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Telehealth integration, patient care, virtual nursing, acute care, return on investment, nursing shortage, COVID impact, telehealth technology, rural healthcare, patient safety, documentation, discharge process, retention and recruitment, telemedicine, healthcare innovation.

SPEAKERS

Julie Wright, Aria Javidan

A **Aria Javidan** 00:00

Aria, hello everyone. My name is Ari Javidan. I'm the product manager for the National Consortium of telehealth resource centers. Welcome to today's webinar advancing telehealth integration and patient care. It is hosted by the teqsa telehealth Resource Center. And these webinars are designed to provide support and guide the development of your telehealth programs. Just to provide a little background before we get started, the consortium is located throughout the country. There are 12 regional telehealth resource centers and two national one focused on telehealth policy and the other on telehealth technology. Each serve as focal points for advancing the effective use of telehealth and supporting access to telehealth services in rural and medically underserved communities. A few tips before we get started today, your audio has been muted. Please use the Q and A function of the Zoom platform to ask questions. Questions will be answered at the end of the presentation. Please only use the chat feature for communicating issues with technology or communication access issues, please refrain using chat to ask questions or make comments. Please note that closed captioning is also available and that is located at the bottom of your screen. Today's webinar is also being recorded, and you will be able to access today's and past webinars on the nctrc YouTube channel and the nctrc website at telehealth resource center.org, with that, I will pass it over to Caroline Bowers, program manager of the Tesla telehealth Resource Center. Oh, Caroline, I'm sorry. I think your audio is not coming through. Try it. No, that's okay, though. I will. We will move forward. I will so no worries. Happens sometimes? I will introduce our speaker. Today, we are joined by Julie Wright. She is an aging director of the Institute of telehealth and digital innovation at the Texas Tech University Health Sciences Center. With that, I will pass it over to Julie.

J **Julie Wright** 02:17

Thank you so much for having me. As he said, my name is Julie Wright and I am the managing director of the telehealth Institute here at the Health Sciences Center here in Lubbock, Texas. I'm going to go ahead and share my slide deck. Can everybody see that? Hopefully. Yes. Great, fantastic. So, oh, hold on. I wonder if I, want to look at you, but my slides are over here, so let's see. There it is. Okay. There I can see my slides and you can see the presentation view. So our

institute of telehealth and digital innovation really is focused on bringing access to care programs to rural Texas, and right now we're supporting five different projects that that all involve telehealth in a variety of different methods and geographical locations. So in case you're wondering what I do all day, it's really supporting those programs. But what we're talking about today is something I'm incredibly passionate about, virtual nursing, specifically in acute care settings, and how do you go to a hospital and and tell them about these programs and talk them into investing in them? So I'm really going to start out by talking about the state of nursing as a profession, and the market forces that are driving models like this to pop up all over the country. Then we're going to get into the basics of what a virtual nurse does, just so that everyone can have a basic understanding of what the scope looks like for that for that nurse. And then what I'm most excited actually to talk to you about is return on investment examples. You know, at the surface level, when you talk about virtual nursing, which is a subset of telehealth, and how people need to invest in it, you might think, well, that's only going to impact nursing or it's only going to impact patient experience, but it actually has a much broader reach. And so I'm going to give you some specific examples that you could take to hospitals to say this is how these programs can impact the hospital across the board. We're also going to talk about just current nursing programs. Like I said, there's virtual nursing programs happening across the United States, and so we're going to dig into some of those examples, and then we're going to also just do some future projection on where I think virtual nursing is is headed. So the state of nursing i a lot changed in 2020 during that time, I was actually still at the bedside in acute care settings, and I was taking care of COVID patients. So I can tell you that it changed me as a person, and it changed our profession. We were already in a state of being short, running short most of the time, not having enough staff to cover our schedule. But. COVID really made it 1000 times worse, not only because we had nurses leaving the bedside, but we had people out sick constantly. So according to the National Council of State Boards of Nursing, they did a survey and they published this this data in 2023 the United States lost approximately 100,000 registered nurses from the bedside and people left due to retirements, some early retirement stress and burnout. Another what the numbers continue to get worse as we go through these boxes. Guys, over 600,000 when they were surveyed, said that they intend to leave by 2027 and what that communicates is that even the nurses left behind are not happy in their their profession, and they are looking for jobs elsewhere. They are looking for ways to get away from the bedside work. And then even more alarming was the 188,000 that were less than 40. And so what that number really communicates is that we have that next generation of nurses that have only been in their careers, you know, maybe even just five years, and they're already saying, I can't see myself doing this for the rest of my life. I have to change course, and that as a profession, is truly a crisis for nursing. Nurses across the board are reporting things like fatigue, burnout, feeling end of their rope. And although this survey was published in 2023 in the datas before that, I can tell you from personal experience that this has not changed much. Now, this same organization just concluded their next survey, and so I'm hoping in the next year they're going to be publishing that next that new data, and so we'll be able to see if, if the curve is changing at all, but I can tell you that it's still we are still having a crisis of profession. I feel like that's important for all stakeholders to know, because when you're thinking about investing in a new technology, you really need to understand the why. And it's more than just access to care, and it's more than just technology. It's truly about saving a profession. Other market forces that are are forcing these, these types of innovations are really the healthcare environment. So in in the hospitals now we have a post COVID landscape. We have patients coming in with long COVID as a as a population here in the United States, people are sicker than they've ever been. Cancer rates are up, diabetes, obesity, hypertension, all of those things have increased. Generationally. We have not gotten healthier. We've gotten sicker, and then reimbursement models in the hospital have also gotten worse. So take 20 years ago, when a nurse would look at her patient ratio, you know what? Maybe carrying six

