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# Measuring the Development of Depression In A Long-Term Care Facility

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MEASURING THE DEVELOPMENT OF DEPRESSION

IN A LONG-TERM CARE FACILITY

by

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ABSTRACT

Depression is a severe global health problem (Almond, 2009; Brewis et al., 2018; Liu et al., 2019). According to the World Health Organization [WHO] (2020), depression is a problem that more than 264 million people suffer from. In comparison to older adults in the community, depression rates are significantly higher among older adults in long-term care. The treatment of older adults in long-term care is challenging. There are several risk factors that contribute to depression in this population, however, they are still not clear.

The purpose of this Doctor of Nursing Practice (DNP) project was to measure the development of depression of residents while in a long-term care facility utilizing the Patient Health Questionnaire (PHQ) 2, and if justified, the PQH 9 depression questionnaires. A single PICO guided this project, "In adults ages 65 and older (P), is the use of a screening tool for depression (I), compared with the usual standard of care (C) more accurate in detecting the development of depression (O)?"

The DNP project was conducted at one long-term care facility in a rural town in the southern part of the United States. Forty-seven ($N = 47$) residents were deemed eligible to participate in the project. Thirty-three (70%) participants were negative for depression according to the PHQ 2 questionnaire. There were nine (21%) participants who screened positive for depression.

These findings from this DNP project indicate the following: (1) There is a significant need for continuous screening for the development of depression in older adult patients in long-term care settings; (2) Nurses and other healthcare providers should be trained and made aware of the benefits of screening for depression and appropriately

refer patients for mental health follow-up; and (3) Older patients should receive education

about depression to understand the dangers of untreated depression, and the benefits of

depression treatment to achieve a better quality of life.

ACKNOWLEDGMENTS

DEDICATION

I dedicate my doctoral project work to my wife, Shani Melessa Anderson. Thanks for always being a supportive spouse. You are my sunshine! Thanks for keeping me focused and helping me balance the many obligations of life. From the early mornings to missed events, you have always been there for me. I love you!

Also, I would like to dedicate this project to my mother, Julia Anderson Gray. You have always been my backbone and inspiration. You pushed me to achieve greatness and I thank you for that.

To my mother-in-love, Dr. Annyce Campbell-Butler, you have been a constant source of support and steadfast encouragement since I started this journey. Thank you for all that you do.

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LIST OF ABBREVIATIONS

| | |
|---|---|
| *AACN* | American Association of Colleges of Nursing |
| *APA* | American Psychiatric Association |
| *CMA* | Certified Medical Assistants |
| *CNA* | Certified Nursing Assistants |
| *CINAHL* | Cumulative Index for Nursing and Allied Health Literature |
| *DON* | Director of Nursing |
| *DNP* | Doctor of Nursing Practice |
| *ERIC* | Education Resource Information Center |
| *EMR* | Electronic Medical Records |
| *IRB* | Institutional Review Board |
| *LPN* | Licensed Practical Nurses |
| *LTCF* | Long-term Care Facility |
| *PHQ* | Patient Health Questionnaire |
| *PDSA* | Plan Do Study Act |
| *PICO* | Population, Intervention, Control, Outcome |
| *QI* | Quality Improvement |
| *RCT* | Randomized Controlled Trial |
| *RN* | Registered Nurse |
| *USPSTF* | United States Preventative Service Task Force |
| *UBACC* | University of California, San Diego Brief Assessment of Capacity to Consent |

*USM* The University of Southern Mississippi

WHO World Health Organization

CHAPTER I - INTRODUCTION

Depression is a severe global health (Amaltinga & Mbinta, 2020; Eid et al., 2019; Li et al., 2019; Marcus et al., 2016). According to the World Health Organization [WHO] (2020), depression affects more than 264 million individuals from various demographics. Depression is a serious, but common, illness that can negatively impact how the patient feels, acts, and thinks. Depression can create feelings of sadness and an overall sense of loss of interest in activities. Depression can lead to a rollercoaster of emotional, mental, and physical issues and can decrease the patients' ability to function in daily life activities (American Psychiatric Association [APA], 2021). The WHO (2020) confirmed that depression was the number one cause of disability and significantly contributed to the overall disease burden (The World Health Organization, 2020). Depression is also correlated with higher morbidity and mortality rates, increased healthcare utilization, and fiscal costs (Chow et al., 2019; König et al., 2019; Tanner et al., 2020; Yamabe et al., 2019).

