Past Event: 2025 NCSBN Annual Meeting - Using AI for Regulatory Efficiency Video Transcript

Event
2025 NCSBN Annual Meeting

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Presenters
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- [Jack] I hope everybody had a great lunch. Did you have coffee, or did it put you to sleep? I'm going to try to keep you awake for the next 45 minutes or so, and then we'll be having a panel discussion that follows immediately after that. You might well imagine that, as an AI and emerging technology strategist, I am frequently asked to gaze into the crystal ball of innovation.

And whenever I am, I always try to bear in mind the sage counsel of that great American philosopher, Yogi Berra, who put it so well, nailed it, in fact, when he said, "Making predictions is very hard, especially about the future."

Nevertheless, since we are likely to see more change over the next 5 to 10 years in healthcare, in regulation, and in our lives than we have seen in the past century, I'm going to go out on a limb today and make a few predictions.

Our topic is AI, a timely topic, because in the strategic direction vote for 2026 to 2028 for NCSBN, AI is a prominently featured subject. How many people here have ever used any of the recently emerging AI tools that have come out over the last couple of years?

Raise your hands if you have. Looks like about 90%, maybe not quite that high, 80% at least. But there's a common misconception that AI, which up until about three years ago, most people simply thought was a science fiction concept until ChatGPT and followed quickly by Google Bard, then Google Gemini, Anthropic Claude, Perplexity, and a host of other AI tools that have emerged back in late 2022 and over 2023 and 2024, came out, and all of a sudden, wow, out of nowhere, AI has suddenly become real.

Well, I've been researching AI since the mid-1980s. Twenty years ago, I was running the commercial side of an AI software company. Now, it wasn't exactly the same kind of AI as these generative AI tools

that most of you have had some experience with over the last couple of years, but it was definitely artificial intelligence that was leading in that direction.

In fact, artificial intelligence has been evolving since the 1950s. The very first conference on artificial intelligence was held at Dartmouth College in 1956. And it's been growing exponentially. But it's a funny thing about exponential curves, because when they first start out, they look pretty much like a flat line.

And it's really only in the last two or three years that we've suddenly started to see a curve to say, "Oh, you know what? That line wasn't actually flat. It's exponential, and it's just started to curve up." But if we see nothing more over the next several years than continued growth at the same exponential rate as we've seen for the last several decades, here's what it's going to look like over the next few years in terms of the capabilities of AI.

It's literally going to go off the charts. It's going to change our world probably more than anything since at least the invention of the printing press, possibly since the invention of writing. We're going to go through a time of great change and great disruption, enabled in part by AI. So I'm here today to talk to you about what can we do to take advantage of what AI can do for us now and plan for how to both maintain control over what AI does and how it's used, and at the same time take advantage of the vastly increased capabilities that will be available to us in the near future?

Arthur Clarke, author of the book "2001: A Space Odyssey," in a nonfiction book, "Profiles of the Future," that he wrote in 1973, pointed out that any sufficiently advanced technology is indistinguishable from magic.

And I'm sure if you're like me, most of you, the first few times that you used some of these AI tools, it almost did seem magical that anything could work quite that way. But it's been around for quite a while. Forms of AI that precede these recently emerging tools include speech recognition, natural language processing, expert systems, robotic process automation.

Machine learning has been evolving for over 25 years. Deep learning, a more sophisticated version of machine learning, has now been around for at least 15 years. And that's what led up to the development, starting about 2017 and exploding into view, if you will, in 2022 with the release of ChatGPT, of generative AI tools.

Now, the way generative AI works is powered by what's called large language models. Think about a student that has access to the world's largest library that can absorb patterns and relationships that are in information.

These models are a little bit like an extremely advanced parrot that hears words and literally parrots them back, except they can also create original stories, art, music, and videos from observed data. The essence of generative AI lies in its ability to learn from vast data and produce novel content. It's like putting together the world's largest jigsaw puzzle.

Developers collect huge amounts of text, trillions of words, phrases, sentences that powerful computers work for weeks or months to analyze these relationships among all of these different tokens, as they're called.

And they burn amazing amounts of computing power. Hundreds of millions to billions of dollars worth of computing power are utilized to create each version of these generative AI tools that have been released. But the end result is we have a comprehensive model that understands and can very accurately replicate human text.

Now they still make mistakes. I don't know if you noticed, most of us have used the internet pretty extensively over the last 20 or 30 years, and you may have noticed that not everything on the internet is correct. And in fact, there are some people that intentionally put incorrect information on the internet. But that's a whole other subject to be discussed.

The point is that when they pick up all of this information from the internet and a variety of other sources, these large language models can pick up incorrect information. They can also misinterpret the context, especially if you give them a prompt. They might not interpret it the way you intended it. And the end result is that they can make mistakes.

Now, I have to say, having watched this technology very closely over the last 30 months or so, I'm amazed at how much more accurate these tools are today and have continued to be than they were even just a couple of years ago. So yes, there are still hallucinations that can happen, but they are a tiny fraction, way less than 1% of the number that happened even just a couple of years ago.

And although there were some horrible examples of these, that was, even so, a very small percentage of the responses that they typically gave. Nevertheless, some people are afraid about using AI because they're afraid, "Well, I've heard it can make mistakes, so I better not take a chance. I better just depend on the information I get from my peers and my colleagues because none of them ever make any mistakes."

Well, maybe not. So being afraid to use AI, being afraid of AI because of the mistakes it might make, is a challenge that needs to be addressed by each of us. But many people are also afraid of AI because they're going to say, "Well, if I start using AI and then everybody else starts using AI, then AI is going to come along and take away all of our jobs."

And I can reassure you, I heard at lunchtime somebody saying a rumor that Elon Musk is developing a new AI system that will be able to completely replace all the nurses in hospitals and clinics within the next couple of years. Well, we know Elon Musk has a magical touch because if you don't believe me, just ask Elon. But no, that's not very likely.

But what I will say, and we won't spend a lot of time today talking about how AI will be being used in healthcare as opposed to healthcare regulation, your field, I will say AI is going to profoundly change healthcare, including nursing, over the next several years. It will not eliminate nurses, but it will make them amazingly more powerful, and effective, and productive in being able to care for patients.

So the good news here is that AI will not replace people. The bad news, for some of you anyway, is that people who understand how to use AI-enabled tools and technology will replace those who don't.

