NGN Talks: An Overview Video Transcript

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Hello, everyone. It is a pleasure to be here with you today. I want to give you an opportunity today to get behind the curtains, if you will, on an exciting project we're working on at the National Council State Boards of Nursing. We call it the Next Generation NCLEX, or NGN as we refer to it in a very short manner.

So how did we get here and what are we looking now? I think it's a sort of an important time in all of public safety for us to ask a fundamental question and that is, are we still doing the right things relative to public safety? Are we measuring the right things? And that is the exact question that Jan Hooper, the chair of our examination committee asked me in 2012.

It was a very important question because it caused me to go back to the staff and take a look at the very thing that we call NCLEX that we've been using for 25-plus years around the CAT exam, and ask, are we still doing the right things? And so, staff did a tremendous amount of work.

And the one thing that we found out very quickly was that in fact, we do have the premier CAT exam in the world. We have the premier nursing exam in the world, and there's probably not another exam anywhere that measures as precisely what we believe is public safety around nursing. But that still didn't answer the question, are we measuring the right thing? And so we started on a journey, if you will, a journey to gather evidence to answer that very question for our exam committee.

That journey included, first steps, were a literature review of finding out what exactly over the number of years and currently that nurses are actually doing? So we conducted a literature review, and the results were informing. They were interesting. The one thing that we certainly found out in the literature view was that education programs in nursing had already determined that the concepts of problem solving, critical thinking, clinical judgment were important to the entry level nurse, and were starting or had been already included in their plan of instructions, in their curriculum, in what they were teaching their students before they graduated.

Some other interesting findings, however, were that 50% of all novice nurses had some sort of error that was related to either a minor or major discipline issue during their first year of practice. More importantly, when we looked at those 50% of errors, 65% of those were related to a concept of

judgment, meaning that their error was related to some poor judgment related to either a task or an environment.

And the other interesting finding was that only about 20% of employers believed that they were receiving novice nurses who were effectively prepared to make clinical judgments at the right level on the first day of practice.

Those findings started to focus us around this concept of clinical judgment, and asking ourselves, "In fact, how important is clinical judgment to the practice of the novice nurse?" With that in mind, we decided to conduct a practice analysis, slightly different than the way we've conducted those practice analysis over the years, and so we call this a strategic practice analysis.

The way that practice analysis was developed and run was that we hired a group of IO specialists who were trained in observation in organization and industry.

And we sent them out to various places in the United States to actually watch what entry level nurses were doing on a daily basis. So we sent them out to long-term care facilities, to major medical centers, to doctors' offices, and each of those for a three-day period would watch what entry level nurses were doing during their shifts. At the end of that, what we received were a plethora of pages of data, up to about 2,000 pages of data, which was surprising.

But we found some interesting things. And one of the key things that we found which we graph here is this link between just client admissions, for instance, and how much clinical judgment or problem-solving play into that very role. So if you look at this slide here, you'll see that on one side, we have skills.

On the other side, we have task. And the black lines are the connections between those skills, characteristics, and tasks. The larger or the more dark the black line, the more strong net connection. And then if you look at nodes, so look at the skill 32 or skill 33, you will notice that a lot of these lines converge on those two skills.

Those two skills are appropriately named clinical thinking or critical judgment. And you can see over on the right, skill 34, problem solving, the same phenomenon occurs. Why is that important? Because in just one skill called client admission, the majority of tasks that are completed suggest that the entry-level nurse is required to have some element of these critical thinking, clinical judgments problem-solving.

So what it suggested to us is that this, in fact, is very important. Now, we don't show you all of these connections, but we've done this for every single task such as client admission, communication, or whatever, and you can see in any of these slides that are…excuse me, any of these graphs that, in fact, this connection holds true almost across the entire activity set of entry level nurses.

And so we were ready to tell Jan Hooper and the exam committee that, "In fact, we may not be measuring the right thing. We still don't know.And why we don't know that is we need to look at our items. The current NCLEX items need to be mapped against something to tell us, are we in fact measuring clinical judgment?"

And so we used a stoplight graph, what we call a stop light matrix. And on this slide, you'll see that. So what we did was we took the domains of clinical judgment that we got out of our literature research that I mentioned earlier, and we mapped them against the current item types.

So in this slide, you'll see the item types are on the vertical axis and the domains of clinical judgment such as recognizing cues, generating hypotheses, so on and so forth, are on the vertical axis. Anywhere there's a yellow box says that we're probably able to measure that domain at some level, but not at the optimum level.

