NARRATOR: One of the most exciting elements of nursing informatics is the potential for continuous, uninhibited growth and development. New technologies and tools are emerging every day that are changing the face of health care and vastly improving outcomes. This week's media segment features Katie Skelton, Doris Fischer, Carina Perez, Shannon Mori, Carmen Ferrell, and Lynn Tamanaha as they discuss current technologies and innovations that are improving the health care field.

KATIE SKELTON: I think one of the huge things that we really will be paying much more attention to is population health. And I think without technology we don't have a chance really in managing that better. Being able to remotely manage patients, be able to have patients be able to call in or have technology report in changes in condition, and be able to have nurses and physicians and therapists be able to take action. Not just on one or two or their assignment of five patients, but literally hundreds of patients out in the community. I think we'll revolutionize health care and how we deliver it out in the community.

DORIS FISCHER: Currently at St. Joseph's Hospital we have a nursing research team which goes and does, not only literature searches for evidence-based practices but also-- because we're a magnet hospital-- they take those suggestions from our bedside nurses when they notice something is-- have a question about something at the bedside. And they research those out into projects. That information that comes from those and the evidence behind it then gets placed at the bedside. But how do you disseminate that throughout the hospital? That's where the technology will come in.

The technology with an intranet. And on that intranet has a place for nursing specific information. What's new? What can you utilize at the bedside, and how can you utilize it? The nurses go to that particular intranet and use that to gather the information that is new and evidence-based within the hospital. What we've done with that is we've taken those nurses who have a specific interest in an area, let's say diabetes, and we've used those nurses as the content experts to be the ones to-- let's call it a webmaster on that particular site-- in order for that evidence-based information to be current and up to date. Because their interest
will drive them to know what's the latest and most important standards within that particular area.

You also, in that technology, you're looking at things like communication beyond the documentation. What about phones? How do we access our physicians? Now you're looking at not only communication on a medical record, but then now how do you communicate that out to the different members of the team and have them speaking the same language, so that everyone is on the same page. And once you're on the same page, the care for that patient now becomes evidence-based and perfect. Communication between physicians, communications from patients, and those things.

So what I'm working with is I'm working with not only our IT department. I'm also working with our chief nursing officer. And I'm working with the complete board on both the ministry side, and the health system side, in order to figure out what can I leverage that is going to give my nurses the best information flow and the best technology for their use on this ministry. And that means when a patient picks up the call light, where's it going to go. Does it go to the Secretary who says, can I help you, or can I make it go directly to the nurse? Because then you have that one to one nurse-patient. Your evidence is there. Your response time is better. And you know what's going on. So now you have satisfaction on the patient side that they're speaking directly with the nurse. Same with the physicians.

The younger physicians want messages, want to know information, like I said, out of a text message. So can I get that phone, that I can have a directory in, that can text message my physician and still maintain HIPAA standards, where no patient care information is out there and accessible, other than to the people that need it.

CARINA PEREZ: This is an exciting time where information sharing is a luxury. So we really try to optimize our documentation system. So within our documentation system, what we used to calculate as values, like fall risk scores, Braden risk scores, everything auto populates for you with a value and a direction on what to do if you get that value. So that's something that was built in and very helpful. You can also set auto reminders that, based on this, a reminder that says you should really do an intervention. So these are some of the values in it.
What's coming up in our system is eMAR-BMV. In eMAR-BMV, for example, when you give a pain medication, every single patient has to be reassessed within an x number of time. Now, nurses are very busy and sometimes you don't get to reassess, and that may be forgotten. At other facilities where eMAR-BMV was implemented, the reassessment automatically reminds you, so they get 100% compliance. We are anticipating those same statistics.

eMAR-BMV is Electronic Med Administration Record. BMV is Bedside Medication Verification. eMAR is basically an electronic version of your paper MAR. BMV is bar code scanning at the bedside. Bar code scanning adds another layer of safety to med administration. It allows you to recognize the patient, and recognize the drug, and that it has been ordered and profiled for your patient.

SHANNON MORI: The future is very exciting. I would say I would love to see nurses being able to talk to other nurses across the country on specific diseases or if they need help figuring out what to do for their patients they'll be able to. Once technology also advances, I believe the nurses will be able to spend more time with their patients and less time charting. There's also a big hope for patients themselves. For every one. Being able to have their health record in the palm of their hand. Being able to look at their smartphone and say, oh, these are my medications, this is when I need to follow up with my doctor. I mean we pay the bills on our smartphones, we should be able to make informed decisions on health care as easily.

