**Rapid Assessment and Treatment of Delirium in the Home Health Setting: A Quality Improvement Project.**

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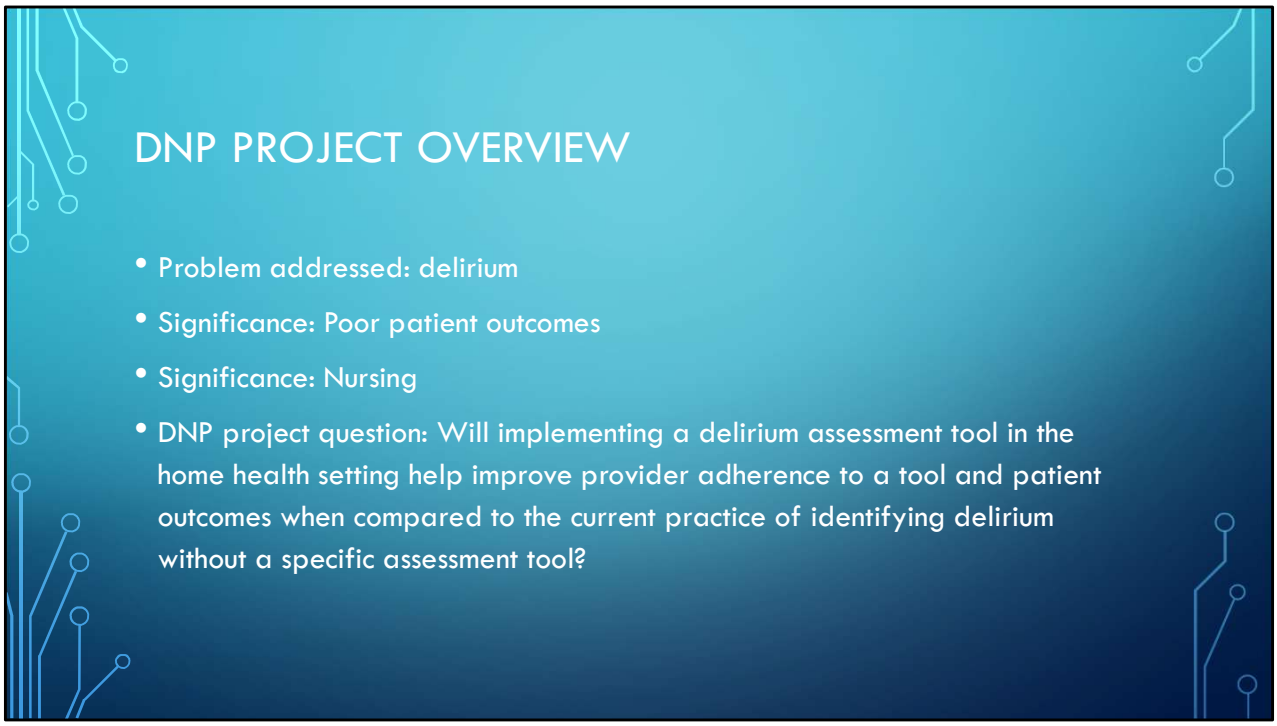


