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Past Event: 2024 NCSBN Scientific Symposium - Impact of COVID-19 Pandemic: Assessing the Impact of the COVID-19 Pandemic on Nursing Education: A National Study of Prelicensure RN Programs Video Transcript

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Event
2024 NCSBN Scientific Symposium

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Presenter
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My name is Brendan Martin. For those of you who do not know me, my name is Brendan Martin. I'm the Director of Research here at NCSBN. And I'm here today to discuss the results of actually two studies. But this morning, one of our COVID-19 studies entitled Assessing the Impact of the COVID-19 Pandemic on Nursing Education: A National Study of Prelicensure RN Programs.

Before I dive into some of the results though, I would be remiss if I didn't mention that this is once again an excellent example of interdepartmental collaboration here at NCSBN. Not only did the research team put in a considerable amount of time and effort on this particular study, but we're also indebted to the voice that I actually hear next door doing her introduction for Richard, Nancy Spector and her group within nursing education, for their support over what seemed like a very long two-year period, if we can kind of all mentally project back to 2020 to 2022.

But, without further ado, let's just kind of jump right in. So, for today's presentation, I want to cover a few main points. Whether or not you've had the opportunity to review the set of results just yet, this may come as news to you. But, the final publication for this took the form of an over 60-page supplement to the "Journal of Nursing Regulation."

So, the point of this presentation is to really help with the heavy lift of reviewing that volume of information. In particular, to provide you a bit of background on the overall results and then kind of how they dovetail with other industry research on this topic. To begin, I'm going to provide a bit of background on why we wanted to pursue a longitudinal examination of prelicensure nursing education in the first place and really generally speaking, what we hoped to achieve.

I'm then going to get into the methods so that you are clear on how we went about defining our sample, ultimately, the mechanisms that we chose to collect the data, and then how we analyze the responses, before I'll get into the meat of the presentation in which I will cover really the broad strokes of the

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results themselves, and again how they kind of intersect with other related research. And then, I will absolutely endeavor to leave about probably 5 to 10 minutes for any questions or comments that you may have.

Of course, if something occurs to you following today's event or the event in general, please feel free to reach out to me directly. So, this is an unfortunate way to start any presentation because I'm going to ask you to all kind of go backwards mentally to early 2020. So, deep apologies for that. But, the context for what we were trying to achieve with this study, I think, is only understandable within what we were trying to achieve as a research group as a whole, beginning shortly after the official declaration of the COVID-19 pandemic in the United States.

So, typically our research agenda includes anywhere between 30 to 40 active research studies. We had an active research agenda up until about mid-March 2020, and then like everything else, we kind of put that to the side. And what we decided to do was we decided to gather, as a research group, virtually, of course, to really plan a targeted and yet expansive research agenda focused specifically on the impact of the COVID-19 pandemic on pretty much every level of nursing.

So, what came out of this conversation were about 10 applied research studies of different scopes, designs and timelines. Topics generally ranged from prelicensure nursing education, no surprise there, to early career and APRN practice and really a plethora of workforce trends. But again, if you take nothing else from kind of this context slide, the goal was as best as possible, right, and there's what you want to achieve and what you can achieve with research, but as best as possible, we wanted to capture the full impact of the pandemic on really every level of nursing.

I do think I can kind of spin this slide as a positive intro to this presentation in that I am able to say that we are glad to report that in April of 2023, we published all of our COVID research studies as a supplement to the "Journal of Nursing Regulation" and all of those results are free for download.

So, if you have not perused those yet, I would highly encourage you to download as many as you can stuff into your briefcase just for a little light reading on your flight home. So, one of the principle, you might be asking yourself why am I about to say this, because that's the talk next door so I we missed our moment here. But, one of the principle and most critical studies assessing the impact of the pandemic on the nursing profession was the 2022 National Nursing Workforce Survey.

So, that was led by my colleague, Richard Smiley, and we would argue that the 2022 report really represents the largest, most comprehensive and robust examination or assessment of the nursing workforce in the United States since the onset of the pandemic in March 2020. However, if you think back to what I said in terms of our early April kind of 2020 planning session, we anticipated, as a research group, as NCSBN, and through coordination with our state partners, that the impact of the pandemic would not ultimately be limited to just the current nursing workforce.

