2021 NCSBN Scientific Symposium - Challenges to Prelicensure RN Programs During the COVID-19 Pandemic Video Transcript
©2021 National Council of State Boards of Nursing, Inc.

Event
2021 NCSBN Scientific Symposium

More info: ncsbn.org/15185.htm

Presenter
Nicole K. Ozturk, PhD, MA, Research Scientist I, NCSBN

- [Moderator] Nicole Ozturk is a research scientist at NCSBN. Dr. Ozturk received her PhD in education psychology in 2018 focusing on Bayesian applications to psychometric data. In addition, she has five years experience drawing upon quantitative analytical techniques to deliver actionable data products in an education setting.

Dr. Ozturk's previous projects include developing a Bayesian augmented testing algorithm, evaluating student competencies, and learning outcomes in healthcare curricula.

- [Dr. Ozturk] Good afternoon. I'm Nicole Ozturk and my talk is titled "Challenges to Prelicensure RN & LPN Programs During the COVID-19 Pandemic." I will begin by outlining my talk today.

We'll begin with a brief background as I'm certain we're all very familiar with the details of the COVID-19 pandemic. Following this, I will discuss the research question this project seeks to address along with the research design and methods. Next, I will review my analysis plan, study demographic information, and results. Lastly, I will summarize key takeaways.

The first case of COVID-19 identified on January 20, 2020 has snowballed into 24 million cases and 400,000 deaths in the U.S. by the following year. The COVID pandemic has exasperated an already dire need for competent nurses to meet ballooning healthcare demands.

The pandemic has also significantly impacted the manner in which nursing students gain the necessary knowledge, skills, and abilities to ensure competent and safe practice. During the Fall 2020 term, many institutions made the shift from traditional in-person lectures and clinicals to online and simulated learning environments. State boards of nursing also took a number of steps to address the needs of institutions through relaxed clinical and simulation standards.

From Fall 2019 to fall 2020, to what extent have prelicensure RN and LPN/VM programs shifted their didactic and clinical curricula to online and simulated platforms in order to ensure nursing students safely continue to gain the knowledge, skills, and abilities to provide safe and competent care?

In terms of research design, we developed a web-based survey to identify changes made to the clinical and didactic curricula between Fall 2019, essentially our control year, and Fall 2020, our experimental year. We submitted our survey to deans and directors of RN and LPN prelicensure programs in the U.S. between July and August 2020.

The RN study was completed in July, while our LPN/VN study was completed in August, hence why you'll notice there is an added dimension to our LPN/VN survey. What originally prompted our primary research question was as a result of COVID-19 pandemic, states allowed some flexibility on clinical hours completed in simulation and a shift towards online instructional formats.

We administered both surveys via the Qualtrics survey platform. Both surveys were relatively short with three domains addressing baseline institutional information in addition to clinical and didactic education changes. Respondents were asked to estimate the percentage of clinical courses offered in simulation in Fall 2019 and anticipated in Fall 2020, the percentage of lecture-based courses offered online in Fall 2019 and anticipated in Fall 2020.

The LPN/VN-prelicensure survey was designed with the same three domains, but also included additional items addressing difficulty in identifying clinical sites and high fidelity virtual simulation. Respondents had five weeks to complete the surveys with reminders one week after the initial submission.

Our final sample consisted of 496 RN prelicensure programs and 256 LPN/VN programs. To better understand the changes from 2019 to 2020, non-parametric statistical tests were used to evaluate the change in education pre-COVID and during the COVID-19 pandemic.

All statistical analyses were conducted via Python and visualizations were created in Tableau. As I mentioned in the previous slide, 496 RN programs responded to our web survey, resulting in a 24% response rate. This is a map of where our respondents are located.

Similarly, 256 LPN/VN program heads responded to our survey resulting in a 27% response rate. In our survey of RN programs, we asked respondents to estimate the percentage of clinical courses completed in simulation during the Fall 2019 term and the anticipated percentage of clinical courses to be completed in simulation during the Fall 2020 term.

The results were pretty evident. In Fall 2019, the median percentage of clinical courses completed in simulation was 15% with an interquartile range or IQR of between 10% to 25%, meaning 50% of values fell into this range. In Fall 2020, the same programs anticipated offering a median value of 30% of their clinical courses through simulation with an IQR of 20% to 50%.

The difference between the two medians was bound to be about 15%. The 2019 proportion of clinicals completed in simulation was found to be significantly different relative to the anticipated offering of

2020. Using a Wilcoxon signed-rank test, also known as the non-parametric paired t-test, to evaluate the results, the T value was found to be 6,558 with a P value under 0.01.

Next, in our RN survey, we asked respondents to estimate the percentage of lecture-based or didactic courses completed in an online environment during the Fall 2019 term and the anticipated percentage of lecture-based course is to be completed online in the Fall 2020 term.

The results were even more stark. In Fall 2019, the median percentage of lecture-based courses delivered online was about 2% with an interquartile range and IQR of between 0 and 10, meaning 50% of the values were in this range. In Fall 2020, the same programs anticipated offering a median value of 60% of their lecture-based courses online with an IQR of 30% to 100%.