patients, she would have a good mix of what we call light and heavy. And what that means is that some patients are just there to get antibiotics for a few days, but they're really self sufficient. That's a light patient, and then a heavy patient, as a patient that is immobile and requires a lot of constant care, and you can give a nurse six or seven patients if you have a good mix of complexity of that acuity that doesn't exist very much anymore, because the patients that we used to admit to the hospital that weren't that sick and maybe just needed Antibiotics for a few days. They don't qualify for inpatient care anymore. We're treating them in the emergency room, or we're treating them outpatient. And so what you end up with in the hospital is every patient is a heavy patient, and yet the reimbursement models for nursing haven't changed. They're still built into the room charges, and the ratios haven't changed. And so you have a mismatch in what's happening there. That is where you're seeing this need for innovation, and in this case, we're going to be talking about that need for a digital support system. So again, just to talk about what's happening, we have healthcare landscapes that continues to intensify, and then we're having staffing challenges across all areas of the hospital. So there's not enough hospitalists, there's not enough specialists, there's not enough physical therapists, and there's not enough nurses, there's not enough housekeepers. And what that leaves behind when you have shortages across the board and in a hospital is that you are putting increased demand on every single resource that you have, and so that really creates a situation that you have to look at, okay, we've been doing inpatient care this way for decades. Maybe it is time to approach it in a new way, so to understand why virtual nursing is so incredibly different from what has been done for decades. I just want to do some level setting on common nursing models of care. So total patient care is what is primarily used across the country. And what that means is that you have a nurse and she is assigned a patient group, depending on you know, if you're an ICU, it might be two or three patients if you. You are on a med surg unit. It might be six or seven, but total patient care is one nurse being responsible for a group of patients, Team nursing. We still see this in some areas across the country, but it is less popular, and you see it more in nursing homes or skilled nursing facilities or rehab centers, where you have some some levels. So you have an RN, and then you might have a couple of LVNs underneath them, and they take care of the patients as a group, and they divide up the tasks based on their personal scope. And then primary nursing was used decades ago, and this was the idea that one nurse was going to be assigned a patient and try to stay with that patient throughout their hospital stay. And this one really isn't feasible in our patient populations anymore, because we have patients staying for two weeks. We have really, really complex cases, and nurses have to have a day off. So again, total patient care is the primary model that you see used in hospital settings. When I envision total patient care, this is what I see, and I came up with this graphic a couple years ago because I kept hearing the nurses on my unit where I was the manager, talk about how heavy their patients were, right? We refer to it a lot in terms of weight, and because that's what it feels like when you're carrying a patient load, it feels like a weight. And when you look at the nursing strikes that are going on every month across the country, they talk about high acuity and patient ratios. When you are a total patient care nurse, you are lifting this huge weight, and people will say, Well, you need to work together as a team. Well, imagine you're standing there with your weight, and your team members are holding their weight. In order to help them carry their weight, you have to put your weight down. Well, who's holding your who's holding your weight while you're helping them? So it really does turn into a solo sport. And despite the fact that we we already know, because of all the surveys that confirm it, that nurses are burned out or overworked and they're not coming to work expecting to have a good day, we keep using the same models of care that are not working, because even if you standardize ratios, which many states have done, they have standardized ratios. And even if you say we're going to staff based on acuity, whether you are lifting 25 pounds or 100 at some point, you will reach a state of exhaustion. And so that's what we see in nursing too is that sometimes some hospitals are doing a better job of

