Creating an Intelligent Patient Journey Through Automation and AI Enablement

Geisinger Hospital Shares Its Learnings and Success

Audio Transcript

Monique Showalter: Thank you and welcome everyone. This is Monique Showalter with the American Hospital Association. All of us at AHA hope each of you is safe and well and thank each of your organizations for the outstanding care and dedication to the patients of your communities. AHA is pleased to be hosting today's webinar, entitled "Creating an Intelligent Patient Journey Through Automation & AI Enablement." Geisinger hospital will share its learnings and success.

This webinar is brought to you through the generous support of Accenture. Today, we'll hear how Geisinger hospital has faced the challenge of decreasing the total cost of patient care while enhancing the patient journey, all with a robust digital infrastructure. Using automation, the hospital developed four ways to get results to ensure optimal communication time with patients.

The six stages of operations they followed will be shared and explained throughout today's session. During today's webinar, you'll hear how automation leads to the potential future of artificial intelligence [AI] in managing the patient journey, the necessary prerequisites for the development of automation in your provider organizations, and the dos and don'ts of implementation, prevention, and recovery on the automation journey.

Note too that we've allowed time for questions. We've already received several, which our speakers will address as time allows. If you wish to download the presentation, you can easily do so through the resources section on your screen at any time during today's presentation. Also, this event is being recorded and the replay link will be sent to all registrants and attendees shortly after today's event.

Let me introduce today's speakers. We're delighted to be hearing from Emily LaFeir, senior director of operations for the Steel Institute for Health Innovation at Geisinger Health. In her role, Emily leads the operations and strategic direction for the 250 employee Innovation Institute. The Steel Institute's purpose is to support Geisinger innovations and lead the nation in building transformative, scalable, measurable, and sustainable solutions to improve healthcare delivery, patient experience, and reduce costs. What a major challenge you face Emily. Geisinger is a national integrated health system with a clinical presence spanning Central and Northeast Pennsylvania, and Southern New Jersey. Emily's background includes hospital strategy development with an emphasis on digital engagement and clinical integration across acute and post-acute hospital settings.

Emily earned a BS in health policy and administration, and a master's degree in healthcare administration, both from Penn State University.

Our second speaker is Dr. Scott Cullen. Scott is the managing director at Accenture serving as the North American provider lead and chief clinical innovation officer. Dr. Cullen helps guide provider healthcare organizations to lead their markets by focusing on strategic transformation and practical change management approaches in an environment of rapid change and competing priorities.

Dr. Cullen has 25 years of experience as a primary care practitioner, executive, and consultant, and he helps clients with the innovations that address the many new challenges providers face, enabling them to become value-driven, patient-centered organizations. Dr. Cullen has led the development of strategy and implementation for network development, population health management, and care model transformation for dozens of organizations. In addition, he has supported leading institutions in realizing the value of their technology investments through innovation.

Dr. Cullen holds a medical doctorate from the University of Connecticut and received residency training in family medicine at Brown University with an undergraduate degree from Wesleyan. It's now my pleasure to turn the floor over to Dr. Cullen to begin today's presentation. Scott, the podium is yours.

Dr. Scott Cullen: Thanks Monique. Welcome to everybody today. What I'd like to start talking about is the concept of the intelligent patient journey and what we mean by that. And then Emily is going to step in and talk about how they're making that real at Geisinger, which is fantastic.

I'm going to get right to it and discuss what we're talking about here. What are the key issues, as we think about humanizing the patient journey from a patient-centered perspective? If you look at this typical, high-level view of a

patient journey, someone experiences a change in their health status, they may engage in care that isn't just ambulatory or virtual, or they may end up being admitted. And of course, hopefully, they're discharged home or to rehab. And then, depending on their overall health status, they may need follow-up or this cycle may recur, which we hope is not the case.

In terms of the areas of value that we can deliver for patients and health systems and providers, we know that there are critical metrics at each step in this journey that we can have an impact on by using automation, by using AI, and by restructuring ourselves around the patient journey. When we think about where the typical experience of the patient journey is, we find that people are progressing to clinical failure before they are engaged in many cases. We have significant degrees of care fragmentation and weak standardization. Even within the four walls of the hospital, coordination is often not what it could be, and we find that that results in excess days. Subsequently, once we're talking about patients being discharged or in the post-acute space, the monitoring is sporadic and it's generally very labor-intensive right now. Ultimately, we often have patients returning. We have poor compliance. We have not-so-great outcomes in many cases. Now this varies from place to place, but this is not an unusual view of the typical patient journey from the patient's experience perspective nowadays as they interact with healthcare systems.

