Ramona Schindelheim, WorkingNation editor-in-chief:

You're listening to Work In Progress. I'm Ramona Schindelheim, editor-in-chief of WorkingNation. Work in Progress explores the rapidly changing workplace through conversations with innovators, educators, and decision makers, people with solutions to today's workforce challenges.

Earlier this month, I attended the Consumer Electronics Show, CES, in Las Vegas. There I spoke with leaders from a variety of industries about how tech is changing the way we live and work. From nurses accessing digital medical records to checkups via Zoom, nearly everyone who's recently received healthcare has received digital healthcare, even if that technology is out of sight. Jennifer Goldsack is the founder and CEO of the Digital Medicine Society or DiMe. It's a global nonprofit with the mission to advance ethical, equitable, and safe use of digital technology to redefine healthcare and improve lives.

She explains how the digitization of healthcare is transforming the way the industry cares for patients. What exactly is digital medicine?

Jennifer Goldsack, Digital Medicine Society CEO:

I'd like to encourage all of us to think a little bit differently about digital medicine. When was the last time you saw a job opening for a digital marketing consultant? It just doesn't exist anymore. When was the last time we talked about digital in business? It doesn't exist. Digital is the tool, the resources, the platforms that power different industries. For us, we're excited about the digital tools in the toolbox, whether that's the use of sensor generated technologies, whether that's flows and streams of data, whether that's telehealth, whether that's the use of the small computers we have all in our pockets called smartphones, whether that's artificial intelligence and machine learning.

We can talk about all of the digital products, but really all digital medicine is, is high quality, trustworthy digital tools that we deploy in the service of better caring for people.

Ramona Schindelheim, WorkingNation editor-in-chief:

Those can be tools that are either used for diagnosis or intervention.

Jennifer Goldsack, Digital Medicine Society CEO:

That's exactly right. You can imagine the digital therapeutic that is used to diagnose or to intervene. You can also imagine an algorithm running on a large data set to determine who might be at risk and send a flag to intervene with preventative care. We can think about the use of platforms that enable things like peer support or access to mental healthcare. We can think about nudges. We can think about the use of a bed mat or the microphone in your Alexa or in your smartphone that might detect changes in your voice and predict different medical conditions so that we can clinically intervene.

It really does run the whole gamut. But for us at the Digital Medicine Society, why we were intentional about the way we named ourselves and said Digital Medicine Society as opposed to digital health is we are thinking about those digital tools that support the practice of medicine, and we define those tools as being trustworthy, evidence-based, and equitable.

Ramona Schindelheim, WorkingNation editor-in-chief:

When you talk about these tools that are being used and broadly all of healthcare now is a tech industry.

Jennifer Goldsack, Digital Medicine Society CEO:

100%. As all industries are, right? You can talk to the CEOs of the biggest drug companies and the largest vehicle manufacturers and they all self-report as tech companies and/or data companies. To me, Ramona, that's the difference. It's data. It's flows and streams of data that we've never had access to before that is going to define the digitization of healthcare. We're used to be hamstrung by the data that lived in a manila folder, locked in a filing cabinet in your doctor's office. And at any time, only one person could have access to that. If we wanted to do research, we had to go out.

We had to collect new data. It was cumbersome. It's only these tiny snapshots of information captured in the clinic. Now, we have the opportunity to think about not only clinical signals that come from perhaps wearables and apps, but also social determinants of health, behavioral data. We can harness all of this information. The really interesting thing about this moment in time in the digitization of healthcare is we're at a crossroads. Are we going to use these flows of data and our ability to interpret them and then follow-up? Are we going use it to help, or are we going to use it to harm?

Are we going to use this information to say, "Yes, this individual is at risk of a health episode," and to make sure that we wrap care around them and take the best care possible? Or are we going to sell that information to an advertiser for targeted advertising, or are we going to sell it to a health insurance company or a life insurance company to make it difficult for that individual to get coverage? Currently, that choice is 100% up to all of us working in the tech industry and in the healthcare industry. We aren't thinking about that enough.

Ramona Schindelheim, WorkingNation editor-in-chief:

I think that that's very important area that you need to talk about and obviously you think so too. But like the HIPAA laws where you go and you have to sign a document in your doctor's office that says... I guess, you're releasing certain amount of data to them. Are we at risk of signing away all of our data now because there is so much technology? How do you protect it?

Jennifer Goldsack, Digital Medicine Society CEO:

First of all, I feel that in this era, a lot of people give HIPAA a really hard time. I still happen to think that HIPAA is a terrific piece of legislation. It's been poorly implemented. A lot of healthcare systems have hidden behind HIPAA and made excuses that they can't share data because of HIPAA. Whereas in fact, actually the Portability Act is sort of key to it. But it did come from a different era. HIPAA was passed in the 1990s where data did live in those manila folders in those file cabinets. It's also interesting to think about where we capture and store healthcare data and who is capturing and storing it.