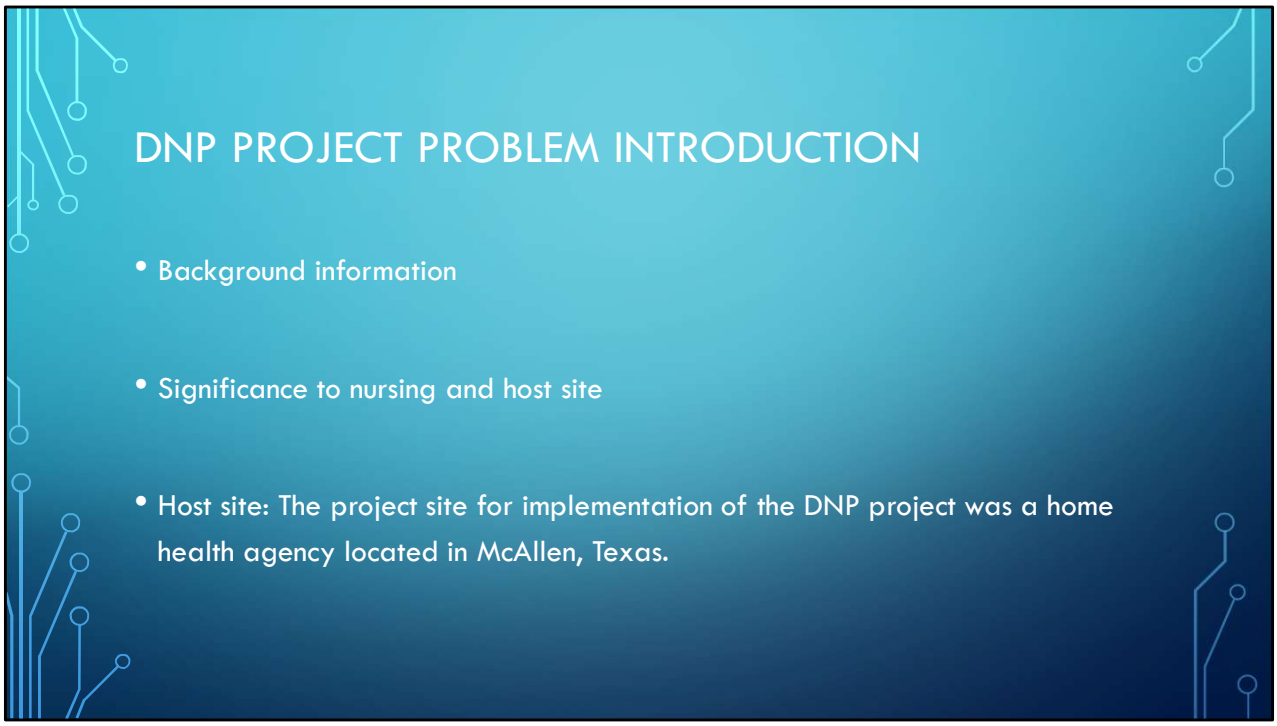

Problem addressed: Delirium- Delirium is described as a syndrome with a sudden onset that affects the geriatric population's ability to think and reason (Oh et al., 2017).

Significance: Poor patient outcomes- Delirium causes poor patient outcomes such as fall-related injuries, a decrease of function, dementia, increased hospitalization time, admission to health care institutions, and morbidity but can be prevented in 40% of known cases (Wu, et al., 2019). Failure to diagnose delirium leads to death in 10% to 36% of patients, with a 70% increase in mortality within 6 months after the emergency room visit (Ramirez & Paul 2020). It is estimated that delirium costs Medicare $6.9 billion a year due to complications, cost paid to medical institutions, and a decline in functionality (Ramirez & Paul 2020). Treatment of delirium quickly can reduce costs, poor outcomes, death, and longer hospital stays (Rippon et al., 2016).

Significance: Nursing-Nurses need to identify delirium in the early stages with preventative measures in place and measures to help treat delirium (Wu et al., 2019). Regular screenings by healthcare teams are necessary to properly diagnose delirium (Bush et al., 2017).