A 58% difference in median value suggests quite a change occurred between the two terms. Again, it's unsurprising that the 2019 proportion of course is delivered online was found to be significantly different relative to the anticipated offering of 2020, via Wilcoxon signed-rank test, with a T value of 1,750 and a P value under 0.01.

In our survey of LPN/VN programs, we asked respondents to estimate the percentage of clinical courses completed in simulation during the Fall 2019 term and the anticipated percentage of clinical courses to be completed in simulation during the Fall 2020 term.

The results were similar to those of the RN respondents. In Fall 2019, the median percentage of clinical courses completed in simulation was 10% with an interquartile range or IQR of between 5 to 25, meaning 50% of the values were in this range. In Fall 2020, the same programs anticipated offering a median value of 35% of their clinical courses through simulation with an IQR of 17% to 50%.

Again the differences among median values was roughly 25%, quite a change. As you can imagine, the results were statistically significant via the Wilcoxon signed-rank test with a T value of 1,348 and a P value under 0.01. We asked LPN/VN respondents to estimate the percentage of lecture-based or didactic courses completed in an online environment during the Fall 2019 term and the anticipated percentage of lecture-based coursest to be completed online in the Fall 2020 term.

The results were even more stark. In Fall 2019, the median percentage of lecture-based courses delivered online was about 1% with an interquartile range or IQR of between 0% and 14%, meaning 50% of values were in this range. In Fall 2020, the same programs anticipated offering a median value of 50% of their lecture-based courses online with an IQR of 11% to 94%.

Similar to the RN didactic courses, we see a difference between medians at about 59%. As you can imagine, the results were statistically significant via Wilcoxon signed-rank test with a T value of 2,369 and a P value under 0.01. Moving forward, 80% of LPN/VN respondents indicated they planned to offer virtual simulation instruction during the Fall 2020 term.

Among this group, we observed the median percentage of virtual simulation offered in Fall 2019 was 4% which then jumped to 30% in 2020. The results of which were evaluated using a Wilcoxon signed-rank test and found to be significant with a T value of 1,205 and a P value under 0.01.

We asked respondents what kinds of virtual simulation they had planned to offer. As noted, 87% planned to utilize online software packages with narratives and decision making trees. The next most popular option was watching videos. Lastly, our third most popular selection was somewhat akin to telehealth with students connecting remotely to perform simulated clinicals.

Specific to our LPN/VN respondents, we asked how difficult has it been to secure clinical placements for the Fall 2020 term relative to the Fall 2019 term. The majority of respondents, at 95%, indicated it was either somewhat more difficult or very difficult to obtain clinical placements relative to the Fall 2019 term.

For the respondents who indicated finding clinical placements was very difficult or more difficult relative to Fall 2019, we asked what possible solutions they were exploring. The vast majority, at 75%, indicated they planned to complete more clinicals and simulation which seem to reflect what we were seeing in the data earlier.

In summary, in response to the COVID-19 pandemic, RN and LPN/VN programs have radically shifted their lecture-based or didactic curricula from a traditional in-person lecture to online learning environments. To a more moderate degree, both RN and LPN/VN prelicensure programs plan to offer more clinicals through simulation.

The majority of LPN/VN programs have found identifying clinical placements more difficult than in previous years. This study is part of a larger study seeking to determine the effects of this shift in curricular delivery models. We hope to learn more about its effects on education and employment outcomes. Hi.

This is Nicole Ozturk and thank you for listening to my presentation.

If you have any questions, please feel free to pop them in the chat box. This was part of a larger COVID-19 study and it's still in progress with about 60 ADN and BSN prelicensure programs. The larger study commenced in Fall 2020 and it is continuing at present. One of the most interesting elements of our study was the ability of our nursing leaders to make changes very quickly to address issues as they popped up.

In our study, we grouped programs by the extent to which their programs had shifted to online education and simulated clinical settings, and continue to survey students and faculty each term to examine the outcomes as they continue on.

Once students graduate, we're also planning to survey the workforce outcomes to examine how COVID has impacted their practice as nurses. So we're hoping to report more detailed findings at the close of the study around Fall 2022. In addition, we are in the early stages of examining the specific contribution of virtual simulation and clinical education.

I'm not seeing any questions at this time. So I'd like to thank you for joining. Oh, sorry. Okay, thank you so much. Yes, we... Sue had asked if we plan to correlate our data to NCLEX outcomes and yes, we do plan to do so. And I see Paulette over here has asked, "Is there any comparison to the association of pass rates and changes in clinical and simulation?"

We're hoping to take a look at that. We don't have anything to report at present. We're planning to let this cohort graduate and then look at the results once they're finished with their programs. So I guess we'll see. We're really very much looking forward to the results. Thank you. Do we have any additional questions?

Okay. Okay. It looks like there's no more questions. I'd like to thank you for joining me this afternoon. If you have any additional questions that pop up later, please feel free to reach out. You can reach me at nkaminski-ozturk@ncsbn.org.

Thank you so much and have a lovely afternoon.