If it's green, we're able to measure it at an optimal level. And if it's red, in fact, we're not able to do that at all with our current item types. As you can see on this chart, nearly, almost half of this chart is red, suggesting that the answer to Jan's question was we are measuring the right thing, but we're not measuring it well.

We could measure it better. And so that led us to moving from an investigatory phase of, are we measuring the right thing, to how can we measure clinical judgment, and how can we do that well inside the NCLEX exam? Thus, the NGN research began.

And so in that research, one of the first things that we have to do in any measurement is to develop a measurement model. It has to be some sort of clear plan on how you're going to measure this. And so we came up with an operational definition of the clinical judgment for nursing.

We clearly described it as an iterative process that relies on the interaction of a nurse with a client, a client need, and an expected outcome. And that iterative process then resulted in this slide that I'm showing you right now, which is called the clinical judgment model.

This is an interesting model for the measurement world, in that, generally, measurement models are linear. But you'll see this one is layered. And it's layered for a very important reason. Because as we thought about the clinical judgment and the ability to measure it, one of the things that we needed to think about were the various stakeholder groups that would need information from this.

So, for instance, the regulator needs information to make a decision on public safety relative to issue a license to practice or not. And that really is Layer 1. What the regulator really needs to know, is there valid, reliable measurement that says an entry level nurse can make the appropriate clinical judgment in a safe and effective way?

Well, that works very well for the regulator, but that doesn't really give the education program a lot of information. So at a more granular level, if you look at Layer 3, then Layer 3 actually are the levels of education that are supplied by the educator.

So if you look at that, you have recognize cues, analyze cues, prioritize hypotheses, generate solutions, take actions, and evaluate outcomes. And so the goal of all of our research is to develop a measurement that in fact will measure Layer 3 by absolute…Just by design, if you measure Layer 3, you can also make reliable comments about Layer 2 and Layer 1.

So the various levels and use of stakeholders can change in this model. So the goal of our research as we started it was to look at Layer 3 and determine if we could measure that. The other interesting thing about this model is what I call Layer 4. Layer 4 is not a measurement level, but it is an environmental level, meaning that context matters and how we think about clinical judgment.

So the nurses'pre-existing knowledge, the nurses' experiential knowledge, the school knowledge, all play a role in how they react. A situation where one nurse has a complex task and an environment that is chaotic, versus one who has a complex task but does not have an environment that's chaotic are two different situations, even though the pathophysiology of the client may, in fact, be the same.

So how do you build this, what I call, dirt, this context that we actually work in? So the word we're starting to use in this is fidelity. We wanted this model to reflect fidelity, meaning that the items that develop, that we develop need to look like the practice that the nurses actually work in, as opposed to the sort of clean, sterile, multiple choice item, what are some other ways that we can measure this?

Because if you remember the previous chart, the current multiple-choice items and graphic items that we're using in, at least close to 50% didn't actually get the level of measuring this. So we had to take that next step, which was to determine what new item types might work in order for us to effectively measure the clinical judgment model.

And so what we did was a new and exciting adventure. We brought in educational experts, not just nurse educators, but educational experts from around the world who were known for their expertise and their skill in looking at what it would take to measure 21st century skills in a population.

So we brought this group in, and we spent a whole day in which they designed items or questions or prototypes of questions that might, in fact, be reasonable ways to measure our clinical judgment model.

They filled up an entire wall with sticky notes and different things that depicted how they thought they should be…how new items should be written and how they should be constructed. And so we sent them home. Well, actually, we didn't send them home. We sent them back to the hotel because we were going to need them the next day.

But unbeknownst to them, behind them working the night shift, you will, was a group of IT specialists and technology developers who were going to take the items that were proposed from those sticky notes on the wall and actually develop some prototypes that they could see the next day.

And so those people worked all night. The next day we brought that group back, and we were able to show them their item types in a technology environment instead of on paper. This was really exciting because, ultimately, we were able to then sort of weed down or to pare down, if you will, those items into about eight or nine different types of items that we thought would actually be able to change the grid from red to green.

And some of those items we called them…and I'll show you some of these a little bit later, but some of these items, for instance, were called enhanced hot spots. So hot spots, we have those today. But they're basically some simple click on the T wave or something of that nature.

Here, we wanted to enhance those and use them in a better way. Extended multiple response. So a multiple response item now is merely a multiple choice item with more than one answer you can select. But were there better ways we could use those items? We also looked at extending our drag and drop items, cloze items. Cloze items are an interesting one.