And for those of us of a certain age that can remember when the fuss seemed nearly as great as we've seen over AI, when the internet first came out 25 or 30 years ago, there were a lot of people who said, "Well, you know, I'm not a computer programmer. I'm not an IT professional. Am I going to really need to learn how to use this internet thing? I mean, am I going to have to get one of those email addresses?"

Well, we laugh now when we look back at it, and we say, "My God, who would ever want to live in a world where we didn't have the benefits of email, and texting, and so forth? But at the time, that was common. And some people have a similar thought about AI. "Oh, I'm only three or four years away from retirement age, so let's just not worry about having to learn that."

Well, you'll want to learn it. That's for sure. One of the new forms...I should not say new. I need to correct myself. One of the forms of AI that has been discussed recently much more, by recently, I mean over the last year or so, is agentic AI, autonomous, multi-step AI agents that can plan and execute tasks end-to-end.

And it is coming along, and it will be emerging very significantly over the next couple of years. And one of the challenges for people in every organization, whether you're a healthcare organization, whether you're a healthcare regulator, like a state Board of Nursing, or whether you're a business, governmental agency, or what have you, is how and when do we use AI agents?

It's going to be important as AI agents begin to emerge to keep humans in the loop, keep people in the loop, allow people to make those final decisions. As the accuracy and effectiveness of the decisions that AI agents make continues to improve, and it is improving dramatically, until it well exceeds the accuracy of the decisions that expert people in the field can make, we're going to want to have expert people like yourselves and like nurses delivering healthcare making final decisions.

But it's much better to be able to make that final decision if you can get all the information you need analyzed quickly, presented to you in a way that makes it clear and simple to verify or validate what the right step is. At some point in time in the near future, and by the near future I mean most likely within the next two or three years, the accuracy of those decisions will so far exceed the accuracy of the decisions that nurses make and that nursing regulators make about regulatory policy, that we will want to allow those systems to make those decisions better, faster, more accurately, even though we're still supervising the process.

But in the short term, it's very important to make sure that you design your systems so that people are finalizing the decisions, even when they're using AI tools and technology to help them get to the best final decision as soon as possible. The way these AI agents work is they can gather information from across the organization, from around the world, and think, decide, and act to solve business problems the way a human expert would if the human had time to gather all of that information and could analyze it even 1,000th as quickly as these automated systems can.

Large language models, as you can see on the upper left of this diagram, have a key point to play. A newer emerging technology that started to come out over the last year or so, large numerical models, is helping to address some of the mathematical challenges that large language models don't handle nearly as well.

Large language models process unstructured text for understanding and generation. They excel in reasoning and natural language communication. That's all very good. Large numerical models, on the other hand, excel in precision and numerical accuracy. So predicting what is the likelihood of an occurrence of sepsis or readmission of a patient to a hospital are examples of what large numerical models can do extremely well.

Combining the two enables AI-driven decisions across an industry. So, for example, if you look at predicting renewal surges, attrition, staffing gaps, large numerical models can do that extremely well,

while at the same time, large language models can summarize the narratives and the reasoning to facilitate the communications with nurses or nursing regulators, as the case might be.

So we're going to see utilization of both of these kinds of AI technologies into emerging capabilities. Now, we've known the Pareto principle has shown us for years that your top 20% of your people typically make 80% of the best decisions, whether it's a healthcare decision, whether it's a procurement decision, a financial decision.

And wouldn't it be great if you could take those top 20% of your people that are so good, so knowledgeable, so experienced, and have them mentor the other 80% who have less knowledge and experience in a particular field, so that they could get up to speed more quickly and readily? The problem is, historically, we've been unable to afford to take those 20% of the people that are already expert in their fields off of what it is that they're doing, to mentor the rest of their colleagues.

So the rest of the colleagues just have to kind of stumble along, learning by all too expensive trial and error, until they get it right. But one of the things that AI agents can do is AI agents can mentor the rest of the people. They can come up and make recommendations, suggest approaches that that more knowledgeable and experienced person might suggest if they had the time to do it.

But AI agents will have plenty of time to assist the rest of their staffs in getting up to speed and making the best decisions in any given area. And they even facilitate work for the experts. Because even the top experts, as I think you all will admit, as people who are expert in nursing regulation, spend 70% or 80% of their time gathering and analyzing information, low-level, pick-and-shovel grunt work, before they're in a position to actually use those years of knowledge and experience to be able to make those expert decisions.

Now, all of a sudden, with AI able to do a lot of this pick-and-shovel work much more quickly, the experts' productivity can be dramatically increased at the same time. Now, a few things that you ought to be looking at in your state Board of Nursing, as starters, that you could be using and should be using AI for, very soon, right away, in fact, summarizing policies or reports, auto-taking transcribing meeting notes, generating first drafts of correspondence or newsletter copy, creating form letters, extracting key action items from emails.

Now, nothing on this list is unique to nursing regulation, or even healthcare in general. These are all things that people are already doing across business, industry, organizations, of all different types. And there's no reason you shouldn't be doing these things, also, in nursing regulation. But to look more specifically at a few of the areas where use cases can be done with low-end, paid, generative AI subscriptions.

How many people use free versions of the generative AI tools that are out there? Let me see your hands. Okay, how many use the paid versions, $15 or $20 a month? How many of you who use the paid versions would happily go back to using the free version in order to save that $15 or $20 a month?

Nope, not much. They're much better. They're much more effective. That's why they charge for them. But they're not charging a whole lot of money, okay? So the point is, most of these use cases that we're going to be looking at can be executed using these low-end, paid solutions. Some might require a minimal amount of IT updates or integrations with your systems, but not things that are extensive changes to your mission-critical business processes or systems.

Licensing and credentialing, FAQ chatbots, as you'll see an example of it. Drafting deficiency and renewal letters. Interpreting foreign language documentation of various types, demographic updates, and still freeing up then the analysts to handle difficult or complex cases.

Complaint intake and discipline. Natural language processing is very good. Looking for high-risk phrases instantly so investigators can start in context. Risk scoring, doing case synopses, doing things like drafting subpoenas, redacting personal healthcare information, predictive workload balancing. None of these entail a high level of risk or a great deal of technical implementation challenges.

