Past Event: 2024 NCSBN APRN Roundtable - **Transforming Assessments of Clinician Knowledge: A Randomized Controlled Trial Comparing Traditional**

individuals in the health care milieu, we are really responsible for understanding knowledge to begin practice, and this is measured by standardized examinations. These standardized examinations are what we call kind of the public litmus test, and it really tells us what an individual must have in order to begin safely practicing. I like to use the quote that my colleague and my superior at the NBCRNA says, John Preston. "No one likes going to the DMV, but everybody appreciates the freedom and ability that driving provides." So it is really this entry-to-practice and regulatory place to function in. Where you want to center our discussion today, continued practice. Is there a best practice for continued practice? I don't know that we have it completely nailed down. Do the same mechanisms capture the initial mechanisms, capture what continued practice requires? Some do, some don't. And what happens when current programs fall short of stated goals? How do we reevaluate and come in many ways, reimagine a program when we have fallen short of stated goals? More questions than answers here, but I'm going to give you some answers very shortly. There is a range of current mechanisms that are used today to understand continued practice. We have continuing education units, CEUs we are asked to do. Semisynchronous and some are a synchronous in nature. We have standardized exams we can apply to individuals, both in the initial certification and continued certification. The health care simulation has shown promise for certain avenues but might not be broadly applicable for a number of reasons. Cost to travel there, cost to run with the personnel, as well as the time away from clinical practice that an individual must submit to you. In the last thing I just threw in there is a portfolio submission. Some

did is we split off our class of CEUs to two different versions. Class a was kind of our similar to the previous 40 CEUs, but we upped it from 40 to 60 in a 4-year cycle. For CRNAs this has to be prior approved by the educational accreditation, and it had to have an assessment, much like previous CEUs. Individuals can always have more, but they can't have less than 60. Class B was a category we added. This was looking at professional development activities, leadership, scholarly work, exercising new techniques in a clinical realm. So we don't have an assessment for this. It is not prior approved. And they can have up to 40 CEUs in this category. But we broadly said it had to support patient safety, enhance the knowledge of nurse anesthesia practitioners, and relate to a broader health care environment. Probably the most contentious part of our current program is that we added an assessment. So CRNAs that have been in the certificate pool prior to 2016 really did not have to take a formalized assessment outside the initial entry into practice. So we introduced what is called the continued professional certification assessment, CPCA, kind of a mouthful. It's not like our National certified exam, or entry practice gatekeeping assessment. The CPCA focus on clinical knowledge required of experienced CRNAs, knowledge that was common for all CRNAs regardless of practice focus. I used to say, CRNAs don't necessarily always provide cardiovascular anesthesia for open-heart cases or valve replacements, but every patient has a heart, so an interest in cardiac physiology was essential. This outline is available on our website and is developed using professional practice analysis methodology. The CPCA was not a mechanism whereby individuals would lose their certification. If they fell below and establish performance benchmarking, we requested them to take additional focused CE, one for each category. If they didn't need to, they were good to go through the next certification cycle. So a majority of our certificate pool will complete this and is completing this now, and will have it done by 7/31/24 or 7/31/25. This leads us to the question, where are we making a critical error from the start? Could it be that we had the assumption that we launched CRNAs into practice of capabilities that they would remain at or above performance levels until they retire? This is really a strong question. We know from other realms, just personal, we certainly can have mastery at one point in time, but without active work, may not maintain mastery in certain topical areas if we are not going to them over and over. As a certifier who led both staff and Board of Directors, we have taken the view of competency for lifelong learning. So there's multiple tools and methodologies whereby you can assess this and measure this and evaluate it, but it really centers on knowing one's practice, being able to scan the environment for changes occurring or that have occurred, managing learning in practice, so this is kind of self-directed activities. You have to be able to raise and answer questions, and you have to assess and enhance your practice over time after you graduated. So we weren't led by problems in the space, we really want to lead into the future with a positive perspective and methodology. If you look on the left, you can see certification, acceptable performance. We have met the benchmark, past our initial certifying exam. But is really once and then good for life? Many people will stay, many will go above, but there are some individuals who

critically assess and revise their practice to make sense of complex situations and learn from experience.