I'll show you one of those later on. Could we actually use items where they were a type response, just freeform writing, and could we score it? What about looking at the gaming world? Was there a way to look at the way the gaming world has used its technology to actually get us to some area where we can measure clinical judgment?

I mean, you think about it, you've got these gaming world right now, wonderful games, wonderful graphics, and they're making choices on almost every spring? Do I go right? Do I go left? Do I climb the stairs? Do I go into the basement? These are all decisions that are made, and that each of those points, if we could build a measurement, perhaps that is the way to go.

And so we even looked at what we call rich media item types or dynamic exhibits. And when we did that, we said, "Okay, let's now map these items in the stop light matrix," like you saw earlier, "Let's map them against Layer 3 of the clinical judgment model and see what happens."

And so this next slide is pretty telling. And it was pretty exciting, because you can see now that in this next slide, when you look at the new item types, which again are on the left side, or the vertical, and the Layer 3 which is on the horizontal, you can see that the majority, 75%, 80% of the grid is now green, which suggests tremendous success.

Meaning that if we could actually develop these items and devise a way, investigate a way to measure them reliably and invalidly, that in fact we could improve the NCLEXability to measure clinical judgment, and perhaps change that 50% error and discipline rate on novice nurses, thus improving public protection.

And so what I want to do now in the closing parts of this is to actually show you some prototypes. Now, I want to make it clear, in the prototypes I'm going to show you, they are just that. The idea is for you to look and try to understand what the item might look like.

The content has not been through some rigorous vetting. So this is not about looking at whether the right nursing content is here. It's probably close, but there could be arguments about it. That isn't really the point here. The point is to look at what new items might look like. These are items that you've never seen on any exam, at least I've never seen on any exam before.

They're brand new. But I want to start showing you. We had ultimately divided this up into wave one and wave two. Wave two has not began, so I'm going to show you the wave one items and some ideas of what wave two might look like. So the first item I want to show you is called an extended multiple response.

So like a multiple response on the NCLEX, if you look at the NCLEX now, a multiple response generally has five or six possible responses of which you must pick anywhere from...the rule is you can

pick none, one, or all. Here, though, if you look at this particular item, on the left-hand side of the screen is the scenario.

So it's no longer this sort of just cut and dry three-line multiple choice, but here's a scenario which looks a lot like things you would find in a client record. And from that, you read the case study or the client record, and then you're asked a question. And that question, for instance on this one is, if 24 hours later you have these 6 findings, so we gave you what it was 24 hours ago on the left-hand screen, now we're telling you that 24 hours later, here are some new findings.

You need to answer in each one of these whether that finding is unrelated to a diagnosis, a sign of improvement, or a sign of a worsening condition. Now, if you can count those dots or do a little math, you'll find that there are 18 possible responses here but you can only pick one response per line.

So of the 18 possible responses, there are 6 right answers. How do we score that? Well, the research is still going on on that, but you can see that this is a much more complex item than simply doing a multiple choice and it provides us a lot of information about what the nurse really should be making judgments about relative to the information they get from an assessment or a evolving patient scenario.

One of the other items is what we call a cloze items. So we find it interesting. We call it a cloze items because that's what the measurement world calls it. But this isn't really a new item type in some regards. If you remember, some of you might remember Highlight magazine, if you're at least as old as me you would.

In the Highlight magazine, there used to be this storyline of two boys named Goofus and Gallant, and there was always this make your own adventure story in there. So as you'd go along a sentence, there would be sort of a choose to be Goofus or Gallant, and if you chose to be one, you'd go further in the story. And then there'd be another place where you can choose what Goofus or Gallant would do.

Those were early cloze items. With the advent of technology, we can now do those sort of things inside an item. So if you take a look at this particular item, for instance, you've got the same sort of scenario on the left-hand side of the screen, you're going to have the patient or the client chart again, or elements of the client chart.

Some of that information is important, some isn't. Remember key recognition, you've got to determine that. And secondly, you're going to have this list of scheduled medications. Now, on the right side of the screen, in a cloze item fashion, you see this. You need to decide which three medications that are listed you would ask for clarification, if you were the nurse, you'd ask for clarification before administering the exams.

So you can see, sort of the complete the sentence. The nurse should not administer... then you will click a drop down, there will be the list of the six drugs or medications. And you'll have to pick one. That seems like pretty easy. However, it is the next question that gives us the most information about your judgment, and that is, because.

So the nurse should administer this medication because, and then there's another drop down list. And you have to tell the reason why you would withhold administration of a particular medication. You got three of those. So you can see that there's a combination of a lot of answers.