Now, that doesn't mean you can do everything all at once. You need to establish your priorities. But each of these are valid options as use cases. Governance, meetings, and rulemaking. Ninety percent of the note-taking for your minutes can be done at the time you adjourn or within a minute or two afterwards when the AI catches up.

But you can also use it to summarize public comments quickly, draft rule language based on precedence. Again, not the final rule language that goes out, but rather than having your valuable people spend hours or days researching the history and the precedence, have the AI gather that information for you and let your human experts, I shouldn't say summarize it, review it, analyze it, and validate it to make sure that it's good.

That way, you have faster data-backed decisions. Enhancing personal education and communication. Personalized multilingual FAQ videos. We'll show you an example of an FAQ video that was developed by the state of Mississippi's Board of Nursing in just a few minutes here. But also review of continuing education submissions, education pathways, having a knowledge-based copilot for your staff, and real-time analytics, as well as the outreach campaigns.

Automating that for the thousands of nurses in each of your states. Data-driven standards in public health, too. Notwithstanding some of the changes that we're seeing going on of a political nature, I don't think public health is going away entirely anytime soon.

And in fact, it's going to become increasingly important, and AI is a tool that's going to facilitate that. Everything from analyzing outcomes, detecting emerging trends, monitoring compliance, and helping to guide statewide health strategies. Now, the Florida State Board of Nursing saw the value of AI going back, all the way back to 2019, when they began work on the development of a new system that they call ELI, Enforcement, Licensing, and Information.

And they use IBM's Watson Assistant to help develop this. And they wanted to look across all their professional regulatory agencies and websites and facilitate the use. And they said, "Well, let's start with nurses because that's the biggest one we've got, nearly three-quarters of a million licensees that are out there." Over the last six years now, they've extended that to 22 regulatory websites and voice channels so that they're answering web chats and calls 24/7.

So here's an example. If you go to this webpage for the Florida State Board of Nursing, you can see the web assistant has popped up in a chat. "Hello, I'm ELI, a virtual assistant chatbot (not a human) for the Board of Nursing program to answer frequently asked questions about your profession and other services that MQA," the name of their agency, "offers," and then it goes on from there.

And what they had told me in talking with them, it is now handling 15,000 inquiries a week that otherwise would have had to have been answered by the Board of Nursing. It auto-routes callers, posts

emergency and legislative updates, and they've anchored the governance for this in NCSBN's GovRAMP and AI policy practices so that they have dashboards, transcript audits, error reviews.

So they make sure it's not only working correctly and that occasional errors can be corrected quickly and correctly, but that they're continuing to reduce the number of errors. And in talking with the people from Florida, some of the suggestions they have for other state boards of nursing are start with high-volume repetitive tasks for quick wins, secure leadership, and buy-in.

Keep in mind, taking this AI rollout takes time. Now, they've been working on this particular project for six years now. Most organizations are moving more quickly now than that, but it's not something, at this scope, that you're going to do overnight either.

Keep human oversight in place to catch errors and make it simple in terms of low-code licensing platforms, expanded AI for background checks, and bill analysis. In Mississippi, the Board of Nursing made a decision at the beginning of July, last month, to change the renewal date for LPNs, I believe it is, from September 1st to July 1st, with registered nurses then taking place in the even-numbered years for their renewals.

And they've got about 70,000 licensees in Mississippi. They had developed a communication system initially with slides and voiceover of the slides to explain what was going on, and it just wasn't being well-received in the initial testing that they did, so they shifted gears.

This is just three or four weeks ago. And once they got the right software in place, they used a tool called Hour One with the PowerPoint fed into it. They, with AI's help, were able to create this avatar that gives a 30-second speaking video in about 10 minutes' time.

And Shan Montgomery from Mississippi is here. If you get a chance to talk to her, I'm sure she'll be glad to tell you much more about exactly how they did it. But let's take a look at how this works now.

- [Woman 1] Important update. We are pleased to announce new renewal dates for Mississippi LPNs, RNs, and APRNs. Starting July 1st, LPNs will renew their licenses in odd-numbered years. RNs and APRNs will renew their licenses in even-numbered years. LPNs, welcome to your 2025 renewal period. You may now begin your renewal for 2025.

Thank you, Mississippi nurses. Please contact the Mississippi Board of Nursing if you have any questions.

- Now, for those of you that don't know her, that is not Shan Montgomery, okay? In fact, that is not any human being. That was an AI avatar.

Both the video as well as the audio was created by AI, even though it looks like a nursing regulator of one type or another. And what was quite extraordinary is that within 24 hours, they had 2,000 views and 4,000 shares of this, and within 48 hours, 5,000 views.

And now, in the last 4 weeks since this went live, they've had over 100,000 views. In other words, more than once per nurse on the average for the state as a whole, reaching a large staff of the licensee population much more quickly than they would likely have been otherwise.

As a result, they've been able to start cutting inbound phone queries because the nurses can self-serve by sharing these tutorials. And Shan's advice is trust and try the AI tools. Pair experimentation with solid

research, draft clear policies. Unfortunately, we already have excellent starting points of AI policies and guardrails developed by NCSBN.

Refine those as appropriate. Start with small, low-risk wins, whether it is something like FAQs like this or other areas that we've been talking about, while larger automation weights things like state IT approvals. In many states, as you all know, the state Board of Nursing operates under the broader regulatory or even statewide IT organization.

And so you have to work within the limitations, and capabilities, and constraints of higher-order organizations. That doesn't mean you can't help take the lead in moving both your organization within those constraints and limitations and the rest of the state more broadly ahead effectively and safely. So be proactive.

Plan now so adoption is smooth once formal approval arrives. Don't say, "Oh, well, the state IT organization hasn't approved our going ahead with this, so there's no point giving in any thought." If it's something that's important and could be beneficial, give it some thought. Start developing the plan and share that with the IT organization.

And make sure that the state understands that if the IT organization is not moving quickly enough to support your needs, here is what it is costing. Now, that doesn't mean it's going to automatically, automagically change the IT organization's position, but it'll be valuable input to help them understand why they need to be able to move forward to support you and your regulatory counterparts and other state agencies around the organization as a whole.

Now, all of this is about leveraging the generative AI tools that have emerged so well over the last couple of years. But for the most part, the key thing about these tools is they are tactical in nature.

