2018 NCSBN Scientific Symposium - Practice: Night Shift Errors: Examining the Root Cause of Nurse Practice Errors During the Most Dangerous Time for Patients Video Transcript
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Event
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- [Elizabeth] Preventing nursing errors and ensuring safe nursing practice require a thorough understanding of the root causes of errors. As one of the initiatives for promoting patient safety, NCSBN developed the first and the only national nursing adverse events database that links nursing practice and the discipline.

Data collection started in 2008. Today we would like to share with you some recent findings. In this presentation, we'll address our three research questions: when did the error occur, and what are the patient outcomes? What are the possible risk factors? This is a distribution of a participating boards.

Since 2008, 26 boards submitted about 5,000 cases to the database. So here we would like to take the opportunity to thank all the boards that generously shared their data with us. This is a retrospective case review study in which nurses were reported to the boards of nursing for committed errors.

Cases meeting the following criteria were used for the analysis. We have one nurse, one identifiable patient, and there is a practice error. Cases lacking information on when the incident occurred were excluded from the analysis. Also excluded were the cases that involved intentional misconduct or criminal conviction.

These cases could have different error trends and different contributing factors. In this study, work shift is defined based on when the incident occurred. So night shift is defined when the incident occurred between 11:00 p.m. to 6:59 a.m.

And then finally, there's scheduling issues. They are present all times of day, obviously, but they're still there at night. And it still interacts with, you know, the fatigue and with the facility characteristics and all of this. A night shift could be a long shift, it could be 12 hours or longer. It could be the second of a consecutive shift. It could be a quick return which is two shifts separated by less than 11 hours.

It could be overtime. All of these, you know, shifts and errors have been pretty heavily studied. And all of these types of shifts, long, over time, all of that, all increase propensity to commit an error, so. So we know a lot about how the night shift is different from the day shift. We kind of just went over a lot of differences, how they are different.

But there are also a lot of unanswered questions. For example, what is a regular night shift like for a unit, and how would a night with a patient safety event or with a nurse practice error or a near-miss, how was that night different? Maybe your staffing ratio is lower in this one unit versus this different one okay, that's great, but then what is normal for you guys?

So the three key times that we're looking to gather data is first at study initiation and that is to gather the general data about the facility, do you have a fatigue management plan for example? Which could involve nurses taking naps which I know has a lot of HR implications to it. What is your staffing procedure for the night shift? What is kind of your aimed staff to patient ratio or RN to LPN ratio, stuff like that.

And then we're going to gather data nightly. And we're going to gather, you know, information that is known to contribute to patient safety events like fatigue level of the nurses, like acuity levels of the patients. Did anything unusual happen tonight? Stuff like that.

And then when an error occurs, it will trigger another set of data collection that will involve an interview with the charge nurse and with the nurse...an additional nurse or nurses involved in the error. And we'll gather some more in-depth information but then also a narrative account of the error. And after we're done, we'll be able to look with a longitudinal lens. Here was usual for them, this was that night, how was that night different from a regular night?

But then additionally, we're going to have all these narrative accounts of errors. And what we can do, like I was saying in the mold of aviation safety, is to use machine learning and to read through these and to automatically categorize them by their contributing factors with the ultimate aim of putting that kind of tool in the hands of facilities so that if they have their own, and lots of facilities do, they have their own method to say, "Here's a near-miss," the nurse goes over computer and enters in some information that they could then take that narrative account that will give them the contributing factors, and then they can more quickly address the causes that led up to it.

So I'm closing with a quote from Lucian Leape. He's an MD, but he's big in patient safety and you can read...I don't need to read it but just kind of the essence is trying to say it's the system that sets nurses up to make errors. And I think it's going to be important to keep in mind when we try to get the buy-in of nurses to tell us something that might be traumatic, that's really personal that, you know, threatens their, you know, reputation as a nurse.

They might feel very bad about what had just happened but to allow them to be honest and to give us information about what happened will involve us communicating to them. We're trying to set the system up to be safer. Because you were there at that moment but there were a lot of things that happened in the background that let this happen.