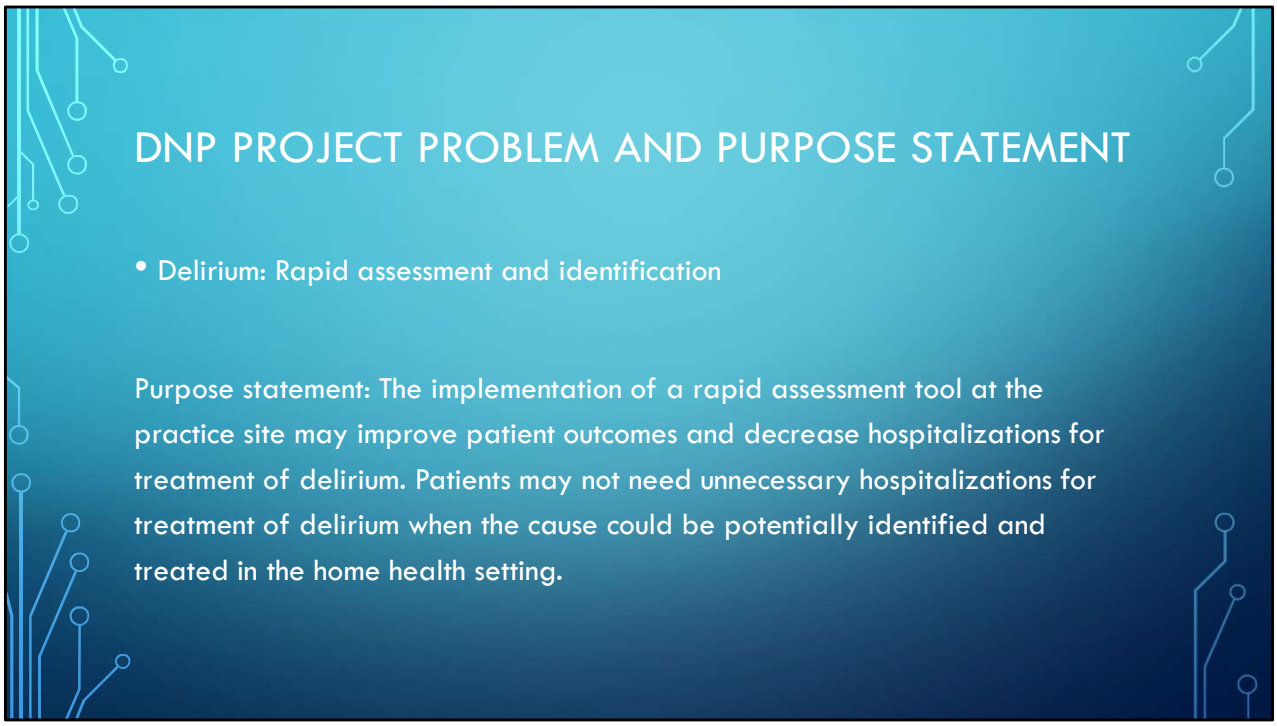
# DNP PROJECT OVERVIEW

- Intervention: Confusion Assessment Method (CAM) tool
- Project Aim: The QI project aim was to determine if the participants were compliant in using the CAM tool and if the use of the tool helped to identify patients with delirium in the home health setting.
- Achievements of DNP QI project: implementation of CAM tool helped identify delirium




Background information: Most patients suffering from delirium do not get diagnosed, hence they never get the treatment needed for the cause of delirium (Mooyeon et al., 2018). The use of evidence-based assessment tools of delirium by health care providers may be an important approach to helping patients with delirium. According to Rippon (2016), it is important to create protocols specifically for delirium that will help clinicians communicate signs and symptoms of delirium to rapidly identify delirium.

Significance to nursing and host site: According to Mooyeon et al. (2018) the prevalence of delirium as a complication may be as high as 18-64% depending on the clinical setting. Delirium costs $152 billion per year for the health care industry (Mooyeon et al., 2018). Projects that promote quality improvement have been created to decrease the number of hospitalizations, which in turn will produce better patient outcomes (Lohman et al., 2018).