Depression is acknowledged as a treatable mental health disorder. It is a national priority to identify and treat depression. However, depression is significantly underdiagnosed and undertreated. A diagnosis of depression can be made after the individual has symptoms that persist for at least two weeks (The National Institute of Mental Health [NIMH], 2017). Routine depression screening of all adults has been recommended by the United States Preventive Services Task Force (USPSTF) since 2009 (National Library of Medicine, 2016). The earlier treatment begins, the more effective it is for the individual (Herzog et al., 2021; Picardi et al., 2016; Song et al., 2020). Between

1

80% and 90% percent of individuals diagnosed with depression eventually respond well to treatment (American Psychiatric Association [APA], 2021).

<center>Background and Significance</center>

Depression rates are considerably higher among older adults in long-term care compared to older adults within the community, creating a significant challenge. Several risk factors contribute to depression; however, in this population, those risk factors remain uncertain. This lack of knowledge about risk factors prohibits the identification of those individuals who are at risk for depression and prompt therapeutic treatments.

Chau et al. (2019) conducted a systematic review that summarized the evidence on risk factors for depression. Eleven studies met the requirements to be included in the study.  A total of 11,703 participants were included in the study. The mean sample size was 1,064. Cognitive impairment was indicated as the most significant supported risk factor, followed by functional impairment.  The study did not indicate a systematic method to investigate risk factors for depression. Only minimal risk factors were studied in this review, with more than 20 risk factors that were examined only at one time. The findings of the review supported that psychological and environmental risk factors could inform therapeutic interventions. However, the risk factors that supported preventing depression were not clear.

<center>PICO/Project Question</center>

A single PICO question guided this DNP project - Population (P), Intervention (I), Control (C), Outcome (O) question: "In adults ages 65 and older (P), is the use of a screening tool for depression (I), compared with the usual standard of care (C) more accurate in detecting the development of depression (O)?"

Project Purpose

The purpose of this Doctor of Nursing Practice (DNP) project was to measure the development of depression of residents while in a long-term care facility utilizing the Patient Health Questionnaire (PHQ) 2, and if justified, the PQH 9 depression questionnaires. This data will increase efforts in improving the efficiency and effectiveness of identifying depression in older adults. This project will provide evidence of best practices and quality improvement for depression screening in long-term care facilities.

Table 1

*Objective and Expected Outcome*

| Objective | Expected Outcome |
|---|---|
| To implement the utilization of the PHQ 2/ PHQ 9 depression screening questionnaire into the long-term care facility. | The integration of the PHQ 2/ PHQ 9 depression screening questionnaire into the long-term care facility. |

Conceptual Framework

The Plan Do Study Act (PDSA) was utilized to guide this DNP project. This framework is a scientific method commonly used for organization and quality improvement (Moen & Norman, 2010). The framework provides feedback regarding what works and what does not work. Dr. W. Edwards Deming developed the framework in 1950. The PDSA cycle was first presented at a Japanese science and engineering seminar and has since been used in various organizations (Hunt et al., 2017; Moen & Norman, 2016; Younger, 2020).

The four-step approach of the PDSA cycle identifies an opportunity to:

1. Plan a change or test or measure how something works.

2. Carry out the plan.

3. Examine the plan.

4. Incorporate changes and establish quality improvement.

*Plan*

The planning stage consisted of preparing to implement the PHQ 2/PHQ 9 screening tool in the long-term care facility. The project leader conducted a needs assessment with the Director of Nursing (DON) to determine how valuable a depression screening tool would be in a long-term care facility. The planning also consisted of arranging possible times for chart audits and data collection. During the planning phase, the project leader decided which data needed to be collected. The overall goal for the project was to implement the utilization of the screening tool to identify depression in older adults better.

*Do*

The doing phases consisted of carrying out the plan. The project leader began the DNP project by conducting an educational session at a monthly staff in-service. After the educational session, the project leader conducted the chart audits. After eligible participants were identified and informed consents were signed, the project leader conducted the screening of the participants.

*Study*

The study phase consisted of the project leader examining the extracted data from the participants. Analysis of the data and results are discussed in this phase. This analysis is a critical step in the process.