CARMEN FERRELL: In each patient room there's a computer that the patient's documents on and there's a scanner for them to check both the arm band and the medication before delivering meds, because there's a patient safety factor. There's great studies that talked about that if we used a scanner the likelihood of nurses making mistakes in delivering medications is a lot less. So we use that technology for patients.

In every single room we also have-- especially in critical care-- monitors that monitor the patients automatically. Heart rate, blood pressure, respirations, that sort of thing. That information gets translated right into the computers for nurses and physicians to be able to see that automatically.
In critical care you have the EKG or the electronic heart rate going on. So that gets automatically transmitted as well. If the patient happens to be on a breathing machine, that information also gets translated electronically. And in the critical care setting, which is really my love, there's all kinds of other machines that automatically get transmitted electronically. Like your IV fluid, it's automatically calculated and sent over to the medical record.

So there's a lot of technology that's helping us in a way capture the care that we're delivering. And then it's up to the nurse and the physician to take a look at that and figure out is the treatment correct. Do we need to alter any kind of treatment? And we're not quite there yet, but when we get there in a few months, the physician will be able to access all that patient information from their home, vacation, wherever they're at, and be able to make a good diagnosis without ever coming to see the patient. Because the nurse is pulling all that information into the medical record for them. Because that's what the nurse does.

There's voice recognition dictation today for physicians. But I think that's moving into also the nursing realm, and any other kind of a profession that would like that realm. So if you have someone that's maybe older and not so adept at typing in a computer, they can actually dictate everything that they've seen and done for the patient. While walking, on the phone, whatever. So that's an exciting thing for nurses when they look at the amount of work that they have to do. Also there is the ability for the patient to pull up their medical record at home, or anywhere, and see what care that they got delivered. So that's coming up on the horizon.

NARRATOR: In the following segment Lynn Tamanaha explains the details of a new Electronic Bed Board and how it has increased the efficiency of bed management at St. Joseph's Hospital.

LYNN TAMANAH: Patients who want to come into our hospital-- Anyone who wants to stay overnight at the hospital, has to go through here. Basically, nowadays we use an Electronic Bed Board that we monitor all patient movement. What beds are available, patients transferring. As you can see on the bed board, pink is for girl. Blue is for boy. Yellow means that the bed is dirty and needs to be cleaned. White indicates the bed is clean and ready to be occupied.
In the old days, we used to do pink and blue cards, and we have a whole set up with each individual room. And in each room we put in a pink card and a blue card. When we go through the bed huddles we go through each unit. And we go through and see which beds are open, and which ones are occupied, which ones are blocked. We talk about surgical patients that still need to be placed. Patients who are direct admits from physicians offices that are going into the bed that we may not know about yet. We talk about discharges, patients that are going to be going home soon or later on today, and which beds will be opening up.

So when we go through the Bed Board we talk about each unit. What's going on, how many patients they can take in. As you can tell we have a very, very busy ED, so we have to anticipate. What's going to be going on tonight, so we can smooth out the patient flow from our ED and also from our PACU. We also get a number of phone calls from other facilities that patients want to come here. So we have to also know what beds are open. So we can either accept those patients, say yes, we have open beds for them or, I'm sorry we don't have anything available right now.

In the old days, ER would have to call and say, hey, is there a bed open. We'd have to call the floor and say, what rooms do you have open. They say, yes we have a room but the bed is dirty. So we have to call back ED. Say, yes we have a bed, but it's not clean yet. Then they would call us back. Is the room clean yet? Then we would call the floor. Yes it's clean. Then call ED back again.

With the Bed Board, it's all automatic. It's great. When a patient is discharged it sends out an automatic page to our housekeeping staff. They go and they clean the bed. They call into a special number that turns the bed clean. We see that immediately on the Bed Board, so we know the bed is ready. It's cut down on all the phone calls. It's amazing how less phone calls it takes now to get a patient admitted. So patients are admitted quicker. They can receive their care faster on the floor if they don't have to wait as long for clean bed. It's just so much smoother nowadays with the Electronic Bed Board.