controlling the ratios and the acuities, and so their retention is a little bit better, but eventually all nurses reach their point where they're just done, they are burned out. So instead of accepting that that is reality, how do we create a new system that can go on forever without reaching a point of exhaustion. So that next image with the police, think of those police as being all of the different layers that you can add on to that model of care, so that when that nurse is providing that care and no longer feels like this huge way, it feels like something that they could do for the next 25 years. So that really is the goal, to completely move away from old models and create something that is 100% sustainable. So when I say virtual nursing, that is synonymous with Telenor saying virtual nursing, that term has become really popular in the last five years, with these different programs popping up. But telenursing has truly been around for decades, anywhere that you had telemedicine going on and nurses were triaging those patients beforehand or getting on the phone and providing that care coordination that is telenursing. And so i just i On the one hand, yes, virtual nursing seems very new, but I don't want to lose sight of the fact that nurses have really been in the telehealth space for decades. So let's talk for a second about the role of a virtual nurse, just at a basic level, so that everyone can fully understand what a virtual nurse's scope looks like and what they can do from behind a screen. It's funny that in the hospital system. Virtual nursing still seems very, very new, and so people are always like, well, virtual nurses can't do very much, and it's it's always surprising to me how surprised they are at what a nurse can do from behind a screen. So one of the big things that they can do for the bedside staff that they're working with is that they can decrease the administrative burden of documentation. Bedside nurses in the hospital spend at least a quarter of their shift in front of a computer documenting everything that is going on, and as over the decades, that has gotten progressively longer, because what we have to chart, you know, they add to it every year. Now we want you to chart this, and now we want you to add this in. And so what that does is it really takes the nurse away from the bedside care. And I think if anyone has experienced a hospital, say recently, they have probably felt that, that it feels like the nurse isn't in the room long enough. It certainly isn't, because the nurse doesn't want to be in there. It's because they have to go sit down in front of that computer and chart so a virtual nurse can take on some of that charting for the bedside nurse. One a piece of that charting is an admission. So when you go through the emergency room to get admitted, there will inevitably be somebody that comes in, some nurse that comes in to do your admission, and they're going to ask you about your history and all of your medications and all of your past surgeries. And that could take 45 minutes, depending on what your your medical history takes, like it is a very long assessment to get through, and so having a virtual nurse that can come on the TV screen and beam in virtually to a patient's room to take on that 45 minutes you have just given that 45 minutes back to that bedside nurse, and that opens them up to spend a little bit extra time at the bedside. Pre procedure checklist. That's another really easy task that a virtual nurse can take on. Again, they can beam in on the TV, they can talk to the patient, and they can document in real time while they're talking to the patient. Medication Reconciliation. This is a huge piece. If medication reconciliation is not completed correctly, it does impact patient safety. So if you are a cardiac patient and you're on a bunch of medications, and you come in and the nurse doesn't appropriately put all of those into the computer, they may not get ordered correctly. You may miss a dose. Your heart may go back into AFib because you weren't giving your medication. So medic medication reconciliation on admission is a huge Patient Safety piece, and it's very time consuming. Well, the virtual nurse can do that even if you don't have a list or a piece of paper that you're reading off of. The bedside staff member, either a CNA or, you know, an assistant, can come in and lay all of the bottles on the table, and the cameras that are available now can can zoom in, and they can read every single one of those labels and make sure that the medication list is appropriately put into the EMR, so that the physician can order those appropriately. Another piece is patient rounding, just going room to room, beaming in and checking on the patients. Do you need anything? Are you okay and do

putting that eyes on them to make sure that they're safe. Another piece is discharges. We're going to get into discharges a little bit more on return on investment. What a discharge involves, from a nursing perspective, is, once the physician puts in that order, you need to look at what medications they're going home with, what what they need to be educated on, is there wound care or, you know, something that they have to learn before they leave. It usually involves quite a bit of patient education that discharge process. So it is time consuming. They can also act as a resource nurse. I for example, when we give a blood transfusion, it requires two nurses to check the bag to make sure that it's correct. The virtual nurse can actually be that second nurse so they can beam in, they can check that bag of blood with the bedside nurse, and that that means that another bedside nurse isn't getting pulled from their patients to check that bag. And then, as I already mentioned, patient education is a huge one, to have a committed clinician that can beam into a room and really spend the time making sure that the patient is adequately educated, can have a huge impact on readmission rates and on on the patient's understanding of their conditions. Remote patient monitoring is another thing that we see hospitals using virtual nurses for with the technology that exists in terms of vital signs and labs and data, these virtual nurses can have eyes on the patient and be monitoring the vital signs that are connected into the EMR, so that they can see those vital signs in real time. And they, instead of somebody picking it up 20 minutes later, they can pick it up in real time and say, Hey, I see a critical change here, we need to address it. They can also do real time clinical assessments. I there was a virtual nurse, and that I know, I heard her tell a story recently about beaming into a patient's room, and she had talked to this person earlier, and she noticed a change, and she was able to identify that in that moment, they were having a stroke, and she was able to notify the bedside staff and alert the team, the stroke team. And so that feeds right into timely intervention. If she had not been doing those virtual patient rounds, that patient would have been found much later. And when it comes to stroke care, every minute counts, right? And so because of her beaming and like that, that patient had a positive outcome. And then we already discussed medication management, but even once that initial medication reconciliation is done, let's say that the they beam, the virtual nurse beams in to do patient rounding, and the patient says, Is it time for my medication? You know, I'm in a lot of pain. Pain, and that virtual nurse can look and and and help keep the other staff members informed that, hey, this patient's having pain again, I see that they are due for a hydrocodone. You know, make sure you grab it before you go in that room. Communication and Collaboration virtual nurses, just like we are on a zoom call right now when the hospitalist and the care coordinators and the charge nurses and the bedside nurses have their morning meetings, or whenever their meetings are to talk, to go through the patients on the floor, the virtual nurse is a part of that. So they can beam in and really collaborate and communicate the needs of the patients and the things that they've learned, they are able to provide education and support. I think support is a huge piece. They're not just there to provide support for the patient, but also for the families with that family piece. You know, not all family members are in the same city, and so they want to be a part of those conversations too. With this technology, the virtual nurse can send a link to that family member and bring them on the screen. And they can also be in the room. Let's say if the physician is in there, giving them a diagnosis or talking about a surgery, that virtual nurse can facilitate bring that family member on the screen so that they can hear everything that the physician is saying as well. Don documentation and reporting. This is a we talked a little bit about, the time that nurses spend documenting, but I this cannot be, you know, overstated how important and how impactful it can be to have someone take on some of that documentation. Another area that documentation is incredibly reporting is during a code. And so to have eyes in the sky, to have someone virtually be able to come in that room that can record in the EMR in real time, what's happening during that code is is really, really helpful to the caregivers that are working that code to say, Okay, we don't have to give up a set of hands for documentation, because the virtual nurse is going to document everything. Mentorship and