But this is real life. This is what nurses do. And this is a better way for us to get at it instead of just dropping a multiple choice item in. One of the other really interesting changes that we've attempted to do is called the drag and drop item. In a typical drag and drop item, we use them really to just put things in order. So if you have a skill, you might say, the skill is steps one through five, put them in the right order.

That's sort of just an exercise in moving things from the right side of the screen to the left side of the screen, and putting them in the right order. So how about we enhance that? So you can look in this side image, again, from a prototype perspective, here's an interesting one. So on the left side of the screen, you have eight, what we call tokens, or basically eight clients.

And each of those clients in the token has a condition that you can read right there. On the right side of the screen, you're given five rooms with two beds apiece. Your job, given your understanding of allocation of resources, infection control, gender, a variety of issues, is to disperse those clients into the appropriate rooms so that you are not compromising patient safety or miss-allocating resources, again, something that nurses have to do every day.

And so this is a different way to get that. But you can imagine the number of combinations. And so great deal of research still needs to continue on how do we score this item? Another really interesting item type is this next slide. We call this the hot spot. Now remember, generally, hot spots are you just click somewhere on the screen inside a picture or something to identify a right or wrong answer.

We've taken it a step further here. So if you look at this item, you look on the, again, the left side of the screen you have two things, and I think this is sort of interesting, in that you have two columns. One is your client information again. So basically, your client chart, what information would I find if I opened up the chart and read it?

Right next to that's another column, and basically it's your drug reference. So this isn't about memorizing a drug and its actions. We're going to give you that information. You know why? Because in nursing anymore, almost every nurse has a phone and they pull out a drug reference. They don't memorize this anyway. And so, we'll give it to you, but what we want to know is, given that you have both sets of information, can you make decisions based on a client condition and a drug reference on whether to give or withhold a medication?

And so if you look to the split screen on the right side, you will see which client and drug information supports your decision to withhold the medication. So you're going to withhold the medication because of information in the client column and in then the drug reference column. Your job is to highlight those sentences, words, or phrases that led you to make that decision.

That is entirely different from memorizing a drug and its interactions. Now, you are telling us in a sort of picture format, why you made a particular decision. This is a really exciting item, and I think gets to the heart of some of the decision-making processes and why you make it, gives us a lot of information.

There's also the possibility of what we call combining item types. And so on this next slide, we're showing you an item that is what we call a dynamic exhibit and a constructed response. So if you look at this item, again on the split screen, you have on the left side, this patient condition, time assessment and intervention.

And if you look right above, it tells you that this information came in at 11:00. A half hour later, if you push the next radio button, you will get updated information, what happened in that half hour. Now, you can see that goes all the way up to 13:30 or 1:30. And you can watch the client's condition change and what actions the nurse took.

So if you go to the split screen on the right side, you will see that at which point in time did this nurse intervene in correctly? So it's a safety issue. Nurses need to know when things are going wrong. And so the idea is you have to tell me whether that happened at 11:00, 11:30, 12:00.

You can see that. And then more importantly, and these are great questions, what was the incorrect intervention? And so you actually just type that in. Now, can we score that? I don't know yet. But it is a prototype we're trying to look at. And more importantly, after you've said what they did wrong, you have to then go down to the next question, which is, what should they have done?

So you can see in this thinking process, you have to identify the problem, you have to identify what was done wrong, and be able to think through what should have been done. This is true critical thinking and clinical judgment almost in any profession, but certainly from a public safety prospect for us in nursing. And so I'll just give you a peek at the wave two items, what we think we can do with the wave two items.

And so on this next slide, you're going to see something that we call rich media. Now, admittedly, this is not high tech. This was hand drawn. So I want you to know these are just ideas, we would obviously move to more 3D and sort of things. But I want to show you this slide and what we're able to do. So you can see here is the client room, and up above that, the nurse enters the room.

And this client is scheduled for hip replacement in two hours. The idea is the nurse should be able to look at this room and identify by clicking on those things in this room that are inappropriate for a client that is going for surgery in two hours. Now, that's just a stationary, but we could put movement in this.

We could put audio in this. We could get facial expressions in this. So you can imagine much like the gaming world where this might go and what power it might have in terms of measuring fidelity in clinical judgment. And with that, these are sort of where we're heading in our research. I will tell you that it is exciting. We're really excited to be looking at what next generation NCLEX looks like, and we're excited with this project here in terms of trying to bring you more information in a timely manner as we move through this project.

Thank you.