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2021 NCSBN Scientific Symposium - Guidelines for Monitoring Substance Use Disorders in Nurses Video Transcript
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Event
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Presenter
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- [Moderator] Mr. Smiley has worked as a statistician in the Research Department at NCSBN for 19 years. During his time at NCSBN, he has co-authored studies on the use of simulation in nursing education, on data from the National Nursing Workforce Survey, and on best practices for substance use disorder monitoring programs. He has undergraduate degrees in Mathematics and Computer Science and graduate degrees in Statistics and Demography.

He is the past president of the Chicago Chapter of the American Statistical Association.

- [Richard] Greetings. Today, I will be presenting results from NCSBN study of substance use disorder, SUD, monitoring programs. During the presentation, you are welcome to submit questions in the Q&A box.

I will answer questions live after the presentation has ended. Here is the outline for this session. I will introduce the study, provide some background on previous research, go through the methods used, discuss the results, and share some conclusions regarding next steps to be taken.

Research by NCSBN has shown that substance use disorder is the most common reason that disciplinary actions are taken against a nurse. SUD programs are engaged by over 40 boards of nursing to encourage successful treatment of the nurse's condition and to return the nurse to safe and competent practice.

SUD programs typically require regular check-ins, random drug testing, attendance at structured peer group support meetings, attendance at mutual support meetings such as Alcoholics Anonymous, and worksite monitoring, but program-specific requirements vary across states. SUD programs for physicians are known as Physician Health Programs, PHP.

These programs are affiliated with the medical licensing board and are standardized in most states. PHPs refer patients to abstinence-oriented residential treatment followed by outpatient treatment and substance monitoring for five years or more.

A longitudinal study of 16 PHP programs showed that over 90% of the physicians who have successfully completed the program return to practice. While studies using PHP data have sufficiently established the effectiveness of PHP programs, comparable evidence does not exist for nursing SUD programs.

Because nursing SUD programs can vary vastly from state to state, determining the effectiveness of specific components of SUD programs has been difficult. No one has previously studied what program elements yield the best outcomes for the nurses enrolled. The purpose of this study is to address that deficit by assessing the completion rates of nursing SUD programs and identifying the most important program characteristics associated with program completion.

In order to accomplish this, a retrospective longitudinal cohort study of nurses participating in SUD programs between the years 2007 to 2015 was conducted. Data collected from programs in 13 states monitored by Affinity eHealth produced an analysis file containing over 7,000 nurses.

To the best of our abilities, the study replicated the reporting and classification methods used in the PHP studies. It is especially important to note that the study assumes that program completion is in and of itself a good outcome that is highly correlated with the successful return to practice by nurses. Among the program factors considered for analysis were length of stay in program, drug testing frequency, non-compliance history, relapse history, meeting attendance, check-in history, and drug test history.

Overall, across all programs, the successful completion rate was 61.5%. For programs in the sample with at least 50 nurses, the successful completion rates varied from 51.9% to 69.1%. In the study, the 61.5% rate served as a baseline for determining if and to what degree a program factor was helpful or harmful to program completion.

The table shown here demonstrates that those who had a relapse were much less likely to complete the program. There was a large drop off in the program completion rate from those who had no relapses to those who had one relapse and a steady drop off thereafter as the number of relapses increased.

This figure shows that the percent of nurses successfully completing a program moderately correlates with the number of times a nurse attends a structured support group meeting. It shows that after 20 to 25 meetings per year, roughly twice a month, there is not much of an increase in the percent of those who successfully completed the program.

This suggests that establishing twice a month attendance at structured support group meetings as a program standard would be effective. This figure shows that the percent of nurses successfully completing a program correlates with the number of times a nurse attends a mutual support group meeting like Alcoholics Anonymous. After 50 to 60 meetings per year once a week, there does not seem to be much of an increase in the percent of those who successfully completed the program.

This suggests that establishing once-a-week attendance at mutual support group meetings as a program standard would be effective. This figure shows that the percent of nurses successfully completing a program highly correlates with the number of times a nurse checks in with the monitoring program to find out if he or she has been selected for drug testing.

