that one a little less.

Audience Question: First of all, thank you. Yes, it's a Costco shirt, by the way.

Thank you all for a wonderful discussion. It was very good. One of the things you were talking about with communication skills. So in my opinion, is you can go to a schoolyard with a bunch of six year olds, and you can pick out the kids who have great communication skills. However, when you often in my practice, I remember doctors who had 20 and 30 years of experience who had awful communication skills. Just awful. And so is this being taught in medical schools. That's question number one.

And number two, is it possible to actually teach communication school skills to someone who doesn't have any?

CM: Well, I can take that one because in my Dean role, we were faced with a percentage of every med school class that was in that category of just having really significant challenges, probably to no fault of their own, you know, neurodiversity and all the things of hardwiring.

And I would say, yes, there are ways that you can teach skills, teaching, you know, active inquiry and active listening skills is not something that any of us grow up learning how to do. We now have simulated patient cases and things that we can take extra time for students and residents who do need a little extra. So I think that is really important.

VR: And that's all until the chatbots take over.

DG: Final question here. We've got just 45 seconds.

Audience Question: I'll be quick. I'm an epidemiologist and science communicator and actually working with higher education to create science communication curriculum for medical students and for public health students. So it is happening.

You know, a lot of the work that I do focuses on understanding uncertainty and speaking about uncertainty and how that can be confidence building. The science says as much. But one topic that is

particularly challenging is risk. Um, risk communication is a completely different type of communication to even in public health. And humans are really bad at assessing risk.

So I'm curious how that comes into your work. The distinction between risk versus hazard and how much exposure matters. I feel like sometimes in explaining that calculus, like a true calculus of risk and hazard, it can help people understand their fears better. So I'm curious if you have any thoughts on this.

DG: And we're at time so fast.

IR: So I've been working in reproductive ethics for decades. And pregnancy is one of the areas where risk is the hardest to understand because you can be told you have 85%, but you only carry one fetus and that's going to be your baby or not. And it depends on your decision. And the clock is ticking.

So, you know, add on the time pressure and everything at stake. And, you know, we can't really tell you unless you stick a needle in your uterus and risk the pregnancy. It's just compounded the difficulty of communicating risk in pregnancy is compounded and compared to us as adult patients.

And what just one thing that I found helpful as a pregnant patient and as a, as an ethicist working in the field is to use guided imagination. So if my fetus was one in 40 risk for something I was invited to. Imagine a room with 40 people and imagining the one baby sitting there. Or would I board a flight if I was told there's 140 risk that would crash? Would I buy a lottery ticket as I would like, take risk and put it in different contexts to help us learn what our risk tolerance is and how we intuitively, without using complex terms like hazard and exposure, how intuitively we unpack risk for ourselves and then apply it to your pregnancy or your cancer treatment. So there's a lot of tools out there to help us play with the notion of risk in ways that are more intuitive and less cognitive.

DG: And we're going to leave it there. Let's give it up for this panel.

Thank you for listening to this conversation, recorded live at Aspen Ideas: Health.

We'll have links to the video of this panel, as well as another panel I moderated on health care costs, in our show notes.

I'm Dan Gorenstein, this is Tradeoffs.

▼ Episode Resources

Additional Reporting and Resources on Medical Uncertainty:

- **Should I Trust AI to Diagnose Me?** (Ryan Levi and Dan Gorenstein, Tradeoffs, 10/30/2025)
- **'I Feel Unsafe Almost Everywhere': How Trump Has Changed Life for One Transgender Teen** (Ryan Levi and Dan Gorenstein, Tradeoffs, 7/17/2025)

- **Hope, Hype or Harm? What We Know About New Cancer-Screening Tools** (Leslie Walker, Tradeoffs, 2/15/2024)
- **Pain, Fear and Waste: The Costs of Unnecessary Care** (Ryan Levi, Tradeoffs, 6/9/2022)

▼ Episode Credits

Guests:

- **Ishani Ganguli**, Primary Care Physician, Associate Professor of Medicine; Harvard Medical School and Brigham and Women's Hospital
- **Christine Yu Moutier**, Chief Medical Officer, American Foundation for Suicide Prevention
- **Vardit Ravitsky**, President, Hastings Center for Bioethics

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