*Act*

   The act phase consisted of determining if the depression screening tool would be adopted or rejected. Figure 1 illustrates the PDSA cycle. After the evaluation of this phase, the decision to adopt or reject is determined. This evaluation is a very important step in this iterative process.
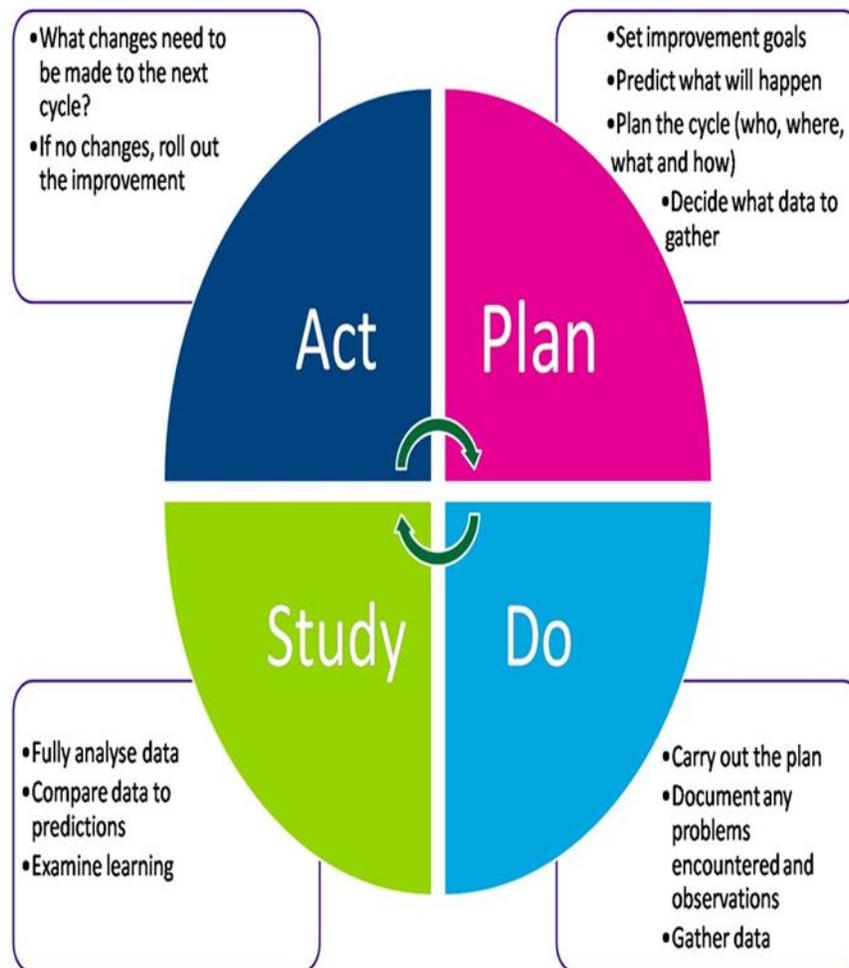


*Figure 1. The PSDA Cycle.*

Adapted from Tague, N. (2005). *The Quality Toolbox*, (2nd ed.). ASQ Quality Press.

DNP Essentials

According to the American Association of Colleges of Nursing (AACN, 2006), the DNP degree contains eight essential elements for nursing practice. The DNP essentials are regarded as the underpinning of core competencies to be achieved by nurses who receive the DNP degree. The DNP Essentials that best fit this project are DNP Essential II (Organizational and Systems Leadership for Quality Improvement and Systems Thinking), DNP Essential V (Health Care Policy for Advocacy in Health Care, and DNP Essential VI (Interprofessional Collaboration for Improving Patient and Population Outcomes).

DNP Essential II focuses on organizational and systems leadership for quality improvement and systems thinking (AACN, 2006). This project is a quality improvement project. Quality improvement is concentrated on the improvement of patient outcomes while concurrently looking at methods to improve practice in healthcare organizations (AACN, 2006). Nurses utilizing the depression screening tool with the residents can meet the goal of quality improvement for the organization.

DNP Essential V focuses on policies and advocacy in health care (AACN, 2006). Patient advocacy is of the utmost importance in health care. By increasing nurses' knowledge in depression screening and implementing the depression screening tool, nurses can advocate for the patients. When nurses advocate for patients, it will help meet the goal for advocacy in health care and can inform the need for a mandated policy for all long-term care facilities.

DNP Essential VI emphasizes collaboration and improving patient and population health outcomes (AACN, 2006). At the project site, nurses, physicians, certified nursing

assistants (CNAs), physical therapy, and occupational therapy interact daily to provide the best care for the residents. A key determinate in achieving positive patient outcomes involves establishing effective communication skills needed for successful collaboration. Implementing the depression screening tool will allow nurses and physicians to initiate and manage the best treatment with the residents. The screen tool will help the organization meet the goal of improving patient outcomes.

