providing a bit of background on this study so that you are all very, very clear on why we wanted to pursue this study in the first place, and really, ultimately, what we hoped to achieve when we set out to do this analysis.

I'll then share a brief overview of the study methodology, just making sure that that's working, so that you are clear on how we composed our sample, went about collecting our data, and then, ultimately, how we analyzed our responses before we get into the meat of the presentation, in which I will discuss kind of the broad strokes of the results. And in particular, at the end, I'll try to make clear how they kind of intersect with or align with other evidence on this particular topic.

And then, again, we will open the floor to any questions or comments that you might have, a little bit of extra time. So, again, if you're enthusiastic on this topic as well, we can revisit workforce and we can kind of show how these two studies ultimately do align. So, to provide context for my discussion today, I would, first, like to transport you all back to early 2020, and in particular, the first few weeks of the pandemic.

And so, I think it's official now, Richard, we're the first to really bring COVID up as a topic. So we are the Debbie Downers of this year's annual meeting. But, typically, the research department spearheads about 30 to 40 active research studies. So, that kind of constitutes the core of our research agenda, but it was in early April 2020 that we began to really, truly recognize, right?

We were all, same as I think a lot of people in this room probably think to ourselves, by the time we get to summer, we'll be in the clear. This will be fantastic. After a couple of weeks and a formal shutdown of an entire...the third largest city in the country, we began to recognize the potential for, really, the broad and possibly enduring effects of the pandemic on nursing as a profession.

So what we did in the research department is we really circled the wagons, so to speak. And, in counseling together, we developed what was ultimately a targeted, and yet, we feel expansive research agenda focused exclusively on the results of the pandemic or the effects of the pandemic. This became, in real-time, really our singular priority. But now as we look back retrospectively, I think we're pretty clear-eyed about the fact that this became one of our major investments of time and resources within the department for the past two to three yearspitrou gr part7(S.08 471.65 Tmd7()20(7he7(fa)14(7(7(t7h)13(7(t7(f6(7()6(

So, as you can see on the slide in front of you, the research agenda included over 10 applied research studies. These ranged in terms of their timeline, their sc54.02,mci000912 0 612 6Sd-13(n7(f1 0 y 0 y 0 y 0 gt7()6(of

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And if you see a study that is of interest to you, Elsevier continues to make that free access content for the pandemic-related material. Download that information, really dig into it, and if you have questions after today's event, after you know this meeting closes, please follow up with us. We love that collaboration. So, as Richard mentioned, one of the principle, and therefore, most critical studies really assessing the effects of the pandemic on the workforce was the National Nursing Workforce survey.

So, I don't think we can underscore this enough. Every time we get an opportunity, I like to make this statement. The 2022 National Nursing Workforce Survey represented the largest, the most rigorous, and the most comprehensive assessment of the U.S. nursing workforce in the entire country since the onset of the pandemic in March 2020. But, if you remember, in April 2020, we anticipated that the effects of the pandemic would obviously not be limited to the current workforce.

So, in parallel, what we did is we pursued a longitudinal assessment, or certainly, we at least tried to design one for pre-licensure nursing programs across the United States. The primary objective of that study, so the study that I'm about to walk you through, some of the results for was to assess the impact of the institutional, academic, and demographic characteristics on pre-licensure nursing students, academic, post

The same cannot be said of virtual simulated environments, even in as large of a sample as we were able to capture. And again, this is credit to these pre-licensure RN programs all around the country, really volunteering of their time. What extra time did any of us have in fall 2020? But because of their contributions to this study, we were able to recognize that it wasn't necessarily even just the application of virtual simulation, but it was the range and the definition of what constituted virtual simulation that ultimately resulted in poorer student outcomes time and time again.

So, what I'm about to do, I feel a little bit like Oprah, right? So, we're in Chicago. So, what I'm going to do in these next few slides is you get a table and you get a table and you get a table. But I think you can take my word for it. I hope you take my word for it.

You can certainly download the report, you can peruse it at your own leisure. But what I wanted to do is to kind of give you just a visual reference for how consistent these results are, right? You don't even need to take my word for it. I'll show you some pictures. So, what I've done is I've just kind of taken screenshots of the tables from the resulting publication for this study, and what I've highlighted for you on these slides singularly are course modality.