What would the ideal state look like and how can we enable that? Well, ideally, we want to engage with patients proactively. We want it to be seamless. Ideally one of the ways to address that involves understanding preferences, understanding the particular personalization challenges for an individual patient, and addressing those challenges in as specific a way as possible. Ultimately, the goal is to arrive at a place where we can anticipate how we manage patients, not simply react.

So, how do we get there? It's probably going to take a level of integration that we currently don't always see among the various systems, among the various applications in our environment. We need to build a view of the patient and their journey that spans applications. When you think about these different domains that you see pictured here, which are a few of the key domains in a provider organization, we know there are applications in any one of these domains, but these applications are constrained by the design of their functionalities. For example, if you think about an EMR, no matter how much data you put into an EMR, it's still just an EMR. It's not a solution to the patient journey. It's not a view of where a patient is at any given time and what our capabilities are to address those moments that matter for patients as they progress through the critical pathway of their care. And the other key component, aside from that level of visibility that we need, is going to be the ability to act within the workflow. So, for those of us who are in

clinical roles or even administrative roles and need to intervene before there are problems, we often do not have the level of visibility we need. But even if we did have that visibility, we'd often be challenged to act effectively to intervene because of silos, because of the challenges and the friction around doing so. So how do we enable those two key things? How do we enable visibility and how do we enable action within the workflow in as integrated and effective a way as possible?

As you can see here, we're talking about changing the level of abstraction of capability and data from existing legacy systems to a level that is probably going to reside in the cloud. But can that give us visibility across these different domains in near real-time or in better than near real-time predictably in many cases?

What would that look like? Here's an example of a patient journey, and this is just one instance. Take a patient who's been admitted for COVID and think about what that would look like. Now, this particular picture is a bit of an eye chart. There's a lot of text here, but what we're trying to convey is the fact that there are a million point-solutions in place. They may be AI-enabled. They may be automated, but they're often not integrated in a meaningful way. If you think about the fact, for example, that we can currently predict cardiac arrest for many patients using continuous monitoring, half an hour to an hour in advance. Think about the

fact that we have environmental systems in our hospitals that can manage all sorts of environmental elements, and also consider the fact that we have RFID capabilities. We have location capabilities; we have tagged equipment capabilities across a variety of different applications in most hospitals.

How does that all tie together? How does that change an event or an outcome for an individual patient? Think about the case in which, for example, you might have that event fired by the system that tells you a patient is about to go into cardiac arrest. Why can't the system then alert the crisis team, maybe anywhere in the hospital because their RFID tags and their badges can tell that system where they are.

It can hold the most immediately close elevator for them. And then it can express that elevator directly to the floor where that patient is in crisis. At the same time, the AI is also locating and starting to move equipment from various places to where it needs to be— even to the point where it can manage the environment of the room to make that bed flat, to bring it up, to raise the lights, et cetera.

These are all the kinds of things that we should be able to deliver at a new level of integration, a new level of AI abstraction, because many of these point solutions already exist. We just don't tie them together as effectively as we could. I'm going to turn it over

to Emily to talk about a broad vision of the future in one very small example. I'm going to turn it over to Emily to talk about exactly what they're actually doing at Geisinger and where they've been having success so far. Emily.

Emily LaFeir: Hi everyone, and thank you for letting me join you today, Scott. You know, I'm going to go through two examples, but this is not all-encompassing for the 45 minutes we have today.

I'd just like to start with the point that Scott made that we have all these disparate solutions that can create an intelligent patient journey. The hardest parts of this are change management, data cleanliness, and the connection points between those and communications regarding how our providers, clinicians, managers, pharmacists—the whole care team—are going to interact. For those who work in health systems, we don't have this a hundred percent figured out, but we are working towards a long-term journey to rationalize our applications and ultimately create an enhanced patient experience across all domains. However, to be able to chunk it out and feasibly do it, you have to focus.

So, we did look at our highest cost and highest need patients, which are our chronic disease patients. And similar to that example that Scott just explained, you're seeing it here again, but this is what Geisinger has termed their program for managing chronic disease.

It's what we're hoping to achieve in our intelligent patient journey for our case managers, our pharmacists, and everybody that's a part of that care team.