<center>Needs Assessment</center>

The project leader conducted a needs assessment with the DON of a 180-bed long-term care facility in Yazoo City, Mississippi. The facility did not use a standard screening tool for depression. The DON, the nurse managers, and other staff members agreed that a depression screening tool would help provide a formal, systematic approach to detecting and managing depression and clear communication guidelines for treatment and follow-up. They also indicated that the continuous screening of depression in the residents would be more effective and efficient than no screening tool at all. A more precise understanding of the risk factors for the development of depression is much needed in this setting.

<center>Synthesis of the Evidence</center>

A review of the literature was conducted to better understand depression reported in individuals residing in long-term care facilities. The following databases were utilized in the literature search: Education Resource Information Center (ERIC), Cumulative Index for Nursing and Allied Health Literature (CINAHL), Sage Full-Text Collection, Google Scholar, Mendeley, and PubMed. The search terms used alone or in combination included: depression, depression in the elderly, depression screening tools, depression in

long-term care facilities, and the Plan Do Study Act Model. The literature search yielded many studies between the years 2010 and 2020 to review the most recent and relevant literature on depression.

*Depression in Long Term Care*

Depression among older adults in long-term care remains a significant problem in health care. Chau et al. (2021) conducted a prospective, observational study that aimed to identify modifiable risk factors in older adults. Adults 65 and older were recruited from 15 long-term-care facilities to participate in this study. The study results indicated that pain, social, disturbances in sleep patterns, social support, and person-environment fit were the risk factors that could be modified. Also, the study indicated that individuals that exhibited symptoms that were significant clinically should be specifically treated with interventions that target these risk factors.

Depression affects 5% to 20% of patients 65 or older, and most elderly patients are treated for depression in the primary care setting (Overstreet et al., 2013). Overstreet et al. (2013) conducted a project on resident quality improvement (QI) that was aimed at improving screening methods for depression. The QI project aimed to teach residents how to screen for and treat depression in the population of geriatrics. The researcher searched electronic medical records (EMRs) for a diagnosis of depression for patients seen at the clinic from March 2011 to March 2012 (Overstreet et al., 2013). The researchers conducted systematic depression screening of all patients that were 65 and older using the Patient Health Questionnaire 2 (PHQ-2) and the PHQ-9 screening tool. Certified medical assistants (CMA) asked each participant to answer PHQ-2 screening questions prior to visit with the resident physician. If the PHQ-2 score was > 3, the CMA

then gave the patient a PHQ-9 to complete before the resident physician encounter (Overstreet et al., 2013). The resident physician discussed the results with the patient, and if indicated, started treatment for depression.

The results of this study indicated that 15.6% of patients had been diagnosed with depression. Initial screening data for 120 patients revealed that 5.2% of patients had a positive screening with the PHQ-2, 75% of patients had a confirmed diagnosis of depression with the PHQ-9 (Overstreet et al., 2013). The study findings implied that the screening tool was effective. The clinic continued to use the screening tool. This study is significant because it suggested that depression screening for older patients is beneficial in providing the best treatment.

*Older Adults, Nurses, and Depression*

Using a qualitative approach, Tanaka (2020) conducted a study to explore viewpoints linked with depression among older adults. The researchers conducted narrative interviews that lasted 60–90 minutes, and included (n = 19) participants with depression. Four themes and twelve subthemes emerged from the narrative interviews. Older adults with depression-linked opinions included (1) *guilt and regret*, (2) *pessimism*, (3) *treatment futility*, and (4) *desire to feel relevant by loved ones and society* (Tanaka, 2020).

This study is pertinent to clinical nursing practice. This study should assist nurses to understand distress experienced by older adults with depression, who are more apt to experience feelings of guilt and regret when reflecting on the past, alleviate distress through dialogue, and provide positive support for patients. Also, the findings help to understand distress over experiences of loss in old age. Lastly, the study indicates that

older adults with depression can have a more tranquil attitude towards life and can preserve their self-worth (Tanaka, 2020).

Chuang and Kuo (2018) conducted a study that sought to comprehend the level of knowledge of nurses on late-life depression, attitudes towards depression, and levels of confidence providing care for older adults with depressive clinical manifestations or depression. The researchers employed a cross-sectional descriptive and correlational research design. The researchers sent out a nationwide self-report survey. A total of 556 questionnaires were sent out.