And by tactical, I mean most of these are tools, most of these use cases are things that help increase the personal productivity of individuals or small teams. They don't really change the fundamental underlying processes and systems that state boards of nursing use to operate their organizations.

And that's because generative AI, by itself, can't do that. You have to look more broadly at other emerging technologies, whether it's large numerical models, whether it's going back and looking at systems like robotic process automation and expert systems, in order to rethink those things.

And most of what we've been talking about to this point are changes that you could put into place in the next 60 to 120 days. Now, not that you would put them all in place, but you could certainly start putting what seem to you to be the highest priorities in place within the next two, three, four months. But if you want to make strategic changes that impact how the organization as a whole works, then you do have to start thinking longer term, looking down the road two, three years for some of the larger organizations, maybe five years if you can see that far down the road.

And the idea is not only to discern whether the technology is ready right now to do what you might like to do someday, but is your organization ready for the technology? And this really mirrors NCSBN's strategic thinking, because you want to have clarity on the objective, the scope, and the unique advantages for this.

What outcomes are you looking to achieve? What is the scope of the changes that you want to be able to make? What's inside a scope? What's outside the scope? And what are the unique advantages that only

you, as state Board of Nursing regulators, can bring to the environment you're operating in that generate the value of making these kinds of strategic changes?

Digital transformation is not about trying to force-fit the technology into your organization. It's about rethinking. If we have this kind of technology available, how should we be thinking about operating the organization? The last thing you want to do is pave the cow paths.

I don't know how many people are familiar with the roadways of Atlanta, Georgia.

- [Woman 2] I recollect them.

- But they literally paved the cow paths back in the 19th century when Atlanta was being built. And so going from one point to another in Atlanta that are on the same street, driving down that street is not necessarily the best way to get there, because they wind around so much. You don't want to do the technological equivalent of paving the cow paths, doing things the old way, and just using more advanced technology to continue further ingraining old, inefficient ways of doing things.

But you also don't want to be just looking at the marginal improvements. This is not about, "Well, where could we do something 10% better than what we're doing right now?" This is about, "Where could we be doing something 10 times better, faster, more accurately, more efficiently than we're doing it right now?" Rethink the entire model and ecosystem, and then look at applying new technologies, whether it's AI, whether it's Internet of Things, whether it's other emerging technologies like blockchain, that can come into play in helping you to make the changes you'd like to make over the next several years.

At the same time, you have to think about strategic disruptions. The pandemic. Well, obviously, you guys have to think about something like a pandemic from both the perspective of how is it going to affect healthcare, nursing, and nursing regulation directly, but also how does it affect the way we live? And having been through this in just the last few years, we see that was a huge impact.

Now, if there's anybody out here who's absolutely convinced we will never have another pandemic, all right, good luck with that. We also have a lot of people saying that climate change is just something invented by the Chinese to steal our manufacturing jobs.

But most people in the world are pretty well aware, and certainly this past summer in Atlanta, we've been very well aware of the effects of climate change with the heat, humidity, rain, and so forth. And it's going to continue to have a huge impact on us. Last fall, I was supposed to speak at an event for Baxter Travenol Laboratories. The event was in Boston.

But two weeks before the event... It was actually for their parenteral division, which makes the blood bags and so forth and liquids, which you all know more about than I do. But they ended up having to cancel the event because two weeks before the event, their largest manufacturing plant in the country, which was 8 miles outside of Asheville, North Carolina, was flooded with 6 feet of mud and silt and had to be completely shut down.

And they decided that having a big event for their customers, telling their customers how wonderful they were with all the products that they no longer could deliver to them because of the shutdown, climate change-driven effect of the hurricane that hit Asheville, which most people never thought about hurricanes hitting Asheville 600 miles inland from the ocean.

So there's an example. Political disruptions. Well, thank goodness we don't have to worry about political disruptions anymore. Wow. That was rough going for a while there. And of course, emerging technologies themselves can drive change, positive and negative, but even positive changes mean you need to be able to anticipate and respond to those effectively.

So how do you go about developing strategies that make sense? Well, you start by clarifying what are your goals? How do you leverage your core competencies, resources, and capabilities to address changing needs of your stakeholders, which are your healthcare organizations, but also other governmental organizations and so forth, and at the same time, address current and potential strategic threats and disruptions?

And then you need to be able to have plans for achieving those goals. Now, you can have more than one plan to achieve a goal. So let me give you an example. Suppose your goal is driving home from work. Well, plan A might be take the expressway, because that's normally the fastest, you know, unless you have to stop at the grocery store on the way or something like that.

Plan B, though, could be take surface streets. If you do have to stop at the grocery store, that might make more sense. Each has advantages and disadvantages. But you may choose to switch plans. And if you find out after starting out with plan A, the expressway, that there's a huge accident up ahead and the entire expressway is shut down right after the next exit, let's get off right here.

It will take a few extra minutes on the surface streets to get home, but a lot better than sitting there an hour and not being able to get to the following exit down the road. You want to think the same way about your plans. If you're thinking about safe and equitable licensure at scale, plan A might be to enable the capabilities to be able to do that remotely with AI and appropriate security controls in place in most cases.

But plan B could be that when exceptions occur that mandate the necessity, then have it being done in person as appropriate. Now, in order to determine how best to execute plans, you've got to monitor the situation. If you're out driving in traffic, this is why people use tools like Waze or Google Maps to find out that, "Oh, there is an accident up ahead, and I can still get off before I get hung up in that."

So the idea, though, is to not simply passively observe what's going on, but proactively monitor for specific trigger points, like the accident on the expressway, or in the case of nursing regulation.

Think about triggers for switching plans. Are you exceeding test center capacities? Are there fraud patterns that are emerging? Is legislation being introduced or has been enacted that would impact the way in which we are going to execute a certain way? "Oh, this plan isn't going to work now because of this new legislation, and so therefore, let's switch to a different plan that addresses the requirements of this legislation and still enables us to accomplish our objectives as effectively as possible."

Dynamic transformational planning is about thinking long-term, setting strategic goals. Looking out three to five years. Where would we like to be in the next three to five years, and what do we need to do to get there? Which steps that will get us to our most important long-term strategic goals will also provide benefits for us and our stakeholders in the short term?