training. We talked earlier about nurses leaving the bedside. When you have experienced nurses leaving, you're losing that experience, and then you're hiring on new nurses, right, that don't have that experience yet. And so if you have virtual nurses that have a tenured career, they're able to truly offer that mentorship to the nurse that's maybe one year into their career. So that when that nurse has a question about, well, maybe I should do this, or maybe I should do that, they truly have someone that they can call, not someone that they feel like they have to go pull out of another room because everyone's really busy, but someone that is easy to get a hold of, easy to get communicate with, and that they can have a supportive relationship with, and it makes it feel like they're not taking care of those patients by themselves, right? It truly is a team and then patient advocacy. I've seen many, many examples of virtual nurses beaming into a room having a conversation that leads to aha moments about things that that patient needs, and then the virtual nurse taking that back to the care team and really improving the care for that patient. Okay, I'm excited to talk about building the business case. So to start out with you, if you're going to go to a hospital and you're going to try to pitch a virtual nursing investment, and what you're really pitching is telehealth technology, right? You're asking them to invest in the cameras, or in the flat screen TVs or in a an iPad on a stick. There's a variety of different things that they could use, but it all involves that technology, and so you really need to align that with their organizational goals. You need to do a little bit of research and figure out what they stand for and what patient population that they treat, so that you can make sure to include those things when you're trying to talk with them about a return on investment, you want to make sure that if you are talking about virtual nursing, that you don't just talk to the nurses, because these programs have a huge impact on the hospital as a whole. So you need to engage with the CEO, the CFO, and any other stakeholders that are willing to meet with you, so that everyone can learn how this can impact their bottom line, how it can impact staffing, how it can impact all elements of of their business as a hospital. And then you got you have to lay out the cost savings. You know, we don't take care of patients as clinicians for the money, but in order for hospitals to keep their doors open, we have to help them find a way to find those cost savings. We see rural hospitals struggling to keep their doors open, and when these hospitals close, it hurts the communities. So anything that we can do to help them function more efficiently is ultimately helping the people. Of that community. It's not about making a profit. It truly is about keeping doors open and creating access to care. So the first example that we're going to talk through is throughput. So what is throughput? Throughput is the process that of moving a patient through their hospital experience, from the time that they walk in the door to the time that they're discharged. And when you talk about throughput in the big sense of a hospital, you're talking about everybody moving through constantly, and you want that to happen smoothly. You don't want things to get held up. You don't want there to be bottlenecks and delays you want. You don't want people saying, Oh, I was in the ER for two days before they got me a bed. And you know, you don't want them saying, Oh, it took them 24 hours to discharge me, even though I was already ready and I was already cleared by the doctor. We want people to be moved appropriately through the through the process of their hospitalization. And when you optimize that, you impact the bottom line of a hospital. And when you impact the bottom line, you increase the chance that they're not going to have to close. So how does a virtual nurse play a role in that? So let's just take one task, one virtual nursing task. Let's say that you were going to do a pilot and you were going to hire a virtual nurse, you're going to invest in the technology, and this virtual nurse was only going to do discharges. And I want to to walk you through the impact that one virtual nurse can have on all of these things. So length of stay is really important in a hospital. Length of stay has to do with reimbursement, and when you have length of stay that is unnecessarily long, chances are you're not going to be reimbursed, reimbursed for the full amount of the stay. And so what that means is you're giving away that time for free, and then you can't pay your bills. So keeping length of stay at the appropriate level is incredibly important. A virtual nurse can can help with