What do we have today, and what did we have yesterday? Well, the left side [of the slide] is explaining that. Our care managers were spending over an hour just figuring out who to call regarding their caseloads—is that where chronic disease is managed? As an integrated health system, we have case managers on the health plan side as well as on the clinical enterprise side. So, not only were our clinicians doing that, our case managers on the health plan side were causing a communication overload for our patients. We realized we needed to streamline that. We needed to use technologies so that our case managers were not having to stratify their population based on when they called them and instead to allow some algorithms to do the work for them.

As a result, we've created key triggers to bring a patient to the forefront of a case manager's load and prioritize them in the morning. That is one piece of the puzzle. We started with care managers, but we are expanding to the pharmacy team for medication reconciliation and connecting the whole care team in one platform.

I use the care manager experience, but several other ancillary providers are part of this experience on the clinician side. The patient experience, on the flip side, as I mentioned, involved getting

double calls. If they had diabetes, the health plan was calling them as well as our clinicians and our teams on the health clinical enterprise side.

As a patient, where do I go? I'm having an exacerbation—who helps me? At the end of the day, I probably would default to my primary care physician. That's a lot of navigation a patient really shouldn't have to think about. But what if I'm able to just send an alert in a single platform that activates the care team and stratifies it appropriately based on the exacerbation? That is what we're hoping to achieve with this. We just launched in April and are building those risk stratification models and we've already seen significant improvements. But we still have a long way to go and developing an intelligent patient journey involves ongoing learning and tweaking because provider preferences and patient preferences are changing. You need to be able to adapt to the different age groups, the different disease states, and the needs each of them has. At the end of the day, our goal is to achieve a unified patient and care team experience, whether it's through virtual or in-person care. ConnectedCare 365 is one example of our work to achieve that intelligent patient journey.

This is happening on the outpatient side, but ultimately as we look to our future, we will expand this beyond just outpatient chronic care and include inpatient post-acute and post-discharge management.

Those are things on our roadmap, but we do need to stay focused because we all know how challenging it is with startups and many other, new "shiny nickels" coming at us. I think another piece that Geisinger is saying is that we have to stay focused. This is just one example that we've been working on.

I want to talk about what our automation team is doing more globally. Before I do, let me step back. This is back to what Scott was talking about in the risk assessment. How are we going to do this effectively? Our data science team is partnering with our health actuarial team and our clinical team to focus on data cleanliness. To achieve a ConnectedCare 365, you need multiple teams working on segments of it, and then one "unifier" to make sure that it's all going toward the same strategy.

I say that because there is so much work that needs to be done in data cleanliness. Especially if you're on the health plan side and you have multiple providers who are servicing your patients and the way you document them, whether it's through Cerner, Epic, or another EMR system. It also involves remote patient monitoring device data.

What we are trying to do here, as you can see, Jane, 55, has multiple chronic diseases and her baseline is at a certain point. Jane's baseline will differ from Tom's, for example. We want to take key attributes of Jane and Tom and

develop certain indicators that would trigger responses based on that unique person's identifiers. That's what you'll see in the third bullet point up at the left. The risk model will then flag that she is at high risk for utilization. And that may put her at the top of the care manager's list. Conversely, it may also put her at the top of the pharmacist's list because it may notice that Jane just started a specific drug two weeks ago and suddenly her blood pressure has dropped and that's not okay for her chronic disease.

We want to look at how her medications are affecting her care. That is when we can initiate the appropriate response to avoid hospitalization. Because this takes so long and so many people must be part of this discovery and when you are building it, I think that the biggest piece that we are looking at is how do we do this incrementally? We're not afraid to test with our patients and tell them that we are on this journey and that we are working together to enhance it as much as possible. Because if we sat and we held it in a pilot phase for many years, that's where we would be many years down the road. There's always room for improvement.

We wanted to start to roll this out incrementally. So, in April, we started with our case management team. At this point, the whole care team is not connected on single platforms. We have multiple systems they work in and use their traditional communication processes. But at some point in 2021

and 2022, we'll roll out pharmacy and the patient will have an ongoing experience, enhanced communication, coordination, and ease of use within our system.

Those are our goals. We're certainly looking at reducing utilization from a business case standpoint and making sure that our patients can get the care they need at the right cost. With the pharmacist, there's a ton of analysis on the claims and how much those drugs cost.

The teams are all working together toward a common vision, but each group has a charge that they need to take forward. That's what we're looking to get at a high level with the ConnectedCare 365 program. What this has shown us is that we do need subgroup teams that are focusing on this, and an example that showed us was COVID. The automation group stepped up to the plate, but automation is only one layer to truly make it intelligent. You need multiple groups working together towards that common vision. COVID showed us that. So, in partnership with the access center, in partnership with our IDR team, our integration team, as well as the automation team, and some of our innovation team members, we built four mechanisms to reach out to our patients.