And to your point, are we signing it away? HIPAA only applies to covered entities, those healthcare systems that take third party payment, those third party payers themselves, and then a group of business associates, right? If you, for example, go to a self-pay mental health virtual provider and that virtual provider doesn't take insurance, they are not a HIPAA covered entity. It simply doesn't apply, and a lot of people don't know that.

And then to your point around the use of a variety of different sensor technologies and apps on your phone, I read something the other day, Ramona, based on the average American's digital footprint, if we read every line of every terms of service that we simply clicked on, we'd spend 250 hours a year just reading terms of service. And most people don't read them, honestly. Because even if you read them, you can't argue with them. If you want the service, you have to just be an acceptor of whatever the terms are. To your point, what can we do about this? Are we signing over our data to unknown entities?

Perhaps, and we need to start thinking about data rights. We need to start thinking about data sovereignty, but the laws are going to follow slowly because that's what laws do. In the meantime, it

comes back to all of us working in the industry to be good stewards of these data, how we generate them, what we decide to use, how we interpret them, and who we share it with. There is no one coming to be good stewards. It's simply up to us, the digital health workforce.

Ramona Schindelheim, WorkingNation editor-in-chief:

One thing I noticed when I was looking through your website, you defined stakeholders who are in the digital medicine field. Could you tell us some of those stakeholders and what is their role, what is their part in the industry?

Jennifer Goldsack, Digital Medicine Society CEO:

Absolutely. Ramona, I have been thinking about this for a long time, and I feel really strongly that digital health is the most interdisciplinary field there is. From citizen scientists and cybersecurity experts to physicists and engineers who are making these chips to data scientists, product experts, clinical scientists, clinical care providers, healthcare executives, payers, regulators, funders, investors, they all have a part to play in shaping this industry and reimagining what it means to care for people in the digital era. We have shared responsibilities to do our part.

I think especially when it comes to ethical and equitable design, safe design to coming up with products that actually help people, everyone has a responsibility. You can't say, "Oh, it's so-and-so's responsibility down the road, or we're going to adhere to this particular regulation or this particular legislation," because oftentimes they are lacking. I think that every single one of us working in the field has to take seriously our responsibility to build tools that actually help that address high areas of unmet need for different populations as opposed to another app or point solution that we can shoehorn into the system and get paid for potentially with little evidence and potentially with bad data practices.

Ramona Schindelheim, WorkingNation editor-in-chief:

One of the stakeholders you mentioned in there on your website also was engineers.

Jennifer Goldsack, Digital Medicine Society CEO:

100%.

Ramona Schindelheim, WorkingNation editor-in-chief:

Again, when we talk about healthcare, we generally think of doctors and nurses and medical technicians in a room, but the engineers and the software developers are the ones that are building this new technology. There's an, I would say, increased demand for those people in the industry.

Jennifer Goldsack, Digital Medicine Society CEO:

There is an increased demand for those individuals across all industries, and I think that's what makes this really interesting. What is going to cause the really talented software engineer who builds high caliber algorithms to come into an industry where they can care for people as opposed to go and sell clicks somewhere else for a different paycheck? It's interesting because we see those big tech companies with that in-house talent coming into the healthcare environment. I think if we can continue to hold as our north star our shared responsibility to care for people, all people, it's only going to be a good thing.

But we absolutely need to start thinking about healthcare as a more interdisciplinary field than even we do now. Because if we expect to sit in a traditional healthcare system and occasionally reach out to a cybersecurity expert or a software developer and that we're going to digitize the place, we're crazy.

Ramona Schindelheim, WorkingNation editor-in-chief:

We're at CES and we're looking at... You've been speaking here and meeting other people in the industry, and there's a lot of changes going on in technology now in the field and all fields. How do we make sure we are preparing enough people? There's already documented shortages. What kind of education and training can we provide out there for people who want to get into the field?

Jennifer Goldsack, Digital Medicine Society CEO:

It's a really good question, and I feel quite strongly that it's going to require a three-pronged approach. First of all, we have to think and act early to train the future workforce. We have to assume that healthcare, like every other industry, will be digitized. We have to think about introducing into clinical programs, and some of the leading medical schools already are, digital modules or tracks into traditional medical training. Now, that's not to say that every clinician needs to be a PhD computer scientist. That's ridiculous. But they need to be able to ask good questions.

They need to understand what a good answer looks like when they're considering different technical approaches, and they have to have a level of tech literacy and comfort to be able to really interface with these tools and their patients every day. Similarly, we need to go into engineering schools and math programs and get them excited about the ability to bring their skills to bear to better care for people. There's the workforce of the future.

Then there's the current workforce, and we have to think about as quickly as possible providing the current workforce, whether they are sitting in Silicon Valley or whether they are sitting in an academic medical center, whether they're sitting in the receptionist's office at your local primary care provider. We need to quickly tool them with a deep understanding of what the potential benefits of the digitization of healthcare are so they can embrace it and not feel overwhelmed, but also the risks of harm and how to ameliorate them. We need to do this as quickly as possible, and this is actually a priority for us at DiMe.