The steady increase throughout the graph shows that the highest percent of nurses successfully completing a program is at around 360 check-ins per year. This suggests that establishing daily check-ins, including weekends and holidays, as a program standard would be highly effective.

This figure shows that the percent of nurses successfully completing a program correlates with the number of years in the program. It shows a steady increase throughout the graph and suggests that the highest percent of nurses successfully completing a program is at around the five-year mark. A receiver operating characteristic curve, ROC, analysis was conducted on these data.

The figure shows two distributions of data with one placed on top of the other. The distribution on the top represents the length of stay in the program for those who were not successful at completing it.

The distribution on the bottom shows the length of stay in the program for those who were successful at completing it. The ROC analysis identified a cut point at 715 days, about two years, at which the bulk of those who did not complete the program was below that number of days, while the bulk of those who completed the program was above that number of days.

At that two-year cut point, the percent correctly identified non-completers was 55%. By raising the cut point to three years, the percent of correctly identified non-completers was raised to 71%. In other words, most program failures occurred within the first three years of participation in the program. This figure shows that the percent of nurses successfully completing a program distinctly correlates with the number of times she or he is selected for a drug test.

It also shows that after 26 tests per year, roughly twice a month, there does not seem to be much of an increase in the percent who successfully completed the program. This suggests that establishing a twice a month random selection for drug testing as a program standard would be highly effective.

The length of stay in the program and the number of times selected for drug testing program factors were jointly analyzed. An ROC analysis was conducted on the subset of nurses who were selected for drug tests at least 24 times a year. This analysis identified a cut point at 726 days, again about two years, at which the bulk of those who did not complete the program was below that number of days, while the bulk of those who completed was above that number of days.

At that cut point, the percent of correctly identified non-completers was 72%. Raising that cut point to three years raised the negative predictive probability to 88%. In other words, for those who are selected for drug tests at least 24 times a year, almost all program failures occurred within the first three years of participation in the program.

This suggests that establishing three years of participation in the program as a program standard would be effective. The impact of frequent drug testing can be seen further in this table. For those nurses who

were in a program at least two years, all program completion rates were extremely high for those who tested at least 24 times a year.

A regression analysis of the data confirm that the positive factor most associated with program completion was the number of times per year that a nurse was selected for a drug test. The impact of frequent drug testing is further seen in this table. For those nurses who were in a program at least two years, and who suffered at least one relapse, all program completion rates were still high for those who tested at least 24 times a year, and extremely high for those who tested at least 24 times a year and in the program at least five years.

For those nurses who were tested frequently, their likelihood of successful completion was much greater. The median number of test selections for those who completed the program was 40. The median number of test selections for those who did not complete the program was nine. But not too many nurses were tested that frequently.

Only 7% of the nurses in the analysis file were selected for 24 drug tests a year or more. In summary, the overall completion rate was 61.5%. The positive factor most associated with program completion was the number of times per year a nurse was selected for a drug test.

Other factors positively associated with program completion were number of check-ins, number of days in the program, attending structured support group meetings, and attending mutual support group meetings. Going forward, the analysis leads to the following recommendations regarding setting up an SUD monitoring program.

Three years without a relapse is a sufficient link for a program. If a relapse does occur, the three-year clock should be reset to zero. Check-ins for possible drug test selection should be conducted daily, if possible, with the nurse always facing the possibility of being tested on a weekend or a holiday.

Drug tests should be conducted at least twice a month with the tests being random in time and type, such as urine, hair collection. Nurses should attend at least two structured peer group support meetings per month. Nurses should attend at least one mutual support group meeting per week, like AA.

Results of the study appeared in the July 2020 issue of the <i>Journal of Nursing Regulation </i> in an article entitled "Outcomes of Substance Use Disorder (SUD) Monitoring Programs" by Richard Smiley and Kyrani Reneau.

We will now go live for questions. Hi. Thank you very much for listening to the presentation.