satisfaction and promotion of lifelong learning through longitudinal assessment focus groups, and then we wanted to understand what engage participants the most and what they felt was most usable as a practicing clinician. When we talk about participant recruitment, we were fortunate enough that he will see the diagram on the screen in front of you -- we put out a call for volunteers in 2022, we conducted the survey in a large part of 2023. We sought to elicit a thousand volunteers, and during the call for volunteers we had over 10,000 interested individuals. So that was highly advantageous for us and we were very proud of that accomplishment. We randomized the individuals between two groups, matched them one to one look at gender, age, and years of practice as representative of the practicing continuing certification cohorts we had. So we randomized 500 CRNAs into the CPCLA cohort and the traditional assessment, the CPCA group, where they took the assessment. Our power analysis said that we needed at least 320 per group, and we exceeded that and we are very fortunate. These demographics are highly representative of practicing CRNAs, but we see in large part that we had similar distributions between CPCLA and CPCA in terms of gender distribution. Again, this is consistent with what we know about the CRNA population. The age range was similar between the groups, a slight difference, but largely similar in terms of average age and years of practice. And then, in terms of geographic distribution, these are known in states where we have the highest kind of CRNA population. But the CPCLA group had Pennsylvania, Texas, Florida, Ohio, and Tennessee. And within the traditional assessment, Pennsylvania, to Texas, Ohio, Florida, and Illinois, all states with the highest populations. The longitudinal assessment specifications where that individuals in that cohort had a duration of 12 months. You can see the start and end dates they are. They had to answer a set number of questions, the content was balanced according to our professional practice analysis, the blueprint was the same with the traditional assessment. They had to answer between 30-35 items per quarter. They were given immediate feedback as well as rationale for why the answer was correct or incorrect, a reference, and then confidence ratings were solicited from the individuals. They had one minute per item, they were not allowed to skip any questions, but they could see -- that is where the 35 questions comes in -- in quarters 2-4, five repeat questions. They could also look at the question history as well as some scoring and normative data. So what were our results of the study? While getting into the first research question is the performance, whether it's comparable, the answer is yes. Between the groups we saw that, within the two groups come in the L.A. group we had 85%, almost 86% of individuals meeting the performance standard, and in the CPCA, 94% of individuals. Interestingly enough, when we added in if questions were readministered if they got the question correct on the readministration, we counted it correct as if it was correct from the start. We moved up from a very similar percentage of performance meeting the standard, so 91 compared to 94%. So that was really reassuring in terms of what our research question was. When you look at the initial response scored versus most recent, when scoring incorrectly on the initial attempt, the mean scaled score for the L.A. group, the mean score was 649, and that was significant a higher than the mean score of those that we classified based on first response, 562. When we talk about perception results, the question is if there is a difference in perceptions and attitudes and methodology, we had some data collection time points. For the CPCLA we had the fortune of feeding the individuals because you have them in a year time period, and four Strong touch points at the ending of the quarter. We delivered post quarterly assessment surveys in addition to a final usability survey, and offer the ability for focus groups which were optional. The CPCA was a post assessment exit survey only, and centered on that kind of one time point. But what we learned when comparing the two groups is that the satisfaction for both testing experiences was roughly the same. CRNAs were satisfied with their test taking experience regardless of the format they took it in. The CRNAs that took CPCA were slightly more satisfied with their testing experience than those in the L.A. format, however, what we notice is that the participants in the CPCLA group rated most other items higher than participants in the