the length of stay, by looking at those discharges, by looking ahead at who could be discharged, and making calls to physicians and getting things checked off so that there's no holdups in that process. Observation hours are another area. So when you go into a hospital, if they say, we're going to keep you in the hospital, we're going to send you to a bed upstairs, you're either going to be inpatient or observation, and both of these things are reimbursed a little bit differently. Inpatient, there is a nightly, you know, Midnight charge an observation. You are billed your clock hours. And the reason that OBS exists is because payers acknowledge that, okay, maybe you don't meet the criteria to be an inpatient, but the doctor seems to think he needs to watch you for a little bit longer just to make sure, and so you're in that gray area. So we're going to give you about 24 hours. That's what most people will reimburse for, but anything past that, the hospital is going to be paying out of pockets. You know, if you have ops hours that aren't average 72 instead of 24 your hospital is hemorrhaging money. If you bring in a virtual nurse that is looking at those ops cases and saying, Hey, this one's ready for discharge, all the labs came back clear. All the tests came back, you know, negative. And they can call that physician and say, Hey, I think, I think you need to look at this one. All the labs are in, they can get that patient discharged quickly, and if you can decrease your ops hours, you can save that hospital tons of money, and you're doing right by the patient, because you're not holding them there unnecessarily. Then we have decreased emergency room boarding. What this means is where patients come into the emergency room and they need to be admitted upstairs. The ER doctor has said they needed to be admitted, but there's no rooms for them, and so what that's called is they're boarding right? They're holding them in the ER until there's a bed available. And what that does is it builds on itself throughout the day, and it creates dangerous situations for the ER, and that can create bottlenecks, and then that can also create diversion hours, where you are at such a state where all of your beds in the hospital are full and all of your ER rooms are full, and you're boarding patients, and you now have to go on diversion. And when a hospital goes on diversion and tells ambulances that they have to take patients other places, everyone is hurt, the hospital is hurt by reduced revenue, and the people in those ambulances that maybe have to go a little bit further or hurt too. And so keeping diversion hours down is a main priority for all of these hospitals. I want to walk you through the impact of a discharge, through a scenario. So the physician goes to a unit, and he's got, let's say he has all 30 patients, and he he looks at them, and he puts their discharge orders in at about 10am and he goes and tells the nurses, I put their orders in, and then tells the patient you're ready to go home. And the patient's like, okay, and the nurse says, you're going to have to give me time to get caught up, and then I'll get you discharged. Well, let's. Say that in that hospital, the average time from order, in this case, 10am to walking out the door, where the nurse gets everything done and they're able to actually take you to the front door, is about six hours right sometime late in the afternoon that that has you have now waited all day to discharge these patients, and in the meantime, the ER is filling up, and now they're boarding patients. So then about four o'clock, we start to see patients leaving, and the rooms are emptying out, and the rooms are emptying out really quickly. Now at six o'clock, boom, boom, boom, boom, boom, now we have 50 empty rooms, and there's 50 patients down in the ED that need to be admitted. No problem, right? That's still a problem, because you have shortages across all areas, and you have two housekeepers, and they can only clean one room at a time. And so you have a bottleneck. Every time they clean a room, you can move a patient. They clean another room, you move another patient. In the meantime, the emergency room isn't getting unstuck, right? They're still patients are still coming in, and then before you know it, it's midnight, and all of these patients that are in the emergency room that needed to be in an inpatient bed, so you could drop an inpatient charge, are still in the emergency room. So you can't drop a charge. It's this, this massive snowball of throughput. Well, what if you have a virtual nurse on that unit with all those discharges that can go room to room and discharge those patients, because that is their one job. Then you can take your average discharge, you

know, order to door from six hours to one to two hours. And then your housekeepers that are there don't have 50 dirty beds. They have maybe five or six at a time that they're working on. And so you prevent the bottlenecks, and you prevent the boarding, and you prevent the diversion hours, and suddenly hiring one virtual nurse to work on discharges changed the entire landscape of a hospital. So again, I've seen it in real life. I know that it's possible it truly can have a huge impact on the bottom line. Another area that is going to affect their bottom line is retention and recruitment. So this is a HRSA chart from their workforce projections, and this is for RNs. The orange line is demand and the blue line is supply. And so even though school schools are producing more nurses than they've ever produced before. We're still not coming close to the demand. And every time that we haven't that a hospital hires a nurse, trains them, they work there for a year, and that nurse leaves. It costs on average, $56,000 for that hospital. If you do that year over year, and you're constantly just turning staff, you're just throwing $50,000 out the window every single time. That's not sustainable, and it it feeds into everything else, right? Where the people that are staying behind are not having a good day, and they're burned out, and they're frustrated because you keep bringing in new nurses, and they quit after a year. So what do you do about it? When you bring in a virtual nurse, they help to reduce that burnout and the fatigue they take on a lot of the duties that previously the virtual that the bedside nurse was doing. And so you're reducing the chance that your nurses that you've poured money into to train are going to leave. You're reducing that. You're empowering new nurses. Now, instead of feeling afraid and anxious while taking care of their patients, they feel confident because they have a mentor and they have somebody to call right the phone, a friend. They know who to call if they're not sure what to do. And that's going to increase their work satisfaction and their confidence, and hopefully it's going to lead to better retention. Also with virtual nursing that's going to attract this new generation that is tech savvy that expects us to use technology that exists. We use technology everywhere else in our lives. Why would we not apply it to healthcare? Also, when you when, when the virtual nurse takes on a piece of that documentation, that means that that bedside nurse is less likely to have to work late, and so they're going to get off on time, and they're going to get back to their families, and you're going to create that work life balance. And then you're also going to have a recruitment advantage, if you can go to a nursing school and look them in the eye and say, We're doing everything we can to make sure when you come here, you're going to have a good day, you're going to have a better chance to actually recruit them, rather than saying, well, we want you to come, but we know you're going to be burned out. No, no. Now you have an opportunity to say, come here. We are challenging the status quo, and we are making things better. Other use cases. So once you get this technology in these hospitals, I mean, really, the use cases are endless. But I just want to touch on a couple that I think could be really impactful in rural communities. Telemedicine, consultations, anybody can, you know, any of the physicians can have access to this technology. And so if you have a hub and spoke model, where you have a large urban hospital with credit. Child specialists, and a rural facility that has a partnership with them, they can consult those physicians, those specialists, and they can beam in and check in, you know, if they need some expert opinions, mental health services. We're already seeing this in a project in Texas, in rural hospitals where there are, there is telemedicine services being provided seven days a week through telemedicine, and it is truly changing the landscape of those ers telepharmacy services. Same thing. Maybe you're a rural hospital and you don't have a pharmacist that is there 24/7 but if you can partner with someone else, then you can have a pharmacist that can beam in and provide consultations to these patients and talk to them about new medications and answer their questions. And then virtual clinical trials, if you are trying to open up opportunities for people to be a part of clinical trials closer to home, this is a great tool to be able to make that happen, some specific examples of virtual nursing programs. So covenant Medical Center, the one that I've referenced, that I was a part of, is owned by is part of the Providence system. They're located in California, in Texas, in Oregon, in Alaska.