I invite you to put any questions you have into the Q&A box and we will get to them. And, I think I see a first question appear from Ruby Jason. Was there a review of completion of an alternative discipline program resulted in greater completion than the same characteristics of monitoring but a public discipline and that...

Okay, I see what you're saying. In other words, was there a difference between a discipline that was alternative to discipline versus public discipline?

Unfortunately, we didn't quite have that information as far as what the contract was that the nurses were on. I think, while most of them may have been participating in an ATD setting, we were aware that some nurses were participating who had been disciplined anyway.

And, we couldn't distinguish which were which so we couldn't tell. What about nurses with limited work hours and no night shift? I'm sorry, we did not have that level of detail or information on the nurses that we had. We were limited by what we had in the data set.

And let's see. As I mentioned in the presentation, the primary bit of the data set that was useful to us was the raw data coming from the monitoring programs that told us whether or not a person had been tested or not.

And, it was primarily that raw data that we were getting the most power from. I mean, some of these other breakdowns for demographics and that, we just didn't have as much about the nurses as we may have liked to have had to break out the studies in those way. And what we're going to be doing is moving forward proactively with a study and we're hoping we'll be able to get some more of that information.

From Suzanne, was the testing you refer to only urine? Or did it include hair and/or pet? Let's see, I think it was primarily urine. But, we did have...

Suzanne, I would have to look into that specifically to see what... if we actually had the details on what the methods of testing were as far as that type of detail. Because if we had that information, we certainly would have checked that out. And so, that wasn't something we could use as a variable.

But, were the nurses practicing while in the SUD and monitoring program? Some of them were. We did not have detail about when they were granted returned to practice because our information about the nurses was anonymous.

To respect privacy, we did not have specific information about the names of the nurses and who they were. So, that detail about whether or not they returned to practice, we really did not have. And, I think I mentioned right at the start of the study that we kind of assumed that even completion of the program, says they completed, that was a good event in and of itself, that most people who have studied this think program completion is linked to successful return to practice.

But, that closing the loop part is something we did not have, and, once again, is a feature that we intend to incorporate into our next go around with the study. We will be piloting some of these guidelines that we have come up with.

We're going to be trying to pilot this at some programs and see what happens prospectively going forward. So, that would be the type of information we'd be definitely trying to collect in terms of what happens with the program and do the nurses successfully return to practice.

Let's see, from... Comparison to public versus non-public outcomes would be interesting. I agree. That would be good. And, I'm not seeing any other questions here. Let's see, did missed check-ins...?

Refresh, okay, so you're saying... I just saw one here. Did missed...? Okay. Did missed check-ins to test factor into data for those that did not complete? In other words, if they missed check-ins was that a reason for non-completion?

Like, if they missed too many check-ins, did that cause them to not complete a program? I'm not sure of that. I don't want to say yes.

I don't think so. Once again, that would be...missed check-ins are also non-compliances. So, at some point, that adds up. But, I don't know if specifically... and programs treat that differently. So, there may be some programs where that could be seen as a much bigger infraction than in other programs.

So, I don't know. I can't definitely say yes or no on that question. And, let's see. And, once again, that's the final question I'm seeing in this. So, was there a correlation of missed tests to failure?

Yes, I mean there was. The more missed tests does correspond to lower program completion. It's covered elsewhere. There's stronger variables so we didn't really include that in the final presentation. But, yes, there is a link between more missed check-ins and likelihood of not completing the program.

Let's see if there's anything else here. Okay. Okay.

To my mind I have answered all the questions I see but, let's see. Let's see. Okay.

And so, I'm being told I'm missing a question that basically says, did... Say it again.

Was financial...that nurses could be missing? Yes, that... In our study, you do see evidence for even participating, even opting to join the SUD program or in actions taken, finances are always seemingly an issue.

That one of the issues, that these drug tests have a cost and so financial reasons could be the reason that maybe people may opt not to go. So, it could be a factor.

Finances are always an issue with this. Otherwise, that's it. That's all I'm seeing. So, thank you very much for your questions, and thanks for listening to the presentation. And enjoy the rest of the day.