So, if you're interested in hearing more about it, you can always email me. If you know a facility that might be interested in participating, would love to gather that kind of information. We're getting the panel together beginning next month, and we're hoping to get it to the board soon after that. So, thank you guys. -

[Woman 1] Do you have time for questions for Elizabeth or Emilie?

- Oh yeah, I'm sorry. - [Woman 2] Could you go back to that infusion pump slide?

- Yeah.

- Right. And the 12-hour shift, it looked like you made more errors in the evening than you did in the night, 47% made evening shift errors [inaudible] 12 hours and only 44% [inaudible] 12 hours made errors on the night shift.

- Exactly. Your interpretations are right. So these are the data we found. So, in fact, we have to say each facility, when we conducted this studies, how to define the work hours work shift it's difficult about night shift. But these are the issues.

I think I do not answer why it looks like an evening shift has more trouble especially when work under 12 hours, so they get more trouble. It's possible do you think because it's a transition time, people start to work from these 12 hours in the hospital. So evening time is a bit when the day nurse left.

Is there anyone could know?

- If you remember, on your night shift, your 8-hour night shift was even higher than your 12-hour night shift, 47% versus 44.

- Yes. Based on our data. That's the night shift. But here, in fact, when we started the study, we even think about, "Oh, shall we just close together to compare the day shift and the night shift?" because sometimes it's very hard to say when the incident occurred during certain time, yeah. But this side the purpose we want to point out is when you get to the 12 hours either evening or night shift, you got more errors.

But how to distinguish why the evening shift get longer hours. Hi, Michelle. - [Michelle] [crosstalk] a question. Just like to clarify. I think...just one second...it was 250,000 people die in a year?

- Yeah.

- So, 250,000 a year, from the United States?

- That's 700 a day.

- Where did that come from?

- So I want to know, is that [inaudible]?

- I think that their estimation...I think that it's hard to say because I think that their estimation of how they determined whether somebody did or didn't...I think, like, in the beginning years they just said if you were coded with a new, like, ICD code after you came to the hospital and then you died of that, then that was it.

But now they've changed the definition so whether it's going up or down I'm not sure but I think it's hard to tell.

- Yeah. I thought the numbers were reportedly more than that.

- Yeah. So yeah, Johns Hopkins Medicine put the 250,000 out there and in their kind of press release for it, they even said, "We know of higher estimates, some that go up to, I think, 400."

- And then I'd also like to know what's United States compared to the other parts of the world.

- Yeah, that I don't know. See, what I think makes it really hard is that they're trying to determine this by looking at, like, billing. And I think that that probably in at least, you know, single-payer countries, it's probably easier to estimate. I'm not really sure of the comparison though. - [inaudible]

- Right, yeah. Absolutely.

- One more. Rosie. - [Rosie] I'm just curious. In your models that you're going to develop, there's a lot to be learned from your study where you were looking at errors. And one of the things that came forward was

[inaudible] whether that's recognition or intervention. I'm just wondering in your study, did you find [inaudible] patient safety [inaudible] event?

So we know that the themes are [inaudible] medications, times of transfer, communication. When you're talking about more of the environment and the contextual issues, are you going to look at it relative to those themes, or are you looking at errors in general?

Because I just wonder if there's more to be learned contextually if we know that these are the top five errors that occur and then you look at them at night, what are the implications or what do you learn about nursing [inaudible] to that?

- That's a good question. I haven't really thought about kind of having a different sort of way to look at...if I'm understanding your question right, like, a different way to for example, this is a medication error versus this one was a not intervening error. And then kind of putting them in those buckets and then looking within those buckets.

I hadn't really thought about that yet. I mean, we definitely...with what we've got playing, we would definitely know what happened, you know, who it happened to, what time it happened, stuff like that. So we'd always have the ability to do that later. But at this time, I hadn't really considered it. I'll keep it in mind. - [inaudible]

the data that's available through the ministry of medicine or IHI or [inaudible] medication and all of those are clustered. So it would be so interesting to look at your model and how does it really... what we already know

[inaudible] system means that we're not really making a difference there.

- Right, right. No, that'll be important especially as we start to kind of hammer things out in our protocol, in our data collection to make sure that it lines up with stuff like that. Because I had already heard from fatigue people a whole spiel on what is the night shift? Because if you want us to be able to