That way, we can address both anticipated and unanticipated strategic contingencies, opportunities, threats, and disruption. Now, all of what we've been talking about this afternoon is making big changes in the way that state boards of nursing operate.

And change is always difficult, but as the great historian Henry Steele Commager put so well over a century ago, "Change does not necessarily assure progress, but progress implacably requires change."

I'd like to encourage you to make the changes that you will need to make in your organizations, in your processes, in your systems, in your mindsets to help you both individually and as organizations survive and succeed going forward.

Thank you so much for listening. Well, thank you so much, but we are actually not going to take questions just yet. Matt Sterzinger is going to come up and moderate a panel discussion that I'm honored to be a part of.

- [Matt] Our goal was to give you information and little bits and pieces that you could take home. And sitting in the rear of the room, I saw people holding up their phones, taking pictures, so I think mission accomplished.

So joining us on stage will be Adrian Guerrero, who is the director of operations for the Kansas State Board of Nursing, as well as Kyle Martin, who is the director of operations for the North Dakota Board of Nursing.

So as the audience is collecting their thoughts and processing all the great information that we got from Jack, we're going to hear from our panel a little bit, and then we'll turn it over to you guys to come at us with any questions or comments that you have for Jack or any of the panelists, anything going on at your boards or your states related to AI. So my first question is for Jack.

You touched on any number of these, kind of sprinkled throughout your presentation, but is there anything in terms of common misconceptions that you encounter most often around AI and how to address them? Anything that you want to reinforce from your presentation, or maybe something that you weren't able to get to?

- Well, I think the most common misconception is one that I did touch on earlier, and that is the fact that, well, there's no point using AI because, you know, it makes all these mistakes and has all these hallucinations. And in fact, yes, it can still make mistakes. It can hallucinate things from time to time, and the stories are great and get spread far and wide when they happen, but actually the percentage of times that it does happen is so small that while you have to make sure you have guardrails in place to protect against those possible downsides, they are far outweighed by the potential value of using AI as a tool in your organization.

- Great. Thank you. Kyle, can you tell us a little bit about your personal experiences using AI tools at your board?

- [Kyle] Yeah, absolutely. I use AI. It's literally part of my day. I couldn't imagine not using AI because it's such a great tool that I use, but not becoming overly reliant on it as well. I use it, everything from proofreading to condensing text to summarizing articles, and now I've actually been kind of playing with the chatbot for about the last year and a half.

I used a different agent that I wasn't really pleased with because I couldn't really control. Sometimes it would go off the rails a little bit. But I've kind of condensed Florence. In fact, Matt, you just got done using Florence, so if anyone wants to try out Florence, stop by and say hi.

But I'm working right now on our Florence chatbot just to assist with renewal because I'm thinking, like, all of you boards, probably the bulk of your volume comes during a renewal season if you are renewing your license within a given time frame. Some boards I know they'll renew, like, on birthdays, but in North Dakota, it's October through December, and so our call volume really spikes. And so you can actually see here on the screen, how do I renew my license in North Dakota?

And so you can actually see the output from that. That's a screenshot that I pulled right from today, so that wasn't canned or anything like that. And you can see Florence's response. It's in real time. It's professional, it's polite, it's easy to follow, and it's 24/7. And so I'm hoping...I've worked a little bit with our executive director on this, and I'm hoping to get this ready to deploy and give it a test run later this year, and then gathering that data.

The other thing that AI has been amazing at, and actually, let me... Before I go on, the other one, too, is AIs can go off the rails a little bit. So I've been trying to code this to make sure she can't go off the rails a little bit. So I'm like, "Hey, can you give me dinner recommendations for tonight in Chicago?" And as you can see, "I'm sorry, but I can only assist with questions related to Nurse licensure."

And so it's really important that you work with your IT teams to put in these guardrails. I even have a guardrail so that if anyone were to talk about self-harm or if there's stress, to provide that nurse with resources. So it's really critical. And actually, I know I've got code up here, and you're probably scratching your heads going, "What in the world is this?" This is simply... If you look at that third line, you cannot answer legal questions.

So this is literally how I'm programming these guardrails to make sure that we're protecting our information, our licensees' information, and making sure that our board of directors isn't giving me a call at 9:00 at night. And so it's not as hard as you think it is, and I'm really excited to see how this works into our workflow here at the Board of Nursing.

- Very cool. Can't wait to hear more about Florence as you progress along and really underlining that point about making sure that you have those controls and those guardrails in place. Adrian, I think you had something else that you wanted to share as well.

- [Adrian] Sure. So I echo Kyle's sentiment. I use AI as kind of a force multiplier for me in our office. We're a pretty small agency. We have 27 FTE if we were fully staffed, and there's always some vacancies. So we try to make up grounds wherever we can. But this is probably something that looks very familiar to many of you.

It's that boring government type of document that says what we do, what our mission is, the benefits, those sorts of things. And a lot of times in the past, that's what you give out to your legislatures and those sorts of things, people. But you can use AI to help increase some of this and to make this more appealing to your constituency that you're presenting to.

So, for example, I used ChatGPT, the paid version, so another plug for that, $20, and it created this. I got a little board waiting for it. It took about two and a half minutes to create it. And so this is much more interesting, in my opinion, than the previous document that you've just seen. I also used another document that was similar in look and feel to just kind of convey a simple message.

And I thought I would share exactly how I did that. If you look at this document right there, that's basically what I entered into ChatGPT. So I said, "Turn this into a visually engaging one-pager with

infographics, charts, and icons so that it's ready for legislative packets that would make it more impactful when handed out at the Capitol."

And then I literally just pasted in the text that I showed you on the previous screen into the ChatGPT. I did that on my phone. Now, the one thing you do kind of have to be careful with is that it does sometimes hallucinate, and it will sometimes. I don't know how to go back on this, actually.

- The bottom button.

- If you go back to maybe...I think it was one of these in here, you can see the word reinstate underneath statutory authority looks a little wonky there. It sometimes has a hard time understanding text. So you got to kind of work with it. But that's just a quick and easy way that you can actually take information that would otherwise be kind of boring to read and make it appealing to your population.

- Great. Thank you. And again, underlying the point that Jack made about these tools still require human review and human intervention, and you still need to be part of the loop. So Adrian, while you have the mic, Jack kind of touched on this as well during his presentation about working within the larger framework of a state government or a state IT.