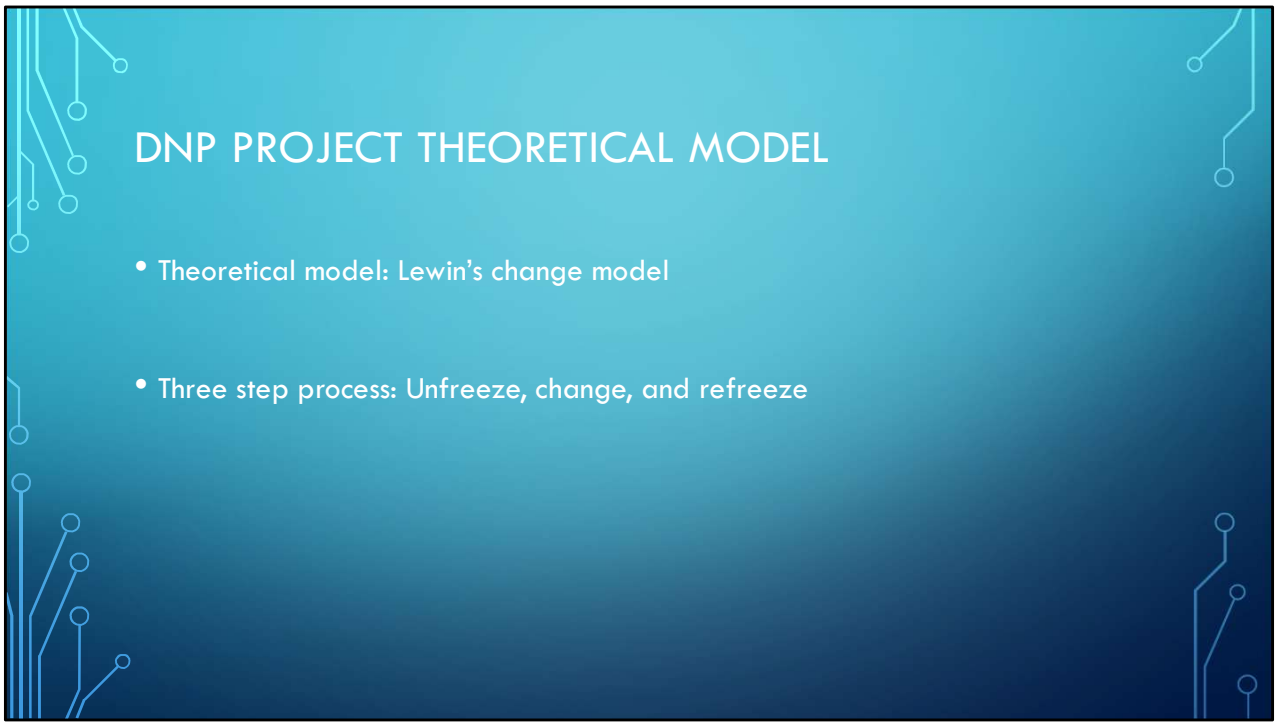

Delirium: Patients with delirium in the home health setting require rapid assessment and identification of the cause of delirium to prevent hospitalization (Irani et al., 2020). Irani et al. (2020) suggested it is critical to assess all the needs of geriatric patients in the home health setting to find a way that nurses will be able to provide appropriate care for them. Lack of imparting patient information within health care teams leads to insufficient delirium identification and treatment (Rippon et al., 2016). Inadequate exchange of patient information, including changes of cognitive abilities, can lead to moments of failed assessment and treatment of delirium (Rippon et al., 2016).

# DNP PROJECT OBJECTIVES

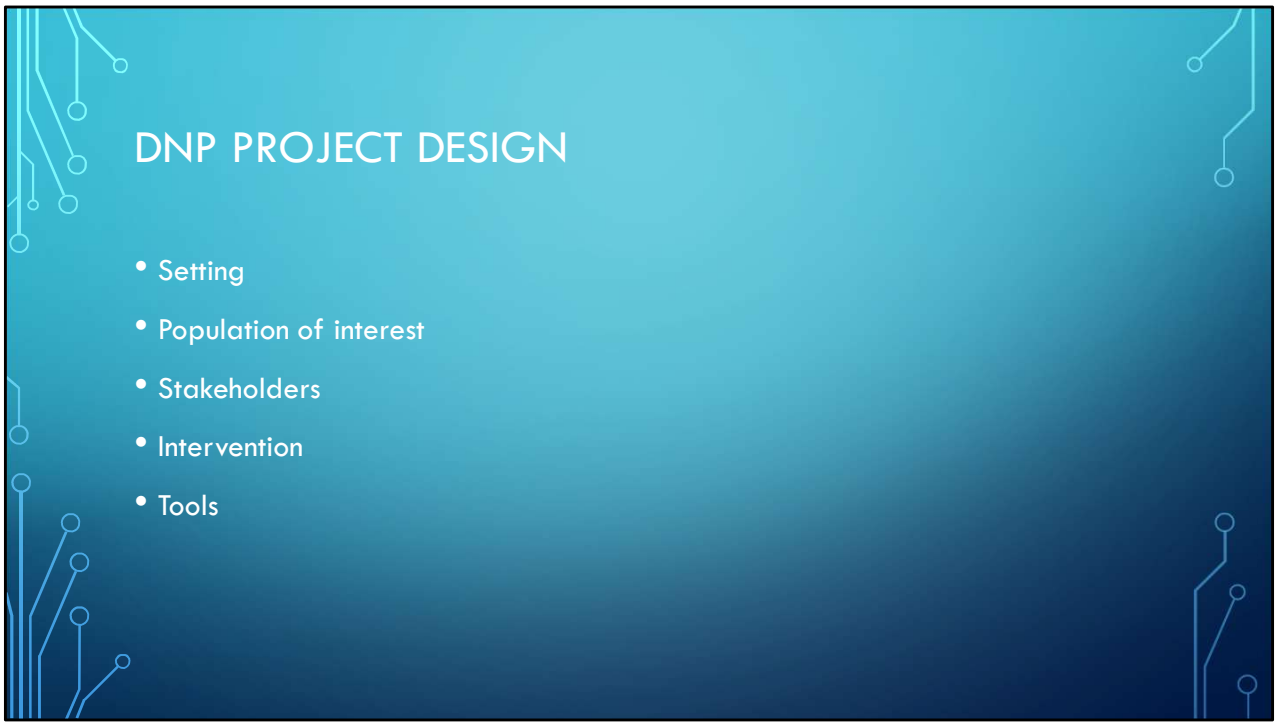
- 1. Implement the use of a standardized delirium assessment tool at the DNP project site for rapid identification and treatment of delirium. Evaluation of delirium assessment tool use will be conducted through chart review of the nurses' notes. The goal is to have at least 90% of nurses in compliance with the use of the delirium assessment tool.
- 2. During weekly case conference meetings, nurses and staff will be provided with training on using the delirium assessment tool before the DNP project is implemented. The goal is to have at least 90% or more nurses and staff in attendance for training sessions of the delirium assessment tool.
- 3. Conduct chart review five weeks after implementing the DNP project to determine if nurses were able to identify delirium using the delirium assessment tool providing for rapid treatment and prevention of hospitalization. The goal is to have identified at least 90% of patients with delirium using the delirium assessment tool.