The learnings we got from that and how to create an intelligent patient journey were immeasurable because there was so much preference needed

for each of these patients' journeys. And the back-end management of that and when to escalate to the appropriate levels of care was challenging. What helped us was to take a step back and ask what are the gaps from putting that out, out of necessity for COVID? We enhanced our capabilities to truly look at a more global use, like our ConnectedCare 365 program, to achieve an intelligent patient journey.

Let me just dive into what this very specific team does to give you the landscape of how we do what we do and how we did what we did during COVID. The automation team, we're called the intelligent automation hub and we partner with our AI team to get that layer of intelligence. We use several software stacks: UiPath, Power Automate, and Gyant. We also have Salesforce in the background, which isn't labeled on here. There are a number of capabilities behind this to make it happen, but we have three tenants. We have process architecting and design, development, and infrastructure management. Overall, a practical problem we're trying to solve involves decreasing the total cost of care and enhancing the patient journey.

During COVID, this team went through our six stages. If you're at the beginning of establishing your automation team, here are the six stages I would recommend you set up, because each one of these stages is critical to the implementation and ongoing success of your automation.

One, you must use it; it cannot just be a business line discovery. I say that because the business side only knows what they're doing today. You need a close relationship with someone who is a business architect and understands the technology. They need to partner with the service line that they are working with to understand what the problem is they're trying to solve and how to solve it by looking at different mechanisms. Developing designs is the next stage of building the opportunity. We create a process design document that is so detailed there is no question in what our process is. Development and testing then take place, followed by pre-deployment. There's always a two-week pre-deployment review of UAT testing or user acceptance testing, and then production, post-production, and monitoring.

The work we're doing has a significant need for quality assurance, especially when patient-facing. If a bot goes awry, it can do a lot of damage. You need to be able to stop it and change and reconcile the situation if something does happen. All of our bots are managed and provisioned just as if they were a regular user— documenting on Epic, making sure they are calling a patient, and providing an outlet to get to an actual person if needed. There are multiple uses that we have for our bots.

I'll go to a specific example that I mentioned involving COVID. When we built this automation, we knew we had to get our patient's test results to them

very quickly. Many of you in healthcare organizations probably have the same volume of testing and outreach for your patients.

When we were at that height of almost 3000 tests a day, you need to make sure those positive cases were social distancing and preventing spreads. And how do we help a very small nursing staff achieve this? How do we let the nurses work to the top of their license? No one wants to spend their whole day on the phone, calling out patients, telling them they're positive or negative. I'm sure they would like to be at the bedside or doing a little bit of higher-level clinical care. That was our goal—we knew we needed to do it, so how do we do this? We wanted to create multiple mechanisms for the patient. As we think about an intelligent patient journey, there are multiple ways a patient can get into the system as well as out of it.

Consequently, catering to what the preferences are is the first step of our design. We created an outbound call that happened within 24 hours of your test results. If patients missed that call some reason such as that they didn't have the right phone number due to data cleanliness issues, they have a mechanism to call in to get their results. They can authenticate it and be able to hear it over the phone. The myGeisinger portal is like Epic online messaging and accessing your lab results, we knew we wanted to allow for email and myGeisinger access. So that was a portal we enhanced for multimodal communications.

The last piece of it is just traditional mail. It seems so simple on those last two points because it's things we do innately as a part of our processes at Geisinger. However, you must make sure all four of them are connected so you're not getting inundated as an individual, and we are also ensuring that you've got your test results. Doing that was a balancing act.

I was working day in and day out with my access folks to understand the call volumes coming back from when we implemented this process. The QA of this process allowed us to take in the negative, the pros and the cons to what people wanted. And how do you allow them to feel empathy when they're talking to a bot?

That's the other piece. When we replaced the nurse with a bot, how do you exemplify that you care? And you want to make sure that you were getting their test results quickly when it's a bot talking to them. And we learned, so we changed up the language and the way we displayed this information. We always allowed for the output or the outlet to get back to a human. At the end of the day, the intelligent patient journey doesn't mean technology. It truly means that you are taking the patient through an enhanced journey, which is simple for them. It gets them what they need when they need it and in the right way. This is not easy because everybody has their preferences on how they want to receive something, and when they want to receive something.

Using digital and technology allowed us to do so, and to pivot our nurses back to the bedside where we significantly needed them at the height of COVID.