So within your state, within Kansas, do you have any legislative or policy guidelines that you have to follow? Have you developed any internal policies or frameworks kind of around AI and its ethical use?

- Well, in Kansas, we have a board that I'm actually a member of that's called the Information Technology Executive Council, and it was appointed by Governor Kelly of Kansas. And we essentially look at all the policies that come before the state in terms of IT and data governance and make this policy decisions based upon what's presented to us.

So there is no statutes in Kansas that explicitly talks about artificial intelligence, and I think I would probably say to shy away from that, because any time that you get the government in the middle of something that you're trying to build out, it could put some barriers there. But we did need to create some guardrails. And so we had a first version of it, I guess it was probably two years ago, that it came out.

We were one of the first states in the nation to have a policy that kind of sets some guiderails. But we're just getting ready to deploy one if it's approved, and it's called the Responsible AI Exploration Guideline. And we actually have kind of a AI use and risk diagnosis self-assessment tool that you can use to look at your operations and determine if it's going to be within the guardrails of the policy of the state of Kansas.

And as soon as this is approved, I think maybe next week is when we're looking at doing, and I'd be happy to share that.

- All right. Awesome. Thank you. So as we turn this over to the audience, feel free to come up with your comments, your questions. If there's anything at the state level or at your larger divisional levels or anything like that that you want to share regarding AI policy, I'm sure other people would love to hear that information. So come on up to the mics and we'll take your questions and comments. In the meantime, I guess we'll start again with Jack.

There's a lot out there. There are so many different tools. There are so many different possibilities. Where should I start?

- Where to start?

- Yeah. Where to start.

- Well, if you haven't been using these tools or if you've only, you know, tried it a couple of times and not done much of anything with it, then I would certainly start with picking one of the major generative AI tools that are out there. And the four leading ones, in my opinion, probably roughly in this order, but it really depends on exactly what you want to do and how you like working, but are ChatGPT, Claude by Anthropic, which is as ChatGPT is supported by Microsoft, Anthropic is supported by Amazon, Google Gemini, and the fourth one is Perplexity.

And each of those has various different strengths. I'm not going to take your time now to go into all of those, but pick one that makes sense, and if you haven't started yet or you're just beginning to learn, use the free version for a while. Test at least 1 or 2 of the others, and then if you find one that you like particularly effective, go ahead and fork over the $15 or $20 a month and test it out with the more advanced capabilities.

Now, it would certainly work at least a few weeks before spending that money, because you won't be appreciating what you're getting until you've used it for a while. But I think that would be the way to start. And use it for everything, not just business stuff. Use it for your personal stuff, for finding restaurants, even though your internal system may not be allowed to tell you that.

But these external systems will. I would say that's absolutely the way to start. If you don't feel like you're already knowledgeable and experienced working with those, by all means, start working with them, ideally tonight, certainly when you get home.

- Great. Thank you. Number five. Mic number five.

- [Lynn] Hello, everybody. My name is Lynn Power. I'm from Newfoundland and Labrador, Canada. And one of the things that certainly, when you touched on the concept of discipline in those areas, nobody's talked about cybersecurity and the risk of data, especially sensitive data, somehow getting tapped into from these sources.

Can you comment on that? Because that seems to be the pushback that makes sense for us to consider. I don't mind doing diagrams and charts and answering questions and converting things, but when it gets to taking it further, what's your thoughts on cybersecurity?

- I can go first, actually. So when I've been developing some of my own chatbots and I've been developing programming... So let me take a very specific example. I was tasked, actually, from our compliance division this summer to redact about 8,000 to 10,000 pages of medical documents, sensitive medical records.

Obviously, that's not something that you drop into ChatGPT. But what Gemini made me aware of, Google Gemini, Gemini is really great at programming, it made me aware of a Python library. I'm going to get a little nerdy on you, but it made me aware of a document redaction library that I wasn't even aware of.

A library is basically just, like, an extra set of tools for a programming language. So I didn't provide it with any sensitive data whatsoever, but I just gave it in general terms, "This is what I need to accomplish." Now, my code that I wrote was contained on my Board of Nursing computer. It wasn't privy to connecting to any sources. So I am very, very, very protective of our data.

I would never feed anything into an AI, because the data that you feed into AIs can be utilized by other users of that AI to prompt answers. So there's a lot of sensitivity around this right now. So I really just have to craft my prompts to ensure I can maybe give it vague examples of what I want to do, and to go back to my document redaction.

So this would have normally taken us weeks, if not a month, to redact this document. And after I had written my Python code, I was made aware of the library, and then I started writing my code, it took less than 60 seconds to redact 10,000 pages of looking for certain keywords and terms. And so it's great, but proceed with caution is what I would say.

- And if I can add a little bit to that as well, we're right in the middle of a very in-depth cybersecurity audit for our state. And so I've been exposed a little bit to this. And I would say definitely building those guardrails in place. But our chief data officer in Kansas has a good phrase that I thought was applicable for this. She said, "The goal should not be to scare people into compliance, but it's to encourage responsible curiosity."

And so by that, if we have all of these tools and we don't educate our staffs, they will go out and use them potentially inappropriately. So I think it's imperative that we as leaders in our organization teach our staff and to provide these kind of educational opportunities so that they stay within those guardrails, they understand why it's important to use it, but to also use it responsibly, but with some curiosity.

- All right. Thank you. Microphone number six.

- [Brian] Hi. Brian Feist representing Iowa. Go Hawks. I love everything that you said, and kind of going off that last question, too, bridging into the legality of everything, assuming you have legal alongside you as you go through these processes to put out there, have they had any kind of strong stops or any kind of realization that you found in the process that you could share with us so we can avoid that going forward?

- Have either of you experienced that within your states? Any kind of...? Yeah. And there's obviously going to be a lot of variance across the different state governments in terms of their policies and guidelines. And I don't know, Jack, if you have any... Anyone in your network that you might be aware of in terms of any kind of government intervention into the process of adopting AI tools or anything?

Anyone on our panel can address that?

- Well, no, I'm sorry I can't add anything particularly useful other than just in general the initial reaction, because this tends to be the initial reaction of large organizational executives in general and bureaucrats, in particular, to anything new is do nothing until we know it's totally safe. But that was really a couple of years ago when this technology first came out.