So, the delivery format for the instructional material. So, these results that you see in front of you are relate to the CLECS 2.0. So, these are students self-rating of their clinical experiences. For those familiar with the CLECS, the 2.0 part of this is because it captures all three modalities. So, the CLECS originally only kind of captured that face-to-face simulation and the in-person clinical, the 2.0 part allowed us to capture also the virtual simulation.

Here, again, you see the faculty CCEI results. And again, if you're thinking to yourself, "Why is he going through these so quickly?" It's because you can download it. Standardized examination results, and then the NCLEX results. So again, across all of our measures, and, you know, you might be thinking to yourself, "Where's the early career stuff?"

We're coming to that? So, shifts to online. So, kind of to date I focused on...or up to this point, I focused on clinical simulation. Shifts to online delivery of lecture content were even more pronounced. And I have to say, this caught me a little off guard, and I think in retrospect, it shouldn't, right? Because these kind of represented some of the lower-hanging fruit opportunities to transfer what you did in a classroom online.

But what we saw was a 60% increase in the plan use of online lecture delivery from fall 2019 to fall 2020. So what does that mean? Again, in hard numbers, right? One hundred sixty-seven programs who responded to our baseline survey in the summer of 2020 indicated that they offered no online lecture content in fall 2019.

That number fell to 21 in fall 2020. So, I don't think it's an overstatement to say this near wholesale shift to online delivery of lecture content inevitably impacted students' learning and engagement outcomes as well. What we saw time and time again is that in-person and hybrid learning consistently surpassed those instances where those folks were in online-only environments.

Similarly, students who enrolled in in-person and hybrid courses also reported significantly and consistently higher levels of engagement, vis-a-vis their peers who are in online-only environments. And, interestingly, this is one of the things that I don't want to overstate too much because our program set was very strong in terms of their performance on standardized examination scores.

And I think it also highlights how durable some of these effects are going to be as we kind of project forward a little bit. I know that that's a big part of the conversation with the workforce, also with this study. You know, when we look towards the horizon a little bit, this represents really the Vanguard, prospective student interest in nursing program. And that ultimately has an effect on the overall workforce eventually. And then, similarly, a recent AACN publication really attesting to the faculty burnout and the fact that exhaustion and stress are not limited to the frontline healthcare workforce.

So, again, really, a constellation of rigorous studies showing evidence of a kind of an industry effectively battered from all sides over the past two to three years. So, what are the key takeaways for this study? The effects of the pandemic on pre-licensure nursing education are clear.

They're widespread, they're multiple. I do think that this falls squarely into the category of duh. If you've been tracking even popular media, we recognize that the pandemic had a significant effect on education, not just nursing. So, perhaps more informative are the findings related to programs' significant reliance on virtual simulation and online lecture delivery and the deleterious effects on student outcomes long-term, durable, in multiple settings.

By contrast, I will revisit the fact that our study effectively functioned as a natural experiment that showed and confirmed that good adherence to that face-to-face, high-fidelity simulation did produce consistently strong and replicable student outcomes. But most importantly, we feel our study underscores that today's new nurses likely feel as though they are in a more precarious position than, potentially, they ever have.

So, we would argue that an urgent demand exists for practice partners to respond to the needs of these new nurse graduates to facilitate transitions to practice that really develop a sense of salience in this arguably transformed healthcare landscape. Furthermore, there really need to be efforts to address gaps that were revealed as a result of the pandemic in kind of the educational curricula.

So, for instance, particularly as it relates to disaster and public health emergency education and training. And then, finally, I don't think that this will come as any surprise. The use of educational technology to facilitate students' experiential learning really needs to be revisited. So, with that virtual clinical simulation space, there needs to be more research on this topic. There needs to be rigorous evidence-based guidelines for when to use it, what constitutes virtual simulation, and what produces consistently strong and replicable student outcomes.

So, I could go on and on about this, but obviously, we do have very important news here coming shortly. So, I am going to stop here. I'm going to open the floor to any questions that you might have. One of the things that I will hasten to mention is that you might come up with questions on your flight home, on your drive home.