The study revealed that LTCF the knowledge of nurses about late-life depression was limited, and they also did not possess enough confidence in treating and caring for older persons with clinical manifestations of depression. Yet, the attitudes of the nurses towards depression were somewhat positive (Chuang & Kuo, 2018). The study indicated that nurses who possessed confidence in caring for older persons with depression were those with better attitudes towards depression, and who had a great level of interest in caring for older adults with depression, less late-life depression knowledge, more extensive experience providing nursing services in LTCFs, and a self-reported higher level of interest in depression during later life, and who reported taking courses or classes and reading pamphlets reported to depression in later life. (Chuang & Kuo, 2018). The outcomes from this study suggested a crucial necessity to develop approaches to improve nurses' knowledge in late-life depression and increase their confidence in treating older residents with signs and symptoms, or depression (Chuang & Kuo, 2018).

Lee et al. (2020) conducted a study that examined the efficacy of several brief training sessions aimed at improving nurses' knowledge, attitudes, and confidence in

providing late-life depression care in LTCFs. The researchers used a cluster-randomized controlled trial (RCT). A total of nine LTCFs were involved in the study. Thirty nurses were allocated to the intervention group received three 30-minute training sessions, and 36 nurses were allocated to the comparison groups (Lee et al., 2020).

This study showed that increasing nurses' knowledge about depression care would improve care. The researchers advocated that nurse managers and directors implement comparable training programs. For nurses in LTCFs, the goal is to improve the care quality for older residents (Lee et al., 2020).

*Plan Do Study Act*

Burge et al. (2019) developed a plan of quality improvement to start a two-phase depression screening practice for people 65 years and older residing in two rural counties in Nebraska. A convenience sample of 50 adults, 65 years or older with a known diagnosis of anxiety or depression residing in south-central Nebraska was utilized in the study. The Plan-Do-Study (PDSA) model was the framework of the study.

The study results revealed the need to systematize secondary depression screening procedures within a rural population (Burge et al., 2019). The outcomes demonstrated the achievement of goals with the constant use of electronic medical record (EMR) supported Patient Health Questionnaire (PHQ-2) information for the older adults. Nevertheless, a break in the system occurred when the organization relied on face-to-face communication in notifying the physician when the PHQ-2 triggered the need for the more detailed PHQ-9 (Burge et al., 2019). This study revealed a gap in the care for older males with inferences for improving efforts to screen for depression.

The compiled studies reviewed helped guide the design depression screening project. The literature review was critical in selecting a valid and reliable depression screening tool for this project. Also, variables such as the long-term care setting and nurses' knowledge and satisfaction were critical factors when analyzing the literature to determine the feasibility of the depression screening intervention.

Summary

Chapter I provided the problem statement, the purpose of the project, and the PICO question. Chapter I also discussed the needs assessment, a synthesis of the evidence, the conceptual framework, and DNP Essentials. Chapter II discusses the methods that were implemented in this DNP Project.

CHAPTER II - METHODS

The purpose of this Doctor of Nursing Practice (DNP) project was to measure the development of depression of residents while in a long-term care facility utilizing the Patient Health Questionnaire (PHQ)-2, and if justified, the PHQ-9 depression questionnaires. This data will increase efforts in improving the efficiency and effectiveness of identifying depression in older adults. This project will provide evidence of best practices and quality improvement for depression screening in long-term care facilities.

Setting

The DNP project was conducted at one long-term care facility located in Yazoo City, Mississippi. The 180-bed long-term care facility has one director of nursing (DON), two assistant directors of nursing (ADONs), six registered nurses (RNs), fifteen licensed practical nurses (LPNs), 25 certified nursing assistants (CNAs). The facility has three floors. However, due to construction, the facility had only 120 beds occupied. The long-term care facility provides skilled nursing and rehabilitation services. However, the organization does not screen for depression after admission. The lack of ongoing depression screening after admission presented an opportunity for quality improvement in this facility.

Population/Sampling

For this project, the target population was residents of a long-term care facility over 65. The residents that screened positive for depression using the PHQ 2 screening tool were the target population for this quality improvement project. Residents were eligible for inclusion if they were 65 years of age or older; able to speak and understand

English; able to provide informed consent; able to pass the University of California, San Diego Brief Assessment of Capacity to Consent (UBACC); had no diagnosis of depression and had been in the long-term care facility for at least three months. Exclusion criteria included patients under the age of 65; non-English speaking; not able to provide informed consent; failed the UBACC; had a diagnosis of depression and had been in the long-term care facility less than three months.

Out of the 120 residents at the facility, twenty-one residents (18%) refused to participate in the project, and 43 (35%) residents were excluded from participation primarily because they already were diagnosed with depression in their medical records. Nine (19%) residents were excluded from participation from failure to pass the UBACC tool. After screening the inclusion/exclusion criteria, a convenience sample of 47 residents ($N = 47$) was deemed eligible to participate in the project.