And then I think there's a third pool, which is we need to find new people. When we think about the issue of equity, for example, if we look at the tech workforce, it doesn't represent the patients we're all here to serve. If we look at the healthcare workforce, it also doesn't represent all the patients that we're here to serve. If we actually start to go out to new members of the workforce in different industries and begin to train and equip them with the skills that they need to bring even more talent and more diverse workforce to bear in the digital health era, I think that's imperative too, Ramona.

Ramona Schindelheim, WorkingNation editor-in-chief:

Where do we guide them to? Do we guide them to a community college? Is it a one-off credential program? And then how do we make sure they're accredited in a sense, that they have the credentials to do the job that needs to be done?

Jennifer Goldsack, Digital Medicine Society CEO:

The credentialing, I think, is really important because I think oftentimes it may not be a subject matter expert who's hiring for some of these roles. You may have a brilliant clinical expert who's hiring for

technical support, or you may have a startup who's hiring for someone like a chief medical officer and doesn't understand what good looks like in that sphere.

I think that's still an evolving question. However, we've launched our DiMe Digital Medicine Academy to really address exactly this issue, and we have an increasing array of course offerings to really support and equip the current workforce, whether they're in healthcare already or not, to be able to add value and help drive forward this critically important transformation in healthcare.

Ramona Schindelheim, WorkingNation editor-in-chief:

Are those programs accessible on your website?

Jennifer Goldsack, Digital Medicine Society CEO:

They absolutely are. Through our DiMe Academy on the website, you can find CME course offerings. If you are a clinician, we have enterprise level offerings for those large organizations in the healthcare environment who have made the decision to embrace a digital strategy so we can support their change management and every member of their team in being successful. And then actually on January 11th, we are launching our first director learner offering, Ramona, to really support everything that we've been talking about today and make sure that the fundamentals are available to everyone who wants to further improve the way we care for people.

Ramona Schindelheim, WorkingNation editor-in-chief:

As technology becomes more a part of the industry in all industries, a question comes up about accessibility and equitable accessibility. There's still areas of the country that don't have broadband. Not everybody can afford it. How do we make sure that everybody's getting access to this great new technology that's improving their health if they can't afford it?

Jennifer Goldsack, Digital Medicine Society CEO:

It's a really good question. First of all, I want to actually reflect on current state, Ramona. Current state is right now, one in two counties in the United States do not have any mental healthcare facilities whatsoever. Access isn't great right now. Right now in the United States, one in four Americans with diabetes are rationing their insulin because we can't afford it, and insulin's been around and used in humans for exactly 100 years.

When we talk about, gosh, how can we make sure that the digitization of healthcare doesn't result in health inequity, we need to take a long hard look in the mirror where we're starting from, and then we need to flip the script. We need to stop thinking about, gosh, how is the digital divide going to make healthcare inequitable? We need to say healthcare is inequitable. That's unacceptable. How can we develop digital tools intentionally and then deploy them intentionally to actually address these kinds of disparities? I'll give you an example.

I am absolutely not pointing the fingers at any physicians, every single one of them is overworked right now, but we know that, for example, there might be a medical treatment that's quite a complex dosing regimen, for example, and a clinician may come in and that might be the best treatment for a patient, but they recognize that that patient doesn't have English as their first language and they decide that this more complex regimen wouldn't work for them.

They don't even introduce it. They give them something else, and it's subpar treatment. We can use things like thoughtful algorithms. We can use things like clinical decision support tools. Then we can use things like apps to support that patient, first of all, who gets recommended that therapy, and second,

then gets supported through the dosing regimen. We have to think about digital as a solution through ethics by design, equity by design, inclusion by design, and quite frankly, care by design.

Ramona Schindelheim, WorkingNation editor-in-chief:

My last question to you, what is it that we as the public, don't know about digital medicine that's important that we know?

Jennifer Goldsack, Digital Medicine Society CEO:

Ramona, I think the first part is that so much of our healthcare system already is digitized, right? We've had electronic health records now for the best part of 10 years in many place. We already, in large part as a consequence of the pandemic, have been using things like telehealth. We're increasingly relying on sensors, even if they're confined to the hospital. But the part that gets me really excited about the digitization of healthcare is our ability to make the invisible visible. We know that hypertension is one of the biggest killers in the United States, but it's largely invisible to every one of us until it's not, until we're starting to feel the consequences.

Blood sugar, for example. We can think about all different sorts of symptoms that are silent until they are very, very severe indeed. We can now start to probe those symptoms, identify them early, and really think about transforming our healthcare system to one that goes from being, frankly, a sick care system where we're waiting for you to present at the doors of the clinic already sick to a healthcare system where we are thinking about risk factors, where we're able to monitor you early and intervene early before your healthcare situation becomes catastrophic and probably expensive.

That's the piece that I think is really exciting. It's not just about putting widgets into our current system, it's about fundamentally reimagining how we care for people in the digital era.

Ramona Schindelheim, WorkingNation editor-in-chief:

That was my interview with Jennifer Goldsack, founder and CEO of the Digital Medicine Society, from CES. I'm Ramona Schindelheim, editor-in-chief of WorkingNation. Thanks for listening.