They're, you know, that, part of the United States, and they chose Lubbock to be their pilot. We implemented the CO carrying model and saw huge success with it. I you can see in this picture the patient sitting in the bed, not a real patient, by the way, I helped take that picture. So, and then you can see what the what they see. So that's a virtual nurse, one of our actual virtual nurses, working from her home on the TV screen. And then next to her is the big telemedicine camera. I think they've actually moved to a sleeker, smaller camera now, but just so you can understand what the patient is experiencing. You know, they hear a ding dong, and the virtual nurse says, Can I come in? And when the patient consents, then they're able to turn on their camera and be in the room with them. We saw a huge reduction in turnover by 73% reduction, and I had much greater success with recruitment. I will tell you when I could tell them that they were going to be sharing that load with a virtual nurse. They have now rolled this pro program out to four different units at this hospital, and Providence has rolled it out at the last article I saw said 10, but I would say it's probably more. By now, I think that the program at Providence will just continue to grow. We've already seen here in Lubbock. I believe that they have these cameras in close, you know, over 100 rooms, and so they're, they're finding huge success with this Guthrie clinic in Pennsylvania. They invested in an AI driven virtual care model, and they're doing a lot of the same things that I think we were doing. They were looking to reduce turnover, to improve patient care, to create efficiency, and they reported lower turnover from 25% turnover to 13. That is huge. They also reported $7 million saved by reduced travel nurse reliance. So travel nurses, when you have to bring in contracted travel nurses to cover your staffing shortages, you are paying them a premium that is sometimes two to three times higher than the average hourly rate of an RN at the bedside. And so if you can reduce your reliance on travel nurses, it doesn't surprise me at all that they were able to save $7 million reduced EHR time by 30 minutes per shift, so the bedside nurse spent at least 30 minutes per shift less. And that's just what they were able to prove right, I would say, depending on the nurse and depending on their shift, they probably gained more time than that. And then they cite that they were able to expand access to care across 9000 square miles, and they were able to improve patient outcomes. I love that they are linking this with metrics related to the patient. And then they did receive an award in 2023 for this project. I think even just those two programs you have, you know, up north, and then you have down south, that this type of innovative work is happening. Then we have HCA healthcare, so I included a map of their different hospitals so that you can understand their reach. And this is just one health care system. As I mentioned before, I know that Providence is in several states, but there are many health care systems that have an ex a huge expanse across the United States, and so when we see them engaging and investing in this technology, that is really helpful, that it's going to spread across, you know, many states. So they also used virtual nurses to do administrative tasks, you know, admissions, discharges. And so far, they have programs in Florida, North Carolina, Tennessee, Kansas, Missouri and Colorado. And I think if they are seeing return. On investment gains. Like other systems, we will probably see them continue to scale across other states. Other programs include Jefferson health and you're going to start to see a trend here, right? They they're citing admissions, discharges, patient education. We've got Vanderbilt University Medical Center admissions discharge patient rounding in Idaho, they're doing admissions discharges. In Cincinnati, they're doing admissions and discharges and patient education. You seeing the trend? And then in Brian, based Texas and a and M's Center of Excellence, they actually are bringing in specialist nurses, Forensic Nurses, when needed to provide follow up care to violence and trauma survivors. It costs a lot of money to train SANE nurses to do that kind of care, and so to have a way to bring those nurses in without having them on site is a huge resource. So to summarize the return on investment of virtual nursing and really investing long term in this telehealth technology, because the virtual nurse piece is just how you get them to that's the first pilot. But then you layer on all of those, those other use cases, so you've got reduced turnover costs. You can reduce your length of stay, which has an