Table 2

*Inclusion and Exclusion Criteria*

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| 65 years of age or older | Under the age of 65 |
| Able to speak and understand English | Not able to speak and understand English |
| Able to provide informed consent. | Not able to provide informed consent. |
| Pass the UBACC tool | Fail the UBACC tool |
| No diagnosis of depression | A diagnosis of depression |
| At least three months of residency in the long-term care facility | Less than three months in the long-term care facility |

Data Collection and Procedures

The University of Southern Mississippi's Institutional Review Board (IRB)

granted permission to conduct the capstone project on July 30, 2021, IRB Protocol # 21-

203 (Appendix A). After receiving IRB approval, the project leader began the initial chart

review by systematically reviewing 120 medical records of residents meeting the

inclusion/exclusion criteria.

*Educational Session*

The project leader conducted a 60-minute educational session during the monthly

in-service meeting for the staff on August 2, 2021, after the initial chart review and

before the initiation of the screening for depression. The primary purpose of the

educational session was to educate nurses and providers about the screening tool for

depression and depression treatment options.

*Instruments*

1. *The University of California, San Diego Brief Assessment of Capacity to*

*Consent (UBACC)* (Appendix B). Participants were screened using the UBACC tool to

assess the participants' decision-making capacity. The tool consists of ten items on a

visual analog rating scale. After potential participants had been identified, the project

leader invited eligible participants into a private room to complete the assigned

questionnaire.

2. *Patient Health Questionnaire 2 (PHQ-2)/PHQ-9*. The Patient Health

Questionnaire 2 (PHQ2) (Appendix C) encompasses the first two items of the PHQ-9

(Appendix D) and acts as a pre-screener to the nine-item PHQ-9. The PHQ-2 assesses

self-reported frequencies of depression during the last 2 weeks. Both of the items are

scored on a range from zero to three, with zero representing not at all and three representing nearly every day. The primary data was collected using the PHQ 2 assessment questionnaire.

A positive screen resulted in asking the resident to answer the remaining seven questions on the PHQ 9. The PHQ 9 depression screening tool has been widely used in clinical studies as a diagnostic tool for major depressive disorder (MDD) and as a continuous measure of response to treatment (Kroenke, 2021; Kroenke et al., 2001; Kroenke & Spitzer, 2002). Each answer of the PHQ 9 has a weighted score that totaled to allow providers to calculate symptoms that range from transient (score of 1-4), mild (score of 5-10), moderate (score 10-19), or severe depression (scores $\geq$ 20). The PHQ-9 can be a self-administered diagnostic tool. The tool is a reliable and credible measure of depression severity. These considerations, along with the tools' brevity, make it a valuable and convenient instrument (Wu, 2014; Wu et al., 2020).

Data were collected at three different sessions. During session one, 11 participants were screened. During session two, 14 participants were screened, and during session three, 13 participants were screened. After the sessions were completed, the project leader calculated the screening scores for each participant. The participants who had a score over five were considered depressed. The results were documented in the patient's chart, and the primary healthcare provider was notified of the findings.

## Design

This project was designed to improve processes related to depression screenings for residents of long-term care facilities. A process improvement project is focused on

improving outcomes. In this project, the outcome is improving the process of depression screening.

## Ethical Considerations

This project was submitted to The University of Southern Mississippi IRB for approval (Protocol #21-203). All participants eligible to participate in the project were provided a written informed consent (Appendix E) to participate in the project. The consent form included information regarding privacy and confidentiality, the project's purpose, procedures, risks/discomforts, benefits, and contact information. Participants were explicitly informed in writing and verbally that they could withdraw their consent to participate, without specification of reasons, and with no negative consequences to their future medical treatment. Data were obtained during chart audits. During the DNP project study, all data collected was kept in a secure location to ensure privacy. To maintain confidentiality and anonymity, individual identifiers such as name, birth date, or social security numbers were not used in data collection. The project leader saved the data on a jump drive with an encrypted passcode. The project leader will keep all data for three years. After three years, the project leader will discard all information.

## Data Analysis

The PHQ-2 and PHQ-9 are organized as Likert scales. Likert scales are psychometric scales of measurement that are commonly used in questionnaires. The interval level of measurement is used to analyze data with the PHQ-2 and PHQ-9 scales. The PHQ-9 can have a score ranging from 0-27. Descriptive statistics analyzed the mean for central tendency and the standard deviation for variability.