CPCA group. Overall, participants were most satisfied with CPCLA in terms of the ability to help with knowledge gaps, and they felt it was an accurate reflection of core knowledge required of all parents and professionals. Interestingly, the lowest indoor statement by the L.A. group was that it provides better care to patients by helping maintain knowledge. We have seen that before. It is hard to extol the virtues and the benefits and the value of certification to participants. They know they needed for practice, but where does the rubber meets the road in terms of what they actually get out of it, outside of the fact that they have the ability to earn a livelihood and provide care to patients and practice in a certain realm? We looked at individuals in the number of hours they spent studying. On average, how many hours did you study per week? The L.A. group, we saw 64% of people were really not studying, versus the CPCA, the traditional assessment, 37% went into that without studying. So more people taking the traditional assessment. That stands to reason. When you take a traditional assessment, you want to go back through the books and study. When we are given this longitudinal assessment with interspersed repetitive questions, we tend to look at it as less stressful, perhaps, and more relatable, so we had -- we are less likely to study in that methodology. In terms of looking at what individuals preferred, we saw that, when we asked the L.A. group which methodology they would prefer in the future, they largely said longitudinal assessment, because they were experiencing it and seeing the benefits of that tool in action. The CPCA group was kind of split, probably because most of those individuals are not experiencing the benefits of the longitudinal assessment platform, and/or may not have been as familiar with the methodology. In the third research question, we sought to elicit, is use of the L.A. platform feasible, acceptable, and usable? What we saw was an average overall rating of 4.3 out of 5 stars, and we felt that

participants preferred a more continuous L.A. format in the future, according to the survey results. And although these findings were not statistically significant, there were some differences in perceptions and attitudes when we compared the ratings. The longitudinal assessment group ratings were higher than the CPCA traditional assessment, as rated in promoting lifelong learning. So that is highly advantageous. The L.A. platform showed above average usability, 95% of the individuals would recommend the platform to a colleague, so he really felt that all of those things were driving us in the right direction. So these are the primary research aims, and these are our findings. There was a difference in the performance that was statistically significant between the L.A. and traditional assessment group, in scoring the item on first versus second attempt. So we saw a bit of a difference, but if we counted that second answer is correct, and we give them credit for getting it correct, in total, moved up to a level commensurate with what we are seeing and what we have seen with CRNAs who have taken the traditional assessment to date. The average ratings are perceived higher on self-reported agreement scales on the L.A. versus the traditional assessment. And the feedback on L.A. was overall positive, eliciting above average usability. Leaf suggested these findings suggest it is a feasible and usable format in the future. Was the future for our CPCA program? We have had a lot of feedback over time, most of it good and useful, and probably, like many of you, feedback is always solicited or elicited and some comes on its own, but we have heard that our current program has cycle lengths asking them to do things at different times. They find this incredibly confusing and, honestly, as a fellow certificant, I understand and agree with that. We are moving to a repeated four year cycle with the same requirements in each cycle that an individual goes through. So what we are going to have is 60 credits, much like the current program, the 40 class B credits, again, like the current program, and individuals will have to meaningfully -- we have a definition, meaningful participation over a 4-year period. So we are transitioning from the current traditional assessment of continued professional certification assessment to using longitudinal assessment in terms of measuring knowledge of CRNAs who desire to have continued certification. And one thing they are removing from our program is we had a component called the core modules, which was really four domain areas of focus learning that all CRNAs were asked to do. The goal is to infuse contemporary knowledge into the profession and keep us all within a certain realm and level. Those tools, despite having wonderful ideals, we felt did not materialize to their full benefit, so we are removing that as a requirement. However, individuals, vendors and the space who spent the time and effort will likely see those mechanisms repurposed to other CEUs and probably class A credit. With that, I want to stop and say thank you very much for the opportunity to present today. I look forward to answering any questions you have during the live Q&A, and I just want to make a side point of saying that the research study, the randomized controlled trial I've talked to you about today, has been accepted for publication and will be published in the practical assessment resetmp;A, and I just want