In Conversation with... Kathleen Sanford and Sue Schuelke about Virtual Nursing

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Editor's note: Kathleen Sanford is the chief nursing officer and an executive vice president at CommonSpirit. Sue Schuelke is an assistant professor at the College of Nursing–Lincoln Division, University of Nebraska Medical Center. They have pioneered and tested a new model of nursing care that utilizes technology to add experienced expert nurses to care teams, called Virtual Nursing.

Sarah Mossburg: Welcome to both of you. Could you tell us a little bit about yourselves, describing your current role?

Kathy Sanford: I'm the chief nursing officer for CommonSpirit Health. At the time that we started the Virtual Nursing model that we're here to talk about, I worked at Catholic Health Initiatives, or CHI, which has since become CommonSpirit Health. I'm currently the executive vice president and chief nursing officer for CommonSpirit Health, which has a corporate office in Chicago.

Sue Schuelke: I'm currently an assistant professor at the University of Nebraska Medical Center on the Lincoln Campus. Like Kathy, I'm a current CommonSpirit employee, but it was CHI at the time that we started the Virtual Nursing model. I was the primary investigator on the Health Resources and Services Administration (HRSA) grant for the virtual nurse project or the Virtually Integrated Care (VIC) model.

Sarah Mossburg: We would like to speak to you today about the virtual nursing model, or VIC, as you call it. Could you tell us a little bit about the model and its purpose?

Kathy Sanford: In 2008, the board of CHI was looking at their plans and vision for 2020. CHI's nursing department made a presentation to them looking at the future and sharing that we were seeing that there was going to be a severe nursing shortage in 2020 and beyond. Knowing that a shortage was coming, we needed to start looking at other models right away. We could not continue to do nursing the way that we were doing it. So, in 2008, the CHI board approved and gave permission for CHI nursing to proceed with setting up a virtual model, which we did. We wrote an internal white paper describing what the VIC model would be. The document outlined what we would want to do in order to use technology to ensure that we

could mitigate the nursing shortage that was coming.

Sue Schuelke: To me, virtually integrated care means that that we utilize technology to place an expert nurse into every room, and it allows everyone to practice at the highest scope of their practice. What we did initially was wire a few rooms with virtual capabilities. As we evaluated that, we found out we had received the HRSA grant. We then moved to implement it at two different sites to fund 18 beds in one site and then to fully fund a second unit in another hospital. That technology allowed either a master's-level nurse or a nurse preparing to be at the master's level to oversee care in these rooms. Each nurse had specific duties that they were going to be responsible for. Then, we evaluated and looked at quality metrics, patient satisfaction, staff satisfaction, missed care, and financial metrics. For our quality indicators, we chose to use the National Database of Nursing Quality Indicators (NDNQI) database, and we had some individual quality metrics that were specific to our care at our institutions.

Sarah Mossburg: You mentioned the NDNQI quality indicators. Another thing I saw in your evaluation was "good catch" measures. Could you speak to those a little bit?

Sue Schuelke: We embrace CHI's SafetyFirst Initiative. It's similar to TeamSTEPPS, but there are a lot of communication tools in SafetyFirst that we use. One thing we did was make sure that we identified near-misses, or when somebody caught something before an error was made. Virtual nurses had the time to assess safety because they were off the unit. They could look at the big picture and look at things that had been missed, or were not completed, because the nurse and the floor was so busy. The virtual nurse could come back and say, "Hey, did you notice the hemoglobin was this," or "I've had the chart open, and I can look at things in real time" while maybe the nurse was taking somebody for a walk. So, they were able to find issues and to catch potential problems, such as labs, medication errors, or procedures that would have led to an error or to less than optimal care for the patient. We love those. We found that there were ways to communicate near-misses less likely to be seen as punitive. For example, 'the virtual nurse noticed this, and wants to help you, because you are really busy doing your job'.

Sarah Mossburg: I'm curious how the virtual nursing model differs from other telehealth models used in hospital settings.

Kathy Sanford: VIC is quite different from other virtual programs in that it's 24 hours a day. It's actually in the patient's acute care room, but it allows privacy. There is a doorbell that rings when the virtual nurse comes into the room, so that patients know that they're coming into the room. VIC takes some of the pressure off of the nurses on the floor with good catches and error prevention. The virtual nurses are able to make rounds with the physician, so the onsite nurse doesn't have to drop everything to do the rounds with the physician. The virtual nurses can answer quick questions, and they can make sure that if something emergent is happening, they can get somebody into that room very, very fast.

It is a complete communication model among everybody that's involved taking care of the patients, as well as with the patients and with the families. Communication is nurse to nurse, nurse to physicians, and nurse to family. It's not the typical communication direction where you have a clinician on one end and patients on the other.