So, in parallel to that study, one of the studies that we engaged in was a longitudinal assessment to prelicensure nursing programs around the United States. And that's what we're here to discuss today. So, it's kind of a mouthful. This was in the abstract. This was in the paper itself.

But, we really were quite ambitious with what we were trying to achieve here. We recognized that this was potentially a very unique moment in time and to have a historical record of what was taking place during that and how it impacted current nursing education and possibly future nursing education was absolutely imperative. So, the primary objective for this study was to assess the institutional, academic

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and demographic characteristics of prelicensure nursing students' academic, initial post graduation, and early career outcomes.

So, nothing if not ambitious. Who comprised our sample? I always like to say I couldn't have asked a better question if I had planted it. It's a really great question. This cross-sectional study utilized a four-phase longitudinal design to assess the academic learning standardized examination outcomes and early career outcomes for prelicensure nursing students who were entering the core of their nursing curriculum.

So, these were oftentimes kind of rising juniors in full 2020 and with an anticipated graduation timeline in the spring of 2022. When considering the full arc of the research and on the next slide I'm going to give you kind of a timeline so you have a greater sense of what were the activities in which we were engaging, when we were in the field, what were we looking to capture and when, etc.

But, when considering the entire arc of the research, from July 2020 to December 2022, we really ended up conducting a two and a half year-long study of 51 prelicensure programs, including over 1,100 participants across 27 states. As a result, this mixed method study was able to leverage over 4,000 course base observations, supplemented by hundreds and hundreds of early career observations, and then also the rich personal narratives that emerged out of targeted focus groups.

Before I move on, this isn't really kind of part of my kind of talking points here, but I think it's a critical thing to call out because I think Linda did an excellent job in the keynote about how we, as researchers, need to think about very complex challenges and issues and how we approach them from a research perspective. When we entered into this study, it was not on our radar to include focus groups.

This was not a mixed method study. We are all kind of quantitatively oriented. We all thought to ourselves these fixed items, as long as we use a number of instruments, we're really going to be able to capture it. But, about one year into our two-year data collection window, what we realized in our discussions with the program representatives, the faculty, the administrators, the students, is that we were starting to see kind of leaks in the pipe.

We were starting to recognize that there was important context that we possibly weren't capturing that would be really important for interpreting our end kind of stage quantitative results. So, what we did is what you should do as a researcher. We called an audible and we ended up tacking on targeted focus groups at the end of our study, and ultimately making this a mixed methods research study.

So, this is the general timeframe for this study displayed in front of you. In July 2020, we conducted email-based outreach to administrators and faculty at prelicensure RN programs all around the country. In total, our kind of our initial goal with this was to get a lay of the land. How are things changing with kind of, like, the rapid progression and expansion of the pandemic, and then to also kind of set the stage for our future study.

So, what we got in response to this was about between 550 and 600 program administrators and faculty responded to us with absolutely critical information for how their planned delivery of educational materials and services had changed in light of the pandemic. As I mentioned that we also used this as a recruiting kind of springboard or platform into our formal longitudinal data tracking, which then kicked off in August 2020.

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This period of within program data collection then carried through the end of May, as you can see from the diagram in front of you. This served as a major inflection point in kind of the data collection process for this study, because at this stage, we pivoted away from student and faculty and kind of within program data collection to early career data tracking.

There are kind of two pivotal moments here that aren't necessarily, like, super highlighted with the red dots. But, you can see one in August in 2022. So, what we wanted to do with the new nurse graduates is we wanted to track them six months into their early career practice. So, we had two intervals for data collection for those new nurse graduates, one at three months, or August 2022, and then another in November 2022, or about six months following graduation.

In parallel as you can see, kind of sandwiched in there, we also conducted our focus groups from June 2022 to August 2022. And I'll get into some of the specifics on the focus groups in a second. But, what you can kind of see in terms of bookending of this, it was really July 2020 where we started to initiate some of our kind of proactive data collection efforts to December 2022, when really all phases of the formal data collection period closed.

Regarding the study methodology, we used a combination of real-time student and faculty self-report data as relayed to us via email-based surveys, using Qualtrics. We used a combination of in-house and externally validated instruments. All I mean by in-house are kind of custom survey elements or instruments that we generated. The explicit purpose of those custom survey instruments was really just to track and collect baseline demographic practice, academic information, really at the point of intake for the study.