Summary

Chapter II discussed the setting, the population, the design, and the procedures that were used in the project. The PHQ-2/PHQ-9 were used as the instrumentation. In Chapter III ethical considerations and the presentation of the results of the project will be discussed.

CHAPTER III - RESULTS

The purpose of this Doctor of Nursing Practice (DNP) project was to measure the development of depression of residents while in a long-term care facility utilizing the Patient Health Questionnaire (PHQ)-2, and if justified, the PHQ-9 depression questionnaires. The results of this data will increase efforts in improving the efficiency and effectiveness of identifying depression in older adults. This project will provide evidence of best practices and quality improvement for depression screening in long-term care facilities.

Analysis of Data

*Descriptive Statistics*

Forty-seven ($N = 47$) residents were deemed eligible to participate in the project. Thirty-three (70%) participants were negative according to the PHQ-2 questionnaire. There were 14 (30%) participants who were screened as positive. Twenty-five participants (53%) were males, and 22 (46%) were females. Twenty-nine participants (61%) were Caucasian, and 18 (38%) were African American. Eight participants (17%) were married; 12 (25%) were single; 24 (51%) were widowed; and three (0.06%) were separated/divorced. Twenty (43%) participants were ages 65-75; 25 (54%) were aged 76-85, and two (0.042%) were 86 and older.

Table 3

*PHQ Screening Results*

| # Participants | Total Score | Depression Severity |
|---|---|---|
| 3 | 1-4 | Minimal depression |
| 4 | 5-9 | Mild depression |
| 4 | 10-14 | Moderate depression |
| 2 | 15-19 | Moderately severe depression |
| 1 | 20-27 | Severe depression |

Table 4

*Description of the Sample Population*

| Age (years) | Minimum Age | 65 |
|---|---|---|
| | Maximum Age | 91 |
| | Mean age *(SD)* | 10.29 |
| Gender | Female | 22 |
| | Males | 25 |
| | | |
| **TOTAL** | | |
| Marital status | Single | 24 |
| | Married | 12 |
| | Separated/Divorced | 3 |
| | Widowed | 24 |
| Ethnicity | Caucasian | 29 |
| | African American | 18 |
| | | |

Discussion

The majority of the participants were men (n = 29) or 82.9%; as well as the majority of those having positive depression screenings were men, 80% (n = 4). The mean age of the sample was 67.89. The mean age of the males who had positive depression screenings was 75.25.

The results of the project indicated that a simple screening utilizing the PHQ 2 and PHQ 9 could improve a patient's quality of life by promptly getting them the help they need. Depression often goes unrecognized and, therefore, untreated. A noteworthy finding during this project was that many patients admitted to the long-term care facility were admitted with a diagnosis of depression.

The findings from this DNP project demonstrate that the successful identification of the development of depression may potentially mitigate the burden of this disease. Therefore, models that target the ongoing screening for depression in long-term care may

potentially improve outcomes for adults in long-term care facilities. This project supports the following: (1) There is a significant need for continuous screening for the development of depression in older adult patients in long-term care settings; (2) Nurses and other healthcare providers should be trained and made aware of the benefits of screening for depression and appropriately refer patients for mental health follow-up; and (3) Older patients should receive education about depression to understand the dangers of untreated depression, and the benefits of depression treatment to achieve a better quality of life.

## Summary

Chapter III presented an overview of the findings of the study. Chapter III also presented the analysis of the results. Chapter IV will discuss the results and implications for practice.

CHAPTER IV – DISCUSSION

The purpose of this Doctor of Nursing Practice (DNP) project was to measure the development of depression of residents while in a long-term care facility utilizing the Patient Health Questionnaire (PHQ)-2, and if justified, the PHQ-9 depression questionnaires. This data will increase efforts in improving the efficiency and effectiveness of identifying depression in older adults. This project will provide evidence of best practices and quality improvement for depression screening in long-term care facilities.

The results from this quality improvement (QI) project demonstrate that depression screening tools are needed in long-term care facilities. The results indicate that using the PHQ-2/PHQ-9 tool or a similar depression screening tool can effectively measure the development of depression. The findings could lead to the addition of a depression screening program in the long-term acute care environment. Also, the results provide valuable information about models of depression care that can be implemented and evaluated in a long-term care facility.

The PDSA model was used as the theoretical model to guide this capstone project. The four-step model is frequently used in quality improvement projects. This project built upon the model to integrate a depression screening tool in a long-term care facility. The model was used to provide structure for the implementation process and to build confidence in the efficacy of the process change.