A lot of people just said, "Well, you just can't use it." And then they pretty well figured out that that was not a practical thing to enforce. And so I think we're seeing at the state and local government area, especially over the last 12 to 18 months, a much more enlightened perspective on that. So I'm sure there

are some horror stories out there that have evaded me, but so far, people tend to look like the lady you said is the head of data for the state of Kansas, much more enlightened approach to it.

Yeah, you got to be careful about this stuff, but that doesn't mean don't do it. Just do it carefully. So...

- To my knowledge, in North Dakota, at least, I can speak on behalf of our organization, we haven't had any legal issues. I'm not aware of any that have occurred with any other agencies. But I think there's been this underlying theme that we've touched on today. And I think that is human intervention and the need for that, and to monitor it. And so that's probably one of my biggest concerns with AI is ensuring that there's not an over-reliance. So look around the room.

We have regulators right now with years of experience in trial and error. My concern is if AI becomes the final word in decision-making, one, we run into potential legal trouble, but two, we risk shutting off that learning that's been obtained in this room year over year. And over time, if we continue to become over-reliant, I think we lose our deep understanding of the work that we do.

AI can and should make our work faster and more informed, but if it replaces human judgment, I think we lose the ability to adapt and improve and run into legal issues. And I think those are the three main dangers that emerge with the use of AI.

- All right. Thank you. Microphone number 12.

- [Meedie] Good afternoon. Meedie Bardonille from the District of Columbia. So pray for us. How can AI systems, pun intended, how can AI systems be designed and implemented to actively reduce rather than perpetuate healthcare disparities, particularly in communities where the information and the data from those communities are limited?

- I think you just saw a great example that was in use in Mississippi. One of those tools, obviously, was a video that was produced that went viral on the internet. And the cool thing about AI is you can use that to translate that into different languages. You can produce different...

So I'm a communicator. That's kind of my background. You could use AI to produce different communication mechanisms, whether it's postcards, whether it's flyers, whether it's social media posts, whether it's videos. You could even use AI to maybe help you build a Twilio app with LOCO coding to text out information to individuals that perhaps might be in underserved areas. And so again, prompting is so critically important.

Don't just ask AI, "Hey, help me do this or help me do that," but really be intentional with your prompts because you'll be really surprised what it might output for you. And describe to it, describe to it that group of people that you're trying to reach. It may come up with ideas or considerations you hadn't thought of before.

- And I think using consumer-enabled technologies is really important to meet those people where they're at. So everybody has a phone. Everybody has an Alexa or some sort of a device in their home. A few years ago, I actually did a demonstration up here of how we had built an Alexa application to do some basic things, like asking it, you know, frequently asked questions, asking it when the office was open, asking it what the budget was, and those sorts of things.

Using those basic tools that people already have available to them meets them where they're at. And so, you know, every community has some sort of access to information by providing it to them in a medium that they have available to them, I think, is also important.

- All right. Thank you.

- Great. I had the last question. Sorry. What patterns in nursing education and workforce mobility do you think that AI can help that human analysis might miss?

- Well, I think if you can come up with a way to ensure that you can feed a lot of your regulatory data, it's great at analyzing data and finding patterns and things that perhaps you might miss. And like I said, so I gave an example of how I will prompt AI to maybe assist me and make me aware of a programming language or a programming library that I'm not aware of, and then analyze that.

And so it helped me, like I said, go through tens of thousands of pages, and it can do the same for your data. And then once you get that output summary, you literally can prompt the AI to say, "Well, build for me any patterns or maybe something that a human it might go unnoticed." And it's great at building those out for you.

But again, I can't emphasize enough, building the responsible framework in which to feed it that data is critically important just to maintain privacy. If I am using large amounts of data, I certainly make sure that it's anonymous, that I don't have any PII. So I'm giving everyone in the orbs booth probably a sigh of relief on that. But ensuring that you're not feeding it any personal identifiable information, just raw data.

It's fantastic. And I actually used AI to build ourselves a data dashboard. I had all the data, and I kind of had a sense of where I wanted to go with that, but it revealed to me, like, "Hey, you know what, it might be interesting to actually output a summary of how many licensees in the past couple years had to take the NCLEX several times before they passed."

And so I did build a data dashboard then using some of the recommendations that AI gave me to give some of those insights to people that might go unnoticed, especially to even our legislators as well. So that's the first idea that I had as soon as I heard the question.

- Yeah, and I'd agree with that. If I had a wish for a tool, it would be something of that nature. Being able to take information and build a timeline. You know, every day, at least for the internal, we get asked, like, "Okay, so and so applied, tell me the timeline of what happened. You know, we received their this, we received their that. We sent an email on this date, a letter here, a letter there."

And to build it out so that I'm not essentially going to email, searching, trying to find something, going into the licensing system, pulling out information. If I could take all of that and compile it in a quick manner, then that would ensure that I wouldn't miss anything, for one, but also build it out in a timeline quickly, it would save a ton of time.

- Now, you need to have your IT organizations involved in implementing an internal system like that.

- That's right.

- But all the leading providers of the generative AI software, and the ones I'm familiar with, with the large numerical models, too, for the statistical analytics and so forth, are working on developing on-

premises systems that can be worked with inside your own firewall, so it's safe to feed it internal data. And then you can now use those systems to do exactly the kinds of things that Kyle and Adrian were describing.

- All right. Thank you. Microphone two. Hi, Phil. Uh-oh.

- [Phil] Probably knew that wasn't going to...I wasn't going to stay quiet long. I'm going to... I was listening to media over there, and I think there's an important point, as I listened to this panel. For me, the AI that you use, you have to know why and the purpose that you're using that AI.

And most of what you're describing is actually gathering a set of facts so that you can report them back in a meaningful way. And you can do it faster and more efficient. That's sort of what I'm hearing here in most of what you're doing, and I absolutely agree with all that. Meedie, what you're asking is something that I'm uncomfortable with in terms of simply dumping it in the same category of, I can create an AI that follows business rules and makes my business more efficient.

You're talking about research, and I would argue that you have to know the data that's going into that research. And I would also argue, Meedie, that... And we're using AI, so please, I support it 100%, but it requires... If you're going to do that type of research, AI is not set up to actually give you, at this point, that sort of research analytics.