So, if you were consenting to participate in the study, we just wanted to learn a little bit more about you. When we got into the actual program outcomes, the faculty outcomes, the student outcomes, etc., we relied uniquely on externally validated instruments. In addition to that, we also collected within program and end of program standardized examination scores, so end of program kind of being the NCLEX score obviously.

We were able to collect that information because it was facilitated by the individual program, kind of research site coordinator. So, each of the participating programs had a faculty or an administrator designated as the primary point of contact for us as the study went forward. The quantitative survey findings were then supplemented with focus groups. So, the focus group sampling method was very much purposeful.

So, we were interested in understanding how what we had learned quantitatively kind of translated into kind of a more general space. So, we initially sampled from the folks who had consented to participate in prior stages of the study. Individuals who participated in our study were separated into one of three distinct groups. So, either the profile as students, administrators or faculty.

In the event that somebody wore two hats in the study and that did come up, oftentimes took the form of a faculty member who had administrative responsibilities or an administrator who had faculty responsibilities, we simply asked the respondent to really kind of reflect on where the majority of their time and kind of resources were spent, and then to self-select based on that information.

And then, I'm not going to get too much into this, although this is where we all get really excited within the research group, various statistical methods were deployed from general descriptive to kind of various non-parametric models for some of the simpler, kind of higher order comparisons. And then, this did

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span all the way to Generalized Estimating Equation models, where we were trying to account for, like, some of the longitudinal nature of the data, and then detailed textual analysis with our guy over here, Charlie.

And then, what we wanted to do with that is we really wanted to assess student, faculty and institution level data kind of at large for all the data points that we were collecting. So, like our workforce study, we would argue that this study stands as one of the most comprehensive and rigorous assessments of prelicensure nursing education in the United States since the onset of the pandemic.

And more importantly, the reason why I have this slide here is because as I've mentioned, and I will mention it again, I don't think you can mention it too many times, these results are freely downloadable from the "Journal of Nursing Regulation" website. So, I'm going to go over a number of tables in today's presentation. This is but a snapshot. Imagine how many tables and figures that you can fit into 60 pages. The world is your oyster as a researcher here.

So, let's get into the results. What were we able to find, at least kind of broad strokes a little bit. So, overall, I don't think that this will come as a surprise to you. The COVID-19 pandemic affected prelicensure nursing education. Over 80% of the programs that participated in our summer 2022 baseline planned to incorporate some level of clinical simulation in their delivery in fall 2020.

And while that might sound like a lot, we think it's important context to really think about this in terms of the raw numbers. So, when we looked at the data, what we found was that the number of programs that offered no clinical simulation pre and post-pandemic onset, that number fell from 130 programs in fall 2019, and this is within our set, right, it's not necessarily across the entire landscape but within our set, that number fell from 113 in fall 2019 to 11 in fall 2020.

So, a near wholesale shift in the way programs were thinking about clinical education. On this slide in front of you, you can see how the mean usage of face-to-face high-fidelity simulation and virtual clinical simulation changed term over term over the two-year period.

Two things to kind of call out here. One is that those proportions kind of term to term stack or are additive and they sum up to a higher kind of academic year figure. So, you can kind of see how that translates. It's not to suggest only 17% was clinical simulation. Those stats, so it was about 40% in the first year. And that leads me to my second point. I think that this kind of dovetails a little bit with our own experience of the pandemic, in that there was an acute inflection point in the first academic year.

And you can see even when things were still, you know, somewhat not under control, they did start to wane when we got into the second year of tracking. A consistent trend that emerged from this study were the superior outcomes documented by both students and faculty alike, for high-fidelity face-to-face simulation and in-person clinicals vis-à-vis virtual clinical simulation.

So, these results manifested time and time again across a variety of covariates. So, this was program setting, student SCS, the timing of student's clinical rotations just to name a few. Some important context for this, and this is kind of where I think I've kind of learned more about this topic and kind of presenting these findings, I've tried to incorporate this, you know, as I go as kind of a living, breathing document.

One of the ways in which I started to understand people were interpreting some of our results is that virtual clinical simulation was bad. So, I am here to stand in front of you to tell you that is not what our

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results mean. What we found when we were reviewing our data points is that the sheer range, like, the variability of what someone defines as virtual clinical simulation, how they adapt it, to what proportion they adapt it, what tools they are using, what they are asking students to do, what they are asking faculty to do, ranged so considerably, even in this broad-based of a survey, that what we would argue is that virtual clinical simulation just simply, it's not a space that has reached a certain level of maturation yet, where we can really distinguish between what is a good method and what is a bad method.