impact on your bottom line, and it's better for the patients. You can improve access to care. You can bring in other specialties that can use the same technology. You can enhance patient outcomes, and then again, you can save costs through reducing your reliance on travel nurses. You can reduce incremental overtime, and you can improve your retention, all of which you're going to see a cost savings the cultural impact of investing in any kind of big change like this that really challenges models of care and challenges the status quo is that you're telling people that you care about them and that they're worth the investment and that you're willing to change to keep them there, and that creates collaborative culture, that creates people really leaning in and working together, that that encourages innovation. When they see that you're not going to say no immediately to something that is really outside of the box, they're going to be more creative and more innovative, and they're going to speak up more. And then it brings it back to patient centered care. You're doing what is right for the community and for the patient. So what I project happening in the future? I think that these will become standard. I think we're just like we see TVs. We expect to see a TV in every hospital room when we when we go to a hospital. I think that eventually we're going to see a TV and a camera. I think it's going to be standardized. I think that we're going to see more data driven insights. We already know that those are being incorporated into our EMRs, through AI, through all of the different systems, you know, Oracle, Cerner, epic, and I think that we're going to continue to see that, and I think that that will be worked into the virtual nurses workflows. I think that we're going to see better patient outcomes. I think that this is going to force people that are already in the workforce to be continuous learners and to adapt. And once you create that kind of resilience and flexibility, then you can continue to make those changes. It's really the first change that's the hardest. But once you create that resilience and flexibility in your staff. Then as you layer on those different changes, they're really going to they're going to be able to flex those resilience and flexibility muscles, and they're going to be really good at it. And I think that this truly is the beginning of a health care revolution where we're where we are now, seeing people say we don't want to do it the same way we've done it for 50 years. We're going to do it differently. I think, for people on this call, we need to encourage people to adapt to these technologies. We need to be encouraging them to invest and we need to be doing the teaching and explaining why it's important. And then, as we see these successes at HCA and Jefferson and here in Lubbock, Texas and in Pennsylvania, that we're celebrating those and that we're talking about them so that other healthcare systems or other hospitals that might be struggling understand that there is hope for change. And that is all I have for you guys. Today, I will say I did not get into how to implement a virtual nursing program, because that would have taken another hour. But there is an echo on Tesla's website that I did that. If you are interested, if you have already talked to hospital into investing and you want to know next steps, go watch that echo, and it really digs in how to prepare for the implementation of a virtual nurse program. So thank you very much.

A Aria Javidan 44:47

Thank you so much. Julie and we do have a few questions in the Q and A for you. First question is, what are your governance recommendations? Do you see this fall under telehealth, or it clinical leadership or finance?

J Julie Wright 45:01

Yes, I think it has to start with nursing. You know, each program is different, and so if you start governing what that's going to look like before you have piloted it, then you're not going to

have the flexibility to find success. In my experience, through the pilot, we had to change the plan every week, right? We started thinking we were going to do it one way, and then by the end, so I think first step is you give the staff the freedom to fail you. You go in and you try to let them just find something that works and that may take six or seven changes. And then you bring in nursing informatics and nursing governance, and you agree on a model, and then you layer on those other components. Um, because, again, if you come in deciding all of the rules for the people that are going to be using the technology, it's probably going to fail you. They have to have the freedom to work through those issues. And then you can talk about long term governance of those programs.

A Aria Javidan 45:59

All right, thank you. And a second question here, if you're familiar with the incorporation of mental health services into primary care and into hospital settings such as medical psychiatric units, could you describe how virtual nurses could fit into the interdisciplinary care team delivering evidence based integrated med psych care?

J Julie Wright 46:19

I is that in the chat? Can I that is, yeah, that is in the chat. I look at it. Can I can't see it. Can you say it one more time?

A Aria Javidan 46:27

Sure, sure, yeah, and I'll post it in the chat too. Okay. If you're familiar with the incorporation of mental health services into primary care, into hospital settings such as medical psychiatric units. Could you describe how virtual nurses could fit into the interdisciplinary care team delivering evidence based integrated med site care? I