It'll report back the data on you. If you have a research question, here's what I would tell you. Use AI to get as much of the data as possible, and use a human to ensure that you have checked your sample, checked your target populations, checked the quality of your analysis. AI and human together in that type of research is much more effective than simply giving you a business answer that you can report back to a legislator or whatever.

- All right. Thank you. Absolutely, the human part absolutely has to be part of the loop. Number 12?

- [Prof. Pajarillo] Yes, hi, Edmund Pajarillo from New York. There's just so many things about AI that's really so enticing to use. It's so promising. However, you really need to understand what you're using it for. We also have, as a society, to develop standards and policy in terms of using it. We all know that whatever generative AI is developed comes from large language models.

So when you put in a prompt, it comes up with something that is totally wonderful. When you look at it on the surface, it looks so convincing, it looks so informative. But if you really dig deep into it, and I understand you really have to use the human component to really fact-check whatever it generated, but then that doubles the work.

Why not just write your own, come up with something, and then just develop it on your own? The only difficulty I have is that in education, some people are using prompts that would come up with something supposedly for a dissertation or a thesis, where they have come up with some ideas and facts that they have researched from the literature, and it develops a paragraph that can be a combination of things that were written previously by other people that have now been included in the large databases.

So in terms of intellectual property and copyright, who now owns that particular fact, that particular information? So we do not have guidelines for that. Technology is running so fast that whenever it's all the way like 10 feet away already, our policy, our sanctions, and our laws against it is still at 0.5 feet away.

So everything goes crazy before we can even do something to police or to put policies in place. So cybersecurity. We all know that data is always vulnerable to being hacked. So what are we doing now?

We're still in the same condition. Yes, we've put in many things, multifactorial authentication, we're still doing a lot of changing of passwords, we put in firewalls and all that, yet we are still being hacked. Large healthcare organizations, large insurance companies, the Pentagon, the Supreme Court is being hacked in terms of their data. So this is the same thing that's going to happen to AI when irresponsible use is going to be propagated by people who don't really quite understand the repercussions of using it without understanding how it's being used.

Can you comment on that, please? I opened up a can of worms, I understand. I'm sorry.

- It's the dilemma of the modern era, you know. The technology will always advance faster than the laws and the policies that are written.

- Absolutely.

- And let me add to that, that the technology does not advance at equal speed across all the different environments and organizations and agencies and businesses and institutions. So yeah, it's a challenge we have to be aware of. And in developing your strategies, these are exactly the kinds of things you need to be thinking about.

What if this happens? How do we protect against that? We brought up... One of the first questions we got from the audience was about cryptography. And nobody commented about the impact of quantum computing on cryptography. If you're curious about that, go into ChatGPT and just ask it how quantum computing is going to affect cryptography, and you'll find some very interesting stuff in terms of what's going on.

And the top cryptographic experts in the country around the world have actually already been working on how to deal with that for several years. It's just going to continue to be an ongoing challenge. But it's very good that you identify it, at least.

- If you're interested, ask Phil. He's got a real good story about cryptography, too.

- You touched a little bit, too, like, on the cybersecurity implications. One of the biggest threats to any organization's cybersecurity, it's not people sneaking in the back door. It's not these hackers, you know, that you might see at Starbucks, that are stealing your data. It actually is internally. It's the links that you're clicking on. It's the prompts that you're providing.

And so again, and Adrian touched on this, the need for human insight is never...the need for intervention is never going to go away from humans. And you touched on something else that kind of sparked my curiosity. The magic of AI is when we, as humans, come up with original ideas and concepts, and then we help AI refine those, versus the other way around, which is you read something and you're like, "Hey, just kind of reword this for me."

Now, who kind of owns the idea or the intellectual property? The idea is always going to start with human innovation that is then guided by AI. And that's what I would touch on. And that's where I found the magic of AI is the intersection between innovation, creativity, and then using AI to refine it.

- Thank you. I just want to comment. And I know there's a few other people questioning, but yes, I understand what you all are saying, but can we prioritize what we're doing, that we focus more on the processes and the policies before we push into the business of AI? I know business is really the driving force in terms of creating all these new programs and apps that concerns AI, but let's start with the most important thing.

Let's develop rules and regulations in terms of how to use this responsibly before we can start propagating this in a wide scale. Thank you.

- All right. Thank you. We have time for one last quick question. Microphone number nine.

- [Carolyn] Hi. Thank you. I'm Carolyn McCormies. I'm from Arizona. And I just want to tell you that I put in ChatGPT what question should I ask you?

- Can I have ChatGPT respond then?

- Yeah. Yeah. ChatGPT told me that I should ask you...and it's kind of a good segue off the last question. And I know this will depend on the program that a regulatory body would choose, but generally, what training or orientation will the staff need to work with AI tools responsibly?

- Number one, cybersecurity, just ensuring that you're not feeding it sensitive or PII data if they don't have an idea what PII data is. That'd be a great ICARUS course, actually. So I've thrown an idea out there for NCSBN, too, is to maybe work on developing maybe some information or some data, or videos on maybe cybersecurity 101 for regulators.

And beyond that, too, obviously, working within the confines, obviously, of your state and your regulatory, IT, safety frameworks. We have one in North Dakota, not to get North Dakota not in trouble, but we do have a degree of autonomy, actually, in North Dakota. The boards, actually, in North Dakota do not fall under the state North Dakota information technology.

We're on our own island. So we kind of get to develop our own IT policies. But that only stresses, I think, in my opinion, the critical need to understand AI and understanding what to do with that data to ensure that we're not having massive cyber breaches and leaking PII, that then if Matt is researching North Dakota one day, he gets a bunch of information about our licensees in North Dakota that he didn't think he'd stumble upon.

So...

- Well, and I think even it goes a little further than that and addresses kind of the questions that were both asked. I think we need to start with our youth, and we need to start really teaching this, you know, from pre-K up to everywhere, the responsible...being a responsible, digital citizenship, and using the tools appropriately will set the foundation for our future workers.

- Oh, you handed that off to me perfectly because one of the things I worked on was North Dakota was the first state in the country to pass cybersecurity curriculum that's mandated in K-12 schools. We're the first state to do it. Thanks for the handoff.

- Okay.

- All right. Well, thank you to our presenter, Jack, and thank you to Adrian and Kyle for joining our panel.