You might come up with questions within 10 minutes of this session ending. We are always happy to collaborate. We want to coordinate with you. We think that there's real power in doing this all together, not just as, like, a nursing community, but also an inter-professional community. So, should you have questions following this session, it just doesn't occur to you right now, please, feel free to follow up with us. I have to say, it used to be that my door is always open. Now, I also say, "My virtual door is always open."

- But, you know, I think it is one of those things where if this was simple, right, and if it was straightforward, we wouldn't be here trying to talk about it. And I think you're spot on in your assessment that this is really going to take everybody working together in concert.

- Thank you.

- Yeah. I see number three.

- [Jessica] Good morning. Jessica Lannan, Michigan. First of all, thank you for all of the hard work you've put into this. We've been able to find the studies online, but wondering if it would be possible for us to get an electronic copy of your PowerPoints to take back to our stakeholders for both presentations.

- Yeah, absolutely. Not a problem. Either this will be made available, as I mentioned, as a resource following the close of this meeting. If not, if it's difficult to find, again, feel free to reach out to me. I have no hesitation saying this. My email is bmartin@ncsbn.org. Please reach out to me directly.

If you cannot find it, I will make sure that you get copies of both reports. But I will hasten to mention, they are free for download on the website. Oh, and the presentation.

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n to mention.

Also, for the lecture content. And the explicit reason for that was because we anticipated upfront, obviously, that this wasn't a static thing. We couldn't track it in July 2020, and then carry it forward and anticipate that we were still going to remain accurate. So, we have both point-in-time understandings, which was one of those graphs. But we also have a sense of how that kind of trended over time in terms of the proportional usage.

And that's one of the reasons why we can confidently state that these results really replicated the national simulation study, because we knew were you employing it more than the recommended 50% high fidelity. And in many of these instances, almost in all of these instances, programs were not. And for that reason, the high fidelity face-to-face, those strong and consistent student outcomes really were borne out in the data.

There were almost no significant differences between face-to-face, high-fidelity simulation and in-person clinicals. Where we did see the differences was with the virtual, given the lack of evidence-based criteria. And then, I see eight, I believe.

- [Jose] Hi, again. Jose from Florida. I truly am very impressed with the extent and scope of the study that you all did, and I'm glad that it's published already. And we are all in support as we are part of the education committee also for the Board of Nursing in Florida. But my comment is on the gap that you highlighted just now with the first speaker.

I do think that there's a lot of qualitative power skills component as what our NASA speaker from last year implicated. They're not soft skills, but power skills on how the program utilizes their staff in establishing those relationships with their students ensuring their success in the program.

And I do think that that qualitative piece truly makes a difference. We have started with the Florida Board of Nursing, and I'm going to address this also with the president's meeting this afternoon. Put it in the agenda, is that we have started the success stories.

We have invited program directors who are consistently successful having successful pass rates as the first metric with NCLEX-RN or NCLEX-PN. And they are presenting that to the board and to the public as we are giving them the opportunity to give that.

Also, we ask them to give... Another metric is their evidence-based component so that they can give us, like, what guides you in this qualitative piece so that it can support you with the success of y20ei7on s)6(pportETQV

- Yes.

- So, had to distill it into 20 minutes effectively. We looked at an array of issues, I think, related to your questions. So, one of the things that we looked at and we asked about sp()20ETeni0ɛʃċa7ɫ)13ɫʃ(0d wʃ(aʃ၄)of tʃɦe) re

would maybe be more early indicators that you could get ahead of this and maybe start to collaborate with the program representatives to get them back in good shape before you start to feed things like a drop off in the NCLEX. So, again, I would make a plug for the annual report data.

The second piece of your question, the answer is yes, and then no. So, a very, very small proportion of

And it came from specific legislation and brought in by lobbyist coming in and saying, "Oh, the board is bad. This is bad. We have to do this." And so, I think it also goes back to what can we do from a regulatory standpoint to counter that and how do we go off of evidence versus, well, the need is here and they have the resources. So, let's just kind of put them all through.

- Well, you'll find an ally in us for evidenced-based policy. So, I do think I'm getting the hook. There is one other individual at podium six, I will follow up with you. How about that? Directly, I'll come right back.Thank you so much.