So, if nothing else, don't walk away from this thinking all virtual clinical simulation is bad. It's just it hasn't arrived yet. We're not at a point where we can start to zero in on even what's testable. When you think back to the National Simulation Study, we weren't asking is simulation okay. We were asking at what levels is simulation okay. Virtual clinical simulation isn't even at the point of is it okay yet. There are pockets, but we need to learn more.

And then, further on kind of a positive note, we certainly didn't set out with this expectation. This wasn't one of our driving objectives. But, what we were able to do in this study is really largely confirm and replicate the results of the National Simulation Study. So, what we were able to document was that good adherence to face-to-face high-fidelity simulation really, broadly speaking, produced consistently strong student outcomes and oftentimes in our study, comparable to in-person clinicals.

There you go. So, on the next few slides, I actually think this is a big enough screen where I don't need to do that thing that I hate, where somebody says, you know, "You can barely see it. But don't worry about it." Why did you put it on the slide then? So, like, I think you can read this slide, but what I really want to be careful here is to kind of balance your expectations.

So, I'm not going to dwell on any one of these topics too much, right. We're time limited this morning and as I have said multiple, multiple times, all of this is freely downloadable. You can really dig into the details as much as you want on your flight home, in the next three minutes, however you want to download it. But, what I want to give you a sense of visually, right, and this is what tables and graphs and figures should do, it should help reinforce a message.

How consistent our findings were across our externally validated instruments, our standardized outcomes and our early career measures. So, what you see here are the CLECS 2.0 results. So, this is looking at students' self-reported assessment of lineal learning. So, this is one of our externally validated instruments. And what you can see here for the bit highlighted, so I tried to zero in your attention, is the drop-off in virtual simulation and then the comparable rates for face-to-face high-fidelity simulation and in-person clinical placement, or sorry, in-person clinicals.

These are similar trends you can see kind of the header what we're looking at. Thee are for the faculty CCEI results. So, these are the faculty assessment of students' clinical learning. Same thing but looking at standardized examination scores. So, you can see the first column here are in-program scores and NCLEX scores.

So the in-program scores would be like HESI, Kaplan, ATI, etc. NCLEX, I hope that doesn't need any explanation. And then finally, the NCLEX results. Here is kind of the companion to the earlier graph that we were looking at when we were thinking about clinical learning.

So, what we found, and this wasn't necessarily again, one of our driving goals. This actually kind of caught me off of guard, but in retrospect, I kind of think to myself that's pretty silly, because maybe this represented the lower hanging fruit between the two instructional formats. But, online delivery of lecture

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content, that shift to kind of online platforms was even more dramatic within our sample compared to the clinical learning environments.

So, across the prelicensure nursing education landscape as documented in our study with our sample, there was a 60% increase in the planned delivery of didactic or lecture content in online spaces between fall 2019 and fall 2020. And this, like, you thought the clinical number were, you know, kind of maybe crazy. I saw some kind of nodding heads and, oh, yeah, look at that.

For the programs that offered no online delivery of lecture content in fall 2019, that number was 167. It was almost 50% of the initial sample that responded to the baseline survey. That number fell to 21 in fall 2020. So, in one year, there were 140 to 150 programs that had not even as recently as their prior academic fall term had not considered moving any portion of their didactic training to an online delivery platform, were now migrating their content online.

So, this near wholesale shift to online delivery of lecture content inevitably impacted students' academic learning and engagement outcomes as well. What we were able to find was that in-person and hybrid learning environments oftentimes produced consistently better academic learning outcomes on the parts of students and faculty compared to their peers that were learning in kind of almost uniquely online learning environments.

In addition, we saw higher levels of engagement compared to those both in-person and hybrid environments. So again, hybrid environments, that kind of more quality control measures where there's, you know, a portion of this and a portion of that. Even in this instance, those were consistently producing more stronger student results across array of outcomes.

And then, interestingly, how the lecture content was migrated online actually was one of the few kind of drivers in our study that affected consistently standardized examination scores as well. So, for programs that reported a larger online presence, what we found consistently was those were associated with lower NCLEX RN scores.