## Limitations

This capstone project was a quality improvement project for a long-term care facility. Therefore, the generalizability to other settings and samples warrants caution.

Other limitations worth mentioning in this project are small sample size and the use of only one long-term care facility. Also, the preparation of the study was focused primarily on residents that did not have a diagnosis of depression and had been in the facility for at least three months. Another limitation was that there were risks of bias considering the diagnosis of depression as a mental health issue.

<div align="center">Future Practice Implications</div>

The design and implementation of a depression screening algorithm into the project led to the integration of a depression screening program that will continue to be used in the long-term care setting to improve the outcomes of residents with depression. Depression screening will also increase the number of older adults screened for depression who will seek primary/mental health services.

The long-term care facility was encouraged by the number of positive depression screenings. Hence, the facility will pursue the implementation of routine depression screening using the PHQ-2/PHQ-9 questionnaire. Further work may be needed to evaluate the healthcare provider's perception of the screening tool and identify why such tools are not being used on routine assessment of older adults. Further evaluation is also needed to explore situations in which the patient was screened positive for depression, but was never referred to the appropriate mental health provider.

This project analyzed whether the success of depression treatment relies on variables such as early detection. Regardless of the screening tool or method used, the early recognition of depression must be tailored to interventions and treatments central to guarantee that all patients receive adequate intervention/treatment from depression.

Conclusion

There is direct evidence of the significant health benefits of screening for depression in long-term care facilities. The fullness of the evidence supports the advantages of screening older adult populations; especially in the presence of additional treatment supports, such as protocols for depression treatment, and the accessibility of mental healthcare care providers (O'Connor et al., 2016). The indirect evidence shows that depression screening instruments can identify adults, including older adults, who need further evaluation and may need treatment for depression and that early depression treatment is likely to be effective (Azulai & Walsh, 2015; O'Connor et al., 2016; Patnode et al., 2020; Siu et al., 2016; Watson & Pignone, 2003).

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**NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION**

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.

- The selection of subjects is equitable.

- Informed consent is adequate and appropriately documented.

- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.

- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.

- Appropriate additional safeguards have been included to protect vulnerable subjects.

- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.

- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-21-203
PROJECT TITLE: Measuring the development of depression while in a long term care facility
SCHOOL/PROGRAM: Leadership & Advanced Nursing
RESEARCHER(S): Cantrell Anderson, Carolyn Coleman
IRB COMMITTEE ACTION: Approved
CATEGORY: Expedited
          7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: July 30, 2021

*Donald Sacco Jr.*

**Donald Sacco, Ph.D.**
**Institutional Review Board Chairperson**

APPENDIX B – University of California, San Diego Brief

Assessment of Capacity to Consent

**UCSD Brief Assessment of Capacity to Consent (UBACC)**

1. What is the purpose of the study that was just described to you? Response (2 = Study for depression symptoms)

   Score 0 1 2

2. What makes you want to consider participating in this study? Response (2 = Improve memory and attention, help others)

   Score 0 1 2

3. Do you believe this is primarily research or primarily treatment? Response (2 = Research)

   Score 0 1 2

4. Do you have to be in this study if you do not want to participate? Response (2 = No)

   Score 0 1 2

5. If you withdraw from this study, will you still be able to receive regular treatment? Response (2 = Yes)

   Score 0 1 2

6. If you participate in this study, what are some of the things that you will be asked to do? Response (2 = Answer questions)

   Score 0 1 2

7. Please describe some of the risks or discomforts that people may experience if they participate in this study. Response (2 = None)

   Score 0 1 2

8. Please describe some of the possible benefits of this study. Response (2 = Societal and/or personal benefits)

   Score 0 1 2

9. Is it possible that being in this study will not have any benefit to you? Response (2 = Yes)

   Score 0 1 2

10. Who will pay for your medical care if you are injured as a direct result of participating in this study? Response (2 = The institution or hospital or insurance)

   Score 0 1 2

Reference: Jeste, D. V., Palmer, B. W., Appelbaum, P. S., Golshan, S., Glorioso, D., Dunn, L. B., Kim, K., Meeks, T., & Kraemer, H. C. (2007). A new brief instrument for assessing decisional capacity for clinical research. *Archives of General Psychiatry*, *64*(8), 966. https://doi.org/10.1001/archpsyc.64.8.966

# **Patient Health Questionnaire-2** (PHQ-2)

| Over the last *2 weeks*, how often have you been bothered by any of the following problems? | Not at all | Several days | More than half the days | Nearly every day |
|---|