We use the virtual nurse to serve as a liaison between the onsite team and the patient. Let's say that the physician comes in and talks to the patient, and the virtual nurse was there with that physician at the time. When the physician leaves, the family comes in and wants to know what the doctor said, but the patient really can't remember. They hit the bell, the virtual nurse camera comes on, and the virtual nurse can share with the family what was said.

We've done a variety of pilots besides VIC. We've had a virtual nurse serve as a preceptor to brand-new graduates. For safety, a new graduate would have "a nurse in your pocket." If you're on the night shift, you can call up your nurse preceptor and talk things through. We're using that technology right now for the CommonSpirit Health Residency Program. Eventually, all of our new graduates will have a residency program in which they have not only a preceptor with them on most days, but also for a whole year, they will be able to get to a virtual preceptor any time. That's one of the things that we use virtual nursing for that is a little bit different, and that's nurse to nurse.

We also have the virtual nurses helping with the admissions, discharges, and transfers separate from the VIC model, and that unburdens the nurses onsite for tasks that can get done in places where we haven't put the complete VIC model in. Also, we are using it to do remote patient care monitoring at a central command center now, which is different from VIC.

Sue Schuelke: I think of it as interprofessional integration. It's not episodic. The virtual nurses are part of the care team. They go to the morning grand rounds, they collaborate with the charge nurse and the physician, and they help with the care plan. They are there to help the patient and mentor staff. For example, we had a nurse who had never put down a nasogastric tube. The virtual nurse came on the screen. Instead of saying to the nurse, "I'm going to teach you how to do it," she said to the patient, "I'm going to talk to you and help you through this while the nurse does that." She said, "She's going to put some lubricant on now." The virtual nurse was coaching the onsite nurse how insert the tube, guiding, educating, and mentoring the nurse while at the same time providing patient education and reassurance.

Many times, like Kathy said, the family would come in in the morning, and they would call the virtual nurse and ask how their mom's night was. Ours is not a sitter program, but we did have instances where people were lonely at night, and we'd say, "Well, we'll be here. We'll come in. We're on the camera. You call me anytime you need me, and we can visit." It's that extra person there providing education and rounding with physicians. The other thing is when they do patient education, they can go over things on the big screen. They could actually do tactical education. They could pull up the chest x-ray for the physician on the big screen. We had a patient who was insisting on going home, and the physician asked the virtual nurse to pull up the x-ray to show the patient what their lung looks like. So, the patient could understand why the team couldn't send them home. The virtual nurses are integrated into the care. They have contact with the patient and the family, which is different than some telehealth models. They're integrated, and they're part of the team, the decision making, and the care planning.

Sarah Mossburg: It sounds like healthcare leaders should really be thinking about the VIC model as an approach to care, not as a healthcare technology. Sometimes when we think of telehealth or telemedicine, we tend to focus on the technology instead of the care delivery.

Kathy Sanford: Sarah, you couldn't have said it better. It's not about the technology. It's about a new model of care and the technology enables it. We need to remember that because a lot of people think it's all about the camera. No, it's about a new model of care. We don't have enough nurses or enough team members. And this is a way of using a variety of different people in order to keep the patients safe because you've got this extra nurse who is not being interrupted. If you've seen the research about nurses getting interrupted every five minutes, this person is not being interrupted on the floor.[1,2] They can concentrate on the people that they're watching and taking care of.

VIC also enables us to use clinical roles that some of the hospitals had stopped using, such as licensed practical nurses (LPNs) and nurse's aides who are specially trained to be part of the team that includes a virtual nurse. It's about a model, not about using technology.

Sue Schuelke: I want to touch on something that Kathy said about enabling more nurses to use their skills through VIC. So, for example, I had a colleague who was on the team and would sub in for the virtual nurses occasionally. But she couldn't work the floor anymore because it was too strenuous. Virtual nursing is an incredible way to use nurses who have a wealth of knowledge but maybe not the stamina to work 12-hour physical shifts anymore.

Do these older nurses know those physicians and their needs? Do they know those patients and their needs? And do they know how to communicate and help those people work together? Absolutely. And do they know the importance of quality indicators? Absolutely. What a great way to use these nurses who might otherwise retire or leave the physically demanding work of an acute care nurse, and to use their knowledge and their expertise to care for these patients.

Sarah Mossburg: As an approach to care that utilizes technology to change what staff can do, the VIC model is in some ways novel and unprecedented. What are some barriers or some key facilitators that you have found as you've gone through the process of developing and implementing the model?