# DNP PROJECT REVIEW OF LITERATURE

- Databases used: CINAHL, PubMed, EBSCOhost, and Medline
- Search terms used: "delirium management in home health," "delirium treatment," "delirium assessment tools," "delirium assessment tools," "delirium in-home setting," and "delirium provider training."
- Theme: Use of standardized Assessment tools and education




The DNP project used Lewin's change model, which has three major tenants. Lewin's change model dates to 1947 and uses a three-step process to create change; unfreeze, change, and refreeze (Erakovich & Anderson, 2013). Kurt Lewin created the change model that implements a three-step process (Cummings et al., 2016). Lewin's change model helped implement a quality improvement project in the home health setting to rapidly identify patients with delirium using a standardized assessment tool.



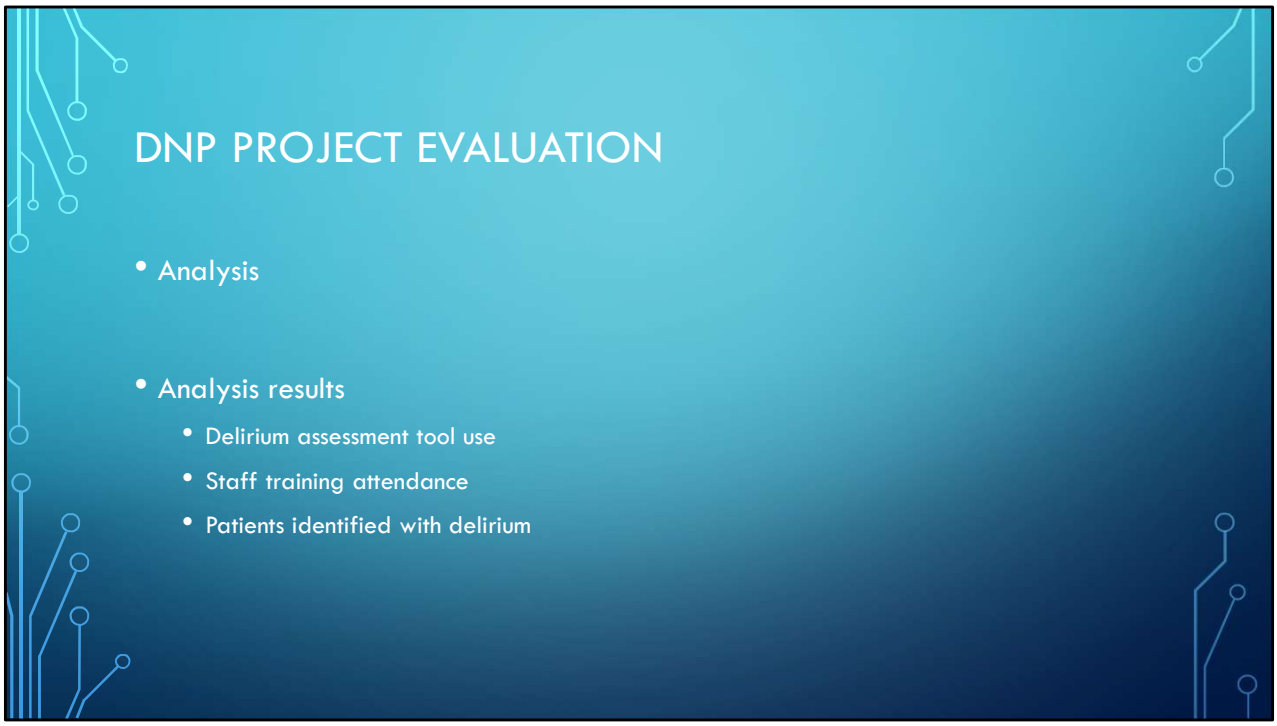

Setting: The project site for implementation of the DNP project was a home health agency located in McAllen, Texas. The home health agency nurses do about 60 to 120 home visits on a weekly basis, depending on the patient census of the home health agency which may vary from 60-100 patients per month.

Population of interest: The direct population of interest for this DNP project will be the 12 home health nurses at the practice site.

Stakeholders: The three owners of the home health agency are registered nurses and are the stakeholders.

Intervention: A meeting for all nursing staff took place on week 1 with training on how to use the confusion assessment method (CAM) tool. The training lasted one hour followed by an hour to allow for questions and answers that the nursing staff had. The project lead was available to answer any questions on the use of the form to assure that the participants had on the use of the CAM tool. Weeks 2, 3, and 4 will consisted of nursing staff implementing use of the CAM tool during their home visits with all home health patients.

Tools: The tools used in this DNP project include the CAM tool, educational handouts, and a chart audit tool.