This is how we opened up leadership understanding and acceptance for creating more automation and technology at the forefront of care because traditionally it has been clinician-driven. And we've recognized the ability to put certain parameters to decrease the need for certain things like scheduling medication reconciliation via generalized questions and answers on your pre-visit information. Some things are standard, and we can automate those while creating an outlet for use cases that are unique or if a person prefers to speak to somebody, to go back into that queue and get back to our access person. We have not figured this out a hundred percent, but what are we doing to make it better? We recognize the need for conversational AI. IVR [interactive voice response] is one layer to it, but to truly enhance the experience for the patient, you must layer on top of more intelligent bots.

You can't just do rule-based systems because if we go back to patient preference, the system is just not capable of dealing with the technology in the background being real-time and then creating those integrations. I think Scott mentioned how everything was going to go to the cloud. A key piece to being successful is having multiple systems interacting with each other simultaneously. For example, when I'm on the phone, I've probably got about five seconds before I'm going to say what's going on here? On the other hand, if you're texting me, I have a little bit more tolerance. Understanding the different communication channels and the customer's preference is key. The only way we're going to do that is if we start to take all these disparate systems and connect them into an enterprise single database in a system that can do it promptly. We've seen a significant amount of savings realized from this bot individually, and we've continued.

These are just two very basic examples. But we have several initiatives under our Innovation Institute, which are working towards building that intelligent patient journey. And I think if I go back to the design phase, the important piece is to make sure you're not forgetting the total journey. So, pre-visit, visit, and post-visit —there's a lot that happens with that patient and it takes a lot of time. You have to focus on your priorities and highest needs today and use those and find the standards as you move into other service lines. With ConnectedCare, if I go back to that starting with hypertension, COPD, CKD—there are five areas that we're going to focus on and there is going to be differentiation between them, but there also will be standards.

This is an ongoing journey. We will do it until we have all the disease states and service lines encompassed within this platform. It's a journey for the patient

and the system-building it. These are two examples that Geisinger has built over the last year to achieve that.

At this point, I think I'd like to just open it up or turn it over to Scott, any closing remarks related to the intelligent patient journey.

Dr. Scott Cullen: I think that was a great example Emily, and I think you've tied together the practical realities with the conceptual theory well there. Hopefully, we have a few questions to keep the discussion going.

Monique Showalter: We do. Thank you so very much, Emily and Dr. Cullen for sharing so many valuable insights on that topic. Let's transition now to the Q&A portion of today's events. We've already received some questions, so let's launch into those.

Emily, the first question I'll direct to you: Is the intelligent patient journey only truly feasible at this point because of the COVID-19 implications, or do you feel that Geisinger knew and had been headed that way for a while?

Emily LaFeir: I feel that we've been headed that way for a while, but we've gotten more focused through COVID and what I think it allowed us to do in terms of change management. The Innovation Institute has been focused on it much longer than when COVID happened, but the rest of the organization was chugging away with operations, and it's hard to balance creating that intelligent patient journey

and changing the way you function while also still trying to serve your patients. We all are very strapped for time. How do you convince people to come on the "ride" with you where there is going to be learning and we don't have all the answers? I think COVID allowed acceptance and adoption and willingness to change in several areas within the organization, to the point where we now just have to figure out how to prioritize because everybody wants to work and figure this out together. But COVID didn't start this journey.

Monique Showalter: That's great. Scott, anything to add based on your experiences with other organizations?

Dr. Scott Cullen: COVID broke a lot of rules obviously and accelerated a lot of things. It was interesting: I think if you're going to be successful in this you need a vision that started before COVID. However, even down to the individual practitioner level, we did some work at institutions that were very skeptical about what's possible to do virtually or what's possible to do with the kind of conversational AI, for example, that Emily was talking about. Then COVID hit and suddenly, everybody was very receptive to the idea that there were different ways to do things because we had no choice. So, I think it has broken some barriers. There are a variety of cultural and financial impediments that will persist or will maybe even begin to revert some of this but I think it's a juggernaut that's on its way one way or the other.

Monique Showalter: In follow-up, Emily, what do you believe are the traits of organizations such as Geisinger that can implement this successfully?

Emily LaFeir: To do this you have to have several teams that are working towards a common vision. There must be some form of oversight, whether it's a digital transformation office or a transformation officer, or just a setup within your IT group that is focused on innovation and technology enhancements. They need to be together—there are groups within IT that may have their day-to-day jobs but should also have some sort of dedicated work effort to be able to focus on the cloud strategy, which is critical to this. The security information strategy is also critical to this as well as access management. Then, you must have some teams within working almost in a pod mechanism to be able to design. Operational leaders do not have the time to synthesize.