J Julie Wright 46:50

don't have first hand knowledge of that, but let me give you an example of the program that I did reference. So in rural hospitals in Texas, specifically the torch group, the Texas organization of rural hospitals, if they have a patient that comes in through their er that is needing mental health services, it can take up to a week, sometimes for them to get a site consult, and in the meantime, that patient is just being either boarded in the ER or admitted into inpatient and what that leads to is sometimes workplace violence, you see an uptick in that and also a high readmission rate because the patient isn't getting the care that they need. So one of the departments at Texas Tech Office of Strategic Initiatives has partnered with torch hospitals, and they went their pilot hospital was Titus regional in East Texas, and they put telemedicine psychiatric care in that er, and they gave them access to a mental health provider, which I think in this case is mostly nurse practitioners that specialize in mental health from 2pm to 9pm seven days a week. And so what they saw is that those behavioral health cases coming in through the ED, they saw a huge dip in the number of patients being admitted because they were getting the treatment that they needed, and they were getting discharged out with referrals and follow up care. They saw a huge decrease in readmissions because, again, the

patients were receiving the care that they came for, and so they weren't just coming back in week after week, and then they saw a decrease in workplace violence against nurses. So that's just the most basic simple. Put the telemedicine in the ER to help with behavioral health, and in those cases, again, it is nurse practitioners. I think that you could take lessons from that program and install it in other areas, you know, you'd have to pilot it. So I can't tell you exactly what that looks like, but I can tell you that this program, specifically this mental health and ers, they've expanded to, I believe, over 10 hospitals, and I expect it to continue growing, because it's truly meeting a need, and it's having a huge impact on those communities,

A Aria Javidan 49:00

great. Thank you. And the person who asked that question said, Excellent response. Thank you. So our next question is, how can educational institutions incorporate telehealth into curriculum? Any suggestions for students to become familiar with this area of nursing while still in school?

J Julie Wright 49:17

I think that that's really difficult, because you have so much criteria that has to be incorporated by the credent that the is dictated by the credentialing bodies, and right now, they're not mandating that virtual nursing or telehealth be included in the curriculum. What I think you can do is provide links and provide opportunities and incentivize students to say, Hey, if you will go watch this webinar, or if you will go do engage in this activity, then we will give you credit in this way. But it is difficult for them to make it part of their required curriculum, because there is so much that they have to cover, and it's difficult to add in that. Saying outside of that, DMP programs are absolutely already incorporating. It because they know that nurse practitioners are going to DMP programs and nurse practitioner programs, that these advanced practice nurses are likely going to be asked to engage in some time of type of telehealth at some point, and so they are including learning on peripherals, you know, learning about the regulations related to telehealth. I know that our school here in Lubbock has actual telehealth equipment and peripherals for these nurses to play with, so that they can be comfortable knowing that when the RN on the other end is putting the otoscope in the patient's ear, they're like, Yes, I know what I'm looking at. I can trust it. And so in those advanced level courses, it is being incorporated, but the basic entry level again, until the governance bodies start saying this needs to be included. I don't have a great answer on on how to get it in there officially.

A Aria Javidan 50:49

Okay. And then next question is, have you heard of any use cases for virtual nursing to scale, for disaster response?

J Julie Wright 50:56

Yes, absolutely so in areas where if you can have telehealth equipment up and running, and maybe you only have a certain number of paramedics and different people that are going into those areas, if you can bring that iPad with that built in technology, and you have a command center back home that has access to specialists and nurses that can triage, and you can hand

out iPads, then they can really help you with that triage process. They can help you with follow up care. They can help you with taking down people's information and getting it into a database so that you can follow up with them later. And sometimes only some people can be on the front lines, right, but, and, you know? And so to be able to bring other people that can't be geo geographically present, to be able to bring them in virtually, to help you carry that on is, is a huge way off of the first responders on site. Imagine if you're one person, but you can hand out 10 iPads, and then you can be taking 10 people's information, and you can have nurses triaging them and helping you. I mean, that's that's huge.

A Aria Javidan 52:03

And then last question we have here is, what nursing degree would I need to become a virtual nurse?

J Julie Wright 52:07

So you would just need, well, really, it depends on the case. So we have programs in the United States that are happening right now, like nurse disrupted, that uses a nurse triage system where they take an iPad, and they put it in homeless shelters, and the somebody can just walk up and sit, and a nurse appears, and that nurse triage is them. You can be a depending on the scope for that state. You might be a licensed vocational nurse. You might be a registered nurse. You sit. You don't need a four year degree to be a virtual nurse. But my experience tells me that if I'm going to hire a virtual nurse, I want someone with experience, because you have to take what you did in person and you have to translate it to the virtual space. And so there really is no substitute for experience in the inpatient setting. If you're just doing triage and you've got one year experience, you know, some of it depends on the kind that you're doing, but if, you're going to be a virtual nurse on a med surg unit, it helps if you've been a nurse for five or six years and you feel really confident in what you know, so that when you're beaming into those different circumstances, that you're pulling from that experience and that you can mentor the newer nurse that's providing the bedside care. All right.

A Aria Javidan 53:18

Thank you so much, Julie, we really appreciate you taking the time to present at our webinar today. Thank you. Yeah, I'm just going to bring up our closing slides here. So just a reminder that our next webinar will be on March 20. It'll be hosted by GP track, and it will be on telehealth, yet another crossroads. Analysis of our present and potential futures. Registration information is available on the nctrc events page. And then lastly, we do ask that you take a few short minutes to complete the survey that will pop up at the conclusion of this webinar. Your feedback is very valuable to us. Thank you again to the Tesla telehealth Resource Center for hosting today's webinar, and to Julie for her presentation. Have a great day, everyone. Bye.