Sue Schuelke: One of the key facilitators was Pat Patton, who was vice president of nursing operations at the time. He came and shared the vision. Anytime you're working with Kotter's Change Model, you've got to start with igniting the group, sharing that vision, and letting people know that you're supported from the top administration down. Having a chief nursing officer who is very supportive of the project is important. There were times when we would have to tell people they could not pull the virtual nurse out of the command center because that was very tempting. If somebody was short on a night shift, we would ask, "Where's an extra nurse? Oh, the virtual nurse. She's just sitting there, you know, we could really use her here." So, we needed administrative support to avoid doing that.

Most of the patients loved it. We had some patients that had a mental health history who felt like people were watching them and preferred not to have a virtual nurse. For those patients, we shut the cameras off, and any patient could request not to have the virtual nurses as part of the team.

In terms of barriers, never underestimate the late adapters. Change is difficult, especially when you're talking about changing staffing and how you do something that you've done the same way for years. Anecdotally, I would say, we found greater acceptance and appreciation of the model from the new hires. The LPNs loved it because they had an RN [registered nurse] right there; the new hires had a mentor right

there.

Another barrier was float staff. We would have people float into the unit who weren't familiar with the model. We had to think about how to educate somebody who has never worked with the virtual nurse. We had to train them on how to work with the virtual nurse in ten minutes.

Kathy Sanford: The only thing that I would add as a barrier is that the cameras cost money. In a limited-capital world, if people cannot see immediate financial returns, then it may be difficult to convince them of the benefit. Back when we started this, it was such a foreign concept. We got some resistance from some of our colleagues who just didn't see it as an important thing to do right then. But I will tell you that the COVID-19 pandemic turned almost everyone into a believer. And as terrible as that was, it has accelerated investment across the country. You will notice that we're not the only ones looking at this anymore. It has accelerated the belief of other people that this is something that we have to do.

Sarah Mossburg: It's really striking to me that this model has been in place for so long, even prior to the pandemic. It seems like if hospitals had already adopted this model, then they would have been better positioned to provide care during the pandemic. How did virtual nursing contribute to care during the pandemic?

Kathy Sanford: We had really slowed down in putting virtual nursing in because of capital constraints and the feeling among people that it wasn't an emergency right then. Many times in healthcare, we look at what the issue is right now, just like our example about a night shift supervisor whose issue is to get a nurse to take care of a patient, not thinking that we have to research the model. That's the same with those of us in executive practice. Sometimes we're trying to solve problems right now, and therefore it is less pressing to lay the groundwork for change.

Although we had not gone as quickly as we wanted to go, we had started so we could quickly put in some new models during the COVID pandemic. We didn't put the whole VIC model in everywhere, but what we did was convince people quickly that we needed to do admissions, discharges, and transfers in command centers to take the burden off of the nurses.

And now, post-COVID, it's very hard to find someone who's not a believer, and we're moving very rapidly. We're going to scale VIC across 142 hospitals in the next five years. We hope to go even faster than five years. But, as Sue said, change takes time. Even though people are all in favor of doing this, the nursing shortage itself slows us down because you cannot just have virtual nurses; you've got to be able to find the nurses to take care of patients at the same time, too.

Sue Schuelke: The interesting thing is at the one location in Lincoln, the physicians took the command center and would do rounds with patients because Medicare guidelines stated you had to have a physical assessment done daily. Some physicians used the VIC technology to do virtual visits with their patients. That was one way they just adapted the equipment and found another use for it. A lot of it was in the name of saving personal protective equipment (PPE), so the physician didn't have to gown and mask and go into the room if other physicians already had been in there. They found a different way to use that technology when the goal was to save PPE at the time when PPE was in a crisis situation.

Sarah Mossburg: You mentioned that you're scaling VIC up to 142 hospitals in the next five years. Where is it currently being used? Where will it next be implemented?

Kathy Sanford: Right now, we are in Kentucky and we're in the Pacific Northwest. We're heading into Texas next, and then on from there. It's too difficult to do it all at once. I caution people who want to do this: Every state has different laws. Every state has different scope of practice laws for health professionals. The actual model might be slightly different from state to state—not the technology part, but the model—for example, what people your onsite team can consist of, whether you have LPNs, and whether you have nurses' aides. In some states, you can have paramedics as long as you have a physician partner managing them in a dyad partnership. Another state we were in had an abundance of pharmacists. In that state, we were utilizing pharmacists in the model more than we had been using previously. So state by state, who makes up your care model on site might be different but you'll still need the virtual nurse to pull it all together.

I'd also be remiss if I didn't mention that one of our physicians, Dr. Joel Ward, invented the virtual care delivery platform technology that we use right now. It's an internal technology, consisting of a monitor on the wall, camera, and method of calling. We chose to invent our own, but if other organizations are looking for technology, there are many companies out there to choose from.

Sarah Mossburg: Could you tell us what the technology actually is that you use as part of the virtual nursing model, agnostic to whether it's your specific technology or not? What does it entail?