It's allowing them to almost take you through their experience today and have input, but holding their hand and helping them understand what the future could be because they just don't have the time to truly envision and map it all out. You need to have those individuals focused on process architecting.

And then I think the other pod that's important is an evaluation. To continue to learn, you need to have some of your data folks prioritized on defining your utilization, your financial metrics, and

what you are baselining your success on. How do you define what your outcome measures are and, and what is a truly, enhanced patient experience? Developing those KPIs and monitoring them along the way is so important to critically learn and shift as you implement things.

Monique Showalter: Great. Scott, anything to add? Sounds like there are a lot of requirements and prerequisites that drive success in this. Any others that you consider?

Dr. Scott Cullen: What makes it possible at Geisinger, and Emily talked about the multiple teams that begin to come into focus, is there needs to be a transformation mindset and the belief at the senior levels of the organization that it's important to use technology to help transform the business operations. We don't always see that to the same degree everywhere across the board. The other piece is that the cloud is essential. Artificial intelligence didn't begin with the cloud, but to make it scalable and to make it affordable for provider organizations—many of which operate on relatively thin margins—you need to think about migrating the key data and the key application sets to the cloud at some point. That must be on your roadmap.

Monique Showalter: Great insights. Thank you. On the heels of your success, at Geisinger, Emily, what's the organization focusing on next to improve and simplify the patient journey? Can you share?

Emily LaFeir: I mentioned a little bit of this. With COVID and what we implemented from a patient-facing need, we recognized we have to have conversational AI, and we have to be able to connect those systems. What we choose for each mode of communication needs to be connected. If you have Cisco IVR, and you have the chatbot I mentioned—we have Gyant and Einstein Bot through Salesforce—how do you connect all of these pieces so that, for example, I talked to you on the phone and I decided to transfer over to the chatbot and the web portal. How do you reiterate everything I just went through? Maybe I spent 15 minutes on the phone, how frustrating, right? We recognize we have to keep these systems connected and we need to have that layer of intelligence to be able to stratify based on those unique use cases because in a rule-based decision making entry it's hard, and you think you have taken all the potential use cases that could happen and you create 25 permutations and then some somebody dissects that and their experience is awful. We all know how important that one negative interaction is. It can cause 10 negative comments versus the positive interactions that sometimes don't elicit any comments. It's important to have that higher level of intelligence and adoption among our clinicians. It's important to have them at the forefront of what you're building. You can't do it in a silo. At the Innovation Institute, we work hand in hand; we're not in a separate little building that's

shiny and just working on our own. We are working hand in hand with our clinicians and our operations lead to be able to define those care models and make sure that they fit the Geisinger needs.

Monique Showalter: Well, kudos to you and the organization—outstanding—and in your results. Scott, any closing comments?

Dr. Scott Cullen: I would just say that I'm super impressed by Emily and everything that Geisinger is accomplishing. It's a testament to their commitment to being patient-focused and patient-centered in everything that they do. I think it's an inspiration, so I hope that other people are inspired regarding the level of integration that's needed in our traditional healthcare organizations. Accomplishing a truly patient-centric journey is going to be transformational. The degree to which we need to switch from being provider-centric to being patient-centric is going to be directly enabled by how effectively we can integrate what has traditionally been a fairly siloed business and technology model.

I call it systems integration 2.0. You know, systems integration 1.0 was we can move data between these different systems. We can tie some of these back ends together. Maybe we can have an enterprise data warehouse or a clinical data repository. But having that data alone is not going to be an answer to the real-time needs around

managing patients from a truly personalized and patient-centric model. That's going to require cloud enablement and artificial intelligence to become anticipatory and see the trains coming down the track, as opposed to getting hit by the train and then having to react to that. I think that US healthcare is beginning to come around to an understanding that there's a new level of integration that's going to be required. But it's very impressive when we see the organizations that are beginning to make inroads on that journey.

Monique Showalter: That's fabulous. So that concludes today's session. Shortly, all attendees will receive an email with a link to the webinar session replay and the presentation. We welcome your sharing that with others throughout your organizations.

Thank you so very much for taking the time to participate in today's webinar and certainly a big thank you to our sponsor Accenture and our very informative speakers, Emily LeFair and Dr. Scott Cullen. That concludes today's program. Have a wonderful afternoon and please stay safe.