Now, the context for that is they were still above the national average. So, this was a strong performing set, but where we did see movement, we felt it was important within context to spell that out. Again, one little caveat here. This is not to suggest that all online learning is bad. Rather what we found was it really mattered, the quality of the instructional materials, the support for the faculty, the training for the faculty, the quality of the platforms that they were using and then ultimately the proportion of the content that they were migrating online, that's what mattered.

So, if you do all those things intentionally, well-funded, good training, it probably could work. There are probably examples of that even in our sample. But, what we saw was that there was such a range, such variability in our data set that isolating particular methods was near impossible. So, similar to the clinical results, let's see how are we doing here. So, about five minutes.

So, similar to the clinical results, these are the CAP Perceived Learning Scale, looking at the delivery method for the didactic courses, so you can see online, in-person, hybrid. These are the second results, looking at student engagement. Some standardized examination scores. So, you can see we've kind of isolated the proportion of initial online lecture content, so that's fall 2020 primarily that was migrated online.

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You can see it was so great, right, going back to, like, the order of magnitude, the cut point was 61%. So, that was the median. Sixty-one percent of the content for these programs was getting migrated online. And then, finally a few more standardized examination results. Our research in this area further documents declines in the self-reported clinical preparedness of prelicensure RN students and similar drop-offs in the practice proficiency of early career professionals.

And again, specifically tied to shifts to more remote and virtual kind of delivery methods. So, here are the clinical results. So, this is looking at clinical preparedness and practice proficiency associated with the clinical characteristics. So, how much of the clinical learning was shifted. And then again, associated with didactic characteristics.

I'm not going to get into too much detail because I do not want to leave a minute here at least. So, we looked at AACN data. They documented same period of time for the first time in 20 years, drop-offs in enrollment, drop-offs in applications to baccalaureate programs, entry-level BSN, RN to BSN, you name it. So, one of the reasons why we wanted to highlight this information is because we felt as though it underscored the fact that really what we're looking at is a very broad-based effect of the pandemic on nursing education and likely something that we'll kind of start to see how long that tail is over time.

Similarly, there's been research out there that really attests to, I think, the fact that issues of exhaustion, burnout, stress are not limited to the frontline healthcare workforce. There's multiple ways to think about it. We always think of it kind of in terms of inpatient context. But, it's everybody, right. And so, from a constellation of all this research, we're starting to see kind of the stars aligned in an industry battered from all sides.

So, what are the key takeaways? You know, this one, I think hopefully, I don't need to say this, but, you know, what we were able to document is that there was a real impact of the COVID-19 pandemic on prelicensure nursing education. I don't think that comes as a big surprise to anyone. So more informative, perhaps, if I can get it to come up, more informative perhaps are the findings related to programs' really significant reliance on online delivery of lecture content and virtual clinical simulation in particular, and the corresponding deleterious effect on student outcomes.

If you remember, there was a bit of a silver lining here in that we were able to replicate the National Simulation Study. So, when programs were, even at high thresholds, relying on face-to-face high-fidelity simulation, they were producing consistently strong student outcomes comparable to in-person clinicals and at times, exceeding. Now, not statistically significant, like, exceeding, but you know, they were doing a good job with that.

But then, most importantly, what we feel as though that the study really underscore is that today's new nurse graduates likely feel as though in particular for that kind of acute phase of the pandemic, likely feel as though that they are in a more precarious position than potentially they ever have been.

And so, we would argue, as NCSBN, that there's a real demand for our practice partners to work with these new nurse graduates and to kind of respond to their needs to facilitate their transition to early career practice and develop kind of a salience in this new and kind of transformed healthcare landscape. Further, we would also argue, and I think the literature is pretty well documented on this, there needs to be efforts to adjust

[inaudible 00:26:24.571] in nursing education, in particular how it relates to emergency and public health emergency education and training. And finally, I do think more needs to be done in terms of

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understanding when and what thresholds we should use kind of some of these educational tools, these technological tools at our disposal to really facilitate experiential learning on the part of the students, not just in the clinical environment, but even online through didactic and lecture content.

So, I am going to, look at that. I saved you a minute. So, I did not do a good job of saving time at the end. So, what I will do is if you have questions, please, I am here the entire conference. Catch my ear. Ask me any questions you have. Follow up with me.

My email, I can make my email widely available to anyone who needs it. But, thank you for your time and attention. I hope you found the presentation interesting.

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