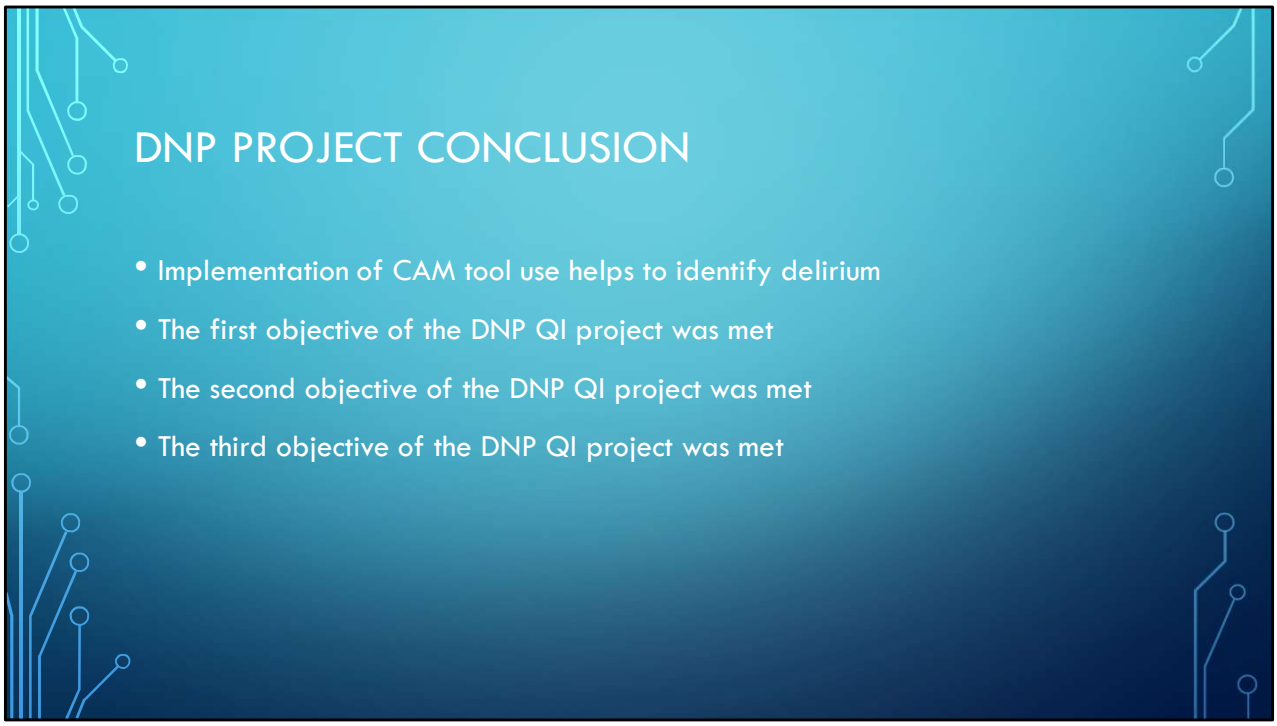

Analysis: A quantitative approach for data collection was used. The most appropriate statistical analysis for this QI project was the paired-sample t-test. The paired-sample t-test can be utilized when there is only one group of persons and you are collecting data at two points in time, before the intervention and after the intervention (Pallant, 2013). The statistical package for the social sciences version 27 (SPSS) software will be used to analyze the data for the QI project.

Analysis results:
Delirium assessment tool use: The confidence interval of proportion was used to determine the percentage of nurses that were compliant with the use of the delirium assessment tool. The nurses did a total of 503 patient home visits and out of those home visits the nurses used the assessment tool 489 times. The lower limit is 95% and the upper limit is 98%. This leads to the conclusion with 95% confidence that 90% of the nurses adhered to the use of the delirium assessment tool.

Staff training attendance: The confidence interval of proportion was used to determine the percentage of nurses in attendance for the training sessions of the delirium assessment tool. Twelve staff nurses were invited to the CAM tool use training with twelve nurses attending the training. The lower limit is 75% and the

upper limit is 100%.  This leads to the conclusion with 95% confidence that more than 90% of the nurses attended the delirium assessment tool training.

Patients identified with delirium: The confidence interval of proportion was used to determine the percentage of patients identified with delirium using the delirium assessment tool. There were total of three patients out of three that were identified to have delirium using the CAM tool. The lower limit is 43% and the upper limit is 100%.  This leads to the conclusion with 95% confidence that more than 90% of the nurses identified delirium using the assessment tool. The paired-sample t-test was performed demonstrating that there is a statistical significance in identifying delirium using the delirium assessment tool. The (p) value is less than .05, concluding that there is a statistical significance between CAM tool use and identifying delirium. The mean difference between the two scores is .964 with a 95% confidence interval from .948 to .981.




Implementation of CAM tool: The data analyses have indicated that implementation of the CAM assessment tool resulted in the identification of delirium. Thus, implementing the CAM assessment tool led to the identification of delirium with rapid treatment in the home health setting.

First objective: The first objective of the DNP QI project was to ensure that at least 90% of the nurses complied with using the delirium assessment tool. This percentage indicates that a sufficient number of nurses would gain knowledge in the use of the CAM tool and adhere to the use of the CAM tool.

Second objective: The second objective of the DNP QI project was to have at least 90% or more of the nurses attend the training sessions. Of twelve of the nurses that were invited to attend the training, twelve attended the training sessions.

Third objective: The third objective of the DNP QI project was to identify at least 90% of patients with delirium using the delirium assessment tool. Three patients were found to have delirium, and all three were found to have delirium using the assessment tool. The paired sample t-test concluded a statistical significance between the assessment tool use and identifying delirium. The paired sample t-test

indicated the confidence level of the findings to be 95%; thus, the findings are statistically significant. The DNP QI project findings support the implementation and use of the CAM assessment tool to help identify delirium in home health patients. The DNP QI project findings are also in line with existing literature that suggests using the CAM assessment tool for the identification of delirium.

# DNP PROJECT DISSEMINATION

- Dissemination of this DNP project will be done using several platforms.
- The first platform will be done via an online DNP repository. The second platform will be done through a local nurse organization called Valley Advanced Practice Nurse Association at their annual conference. The third platform will be done through presentations for quality improvement nurses at home health agencies in this DNP leader's community. The last platform that will be used is social media which has a much larger audience.

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