Kathy Sanford: What we use is called the virtual care delivery platform, or the VCDP, which Dr. Ward invented. However, we did work with other companies when we had the grant in in our earlier years. The technology is all pretty much the same, but ours has a flat screen monitor in the room on the wall, and the patient can hit a button and call the nurse when they choose to. There are cameras that can turn away so patients don't feel like they're being spied on. When they hit the button, the camera will turn, and the nurse will say, "Here I am. It's your nurse, Kathy." And if the nurse does come into the room unexpectedly, there's a doorbell first. We were very careful about patient privacy.

When the physician comes into the room, they can hit the button. When the nurse comes in the room, they can hit the button. The patient can hit the button to call up the virtual nurse to ask them questions, and to be able to talk, and be in partnership with that person. It's interactive. The patient and family can talk to the nurse, and the virtual nurse can talk to them, even though that nurse is not physically in room.

Sarah Mossburg: You mentioned earlier that the model was initially started in acute care. Are there specific types of hospital units where the virtual care nursing model tends to work better than others?

Kathy Sanford: We're starting with med-surg. We have not moved into the other specialty units yet. Sue was talking about how some people didn't like VIC quite as much earlier on. But right now, our results are if you compare 2008 with 2022/2023, people have become better at accepting technology. Our results now are almost unanimously positive. Patients very much like the model because we've respected their privacy, and yet they have that security of knowing there's someone they can get ahold of very quickly. We're having really good results on that.

I took a little break from nursing work for strategy for a couple of years many years ago. I was the strategy officer who was sent out to talk to all the groups, the Rotary, the Lions Club, et cetera. I would ask those groups, “If you could change one thing in healthcare, what would it be?” They said they want someone who would guide them through this horribly complex, difficult healthcare system.

Along those lines, part of our original goal was to start in acute care, but we do believe that the future will include a virtual guide for people. Someone whom a patient can call and say, “I’m having these symptoms, can you help me.” We would have providers to help them quickly or tell them what to do or where to go—make an appointment with their provider, go straight to the emergency room, or be cared for in their homes. We think that’s the future. We will provide the thing that people are telling us they need, which is someone who will know them, have their records, and help them. So that’s a future vision, but we believe that virtual nursing is a step toward that.

Sue Schuelke: One of our physicians on a surgical unit, who is a huge advocate of the virtual nurse, reflected that they wished the virtual nurse could see the patient pre-op to do the pre-op education. We had patients who called the operator at the hospital after they had been discharged and asked to speak to the virtual nurse. They had a question, and she was the person they identified with. These types of examples make you think how much a virtual nurse navigator could help patients navigate through the entire system. We have oncology nurse navigators, but we don’t have general care nurse navigators. I think you’re looking at more managed population health with better care coordination, and I think that’s maybe where we need to go.

Sarah Mossburg: By bringing the VIC model into the home setting, either as a virtual (?) home visit or through this coordination of care model you are talking about, there seems to be a lot of potential for innovations that could impact patient safety.

Kathy Sanford: Just imagine that it is your first presentation in a hospital, and you met this virtual nurse, and the virtual nurse met your family. This virtual nurse helped you in acute care, and before you went home, the virtual nurse said, “I would like to introduce you virtually to Sue, she’s going to be your home health nurse.” There could be these warm handoffs, handoffs from person to person. Imagine if, ten years later, the nurse who’s taking care of you in the hospital is actually the same nurse that goes to your home virtually and actually knows you. Those are all things that we’re looking at in this vision for the future—what virtual nursing could become and how it could meet needs that people have been telling us that they have.

Sue Schuelke: We’ve also been using immersive virtual reality for relaxation and for education for our students.[3] For some of our really deconditioned chronic obstructive pulmonary disease patients, we’re going to do pulmonary rehabilitation in a virtual headset in the home. Pending grant funding, we will be trialing that because sometimes patients are just so deconditioned, they can’t go anywhere every day for even an outpatient treatment. It’s like Kathy says, that whole continuum of care, and how can we make it seamless so people don’t fall through the cracks and get services that they need. Maybe the answer is, we go to them versus they come to us sometimes.

Kathy Sanford: There’s a lot of push right now in trying to make sure that we have equity of care. Imagine what we could do with equity of care if people had a virtual care coordinator whom they could call if they

didn't have transportation or for other barriers to care. We could advance equity. So many things could be tied together. Sometimes it's difficult to explain to people how much virtual nursing could change everything if we would just all start trying to work on something and look toward the future.

Sarah Mossburg: That is visionary, and I think this has impressive potential safety impact. You talk about that warm handoff. We know transitions of care are a critical safety point, and it sounds like the vision for this model will have a big impact on transitions of care as people move into and out of the hospital to home, to other care settings. I'm really excited to see this model progress as you move it forward. Thanks so much for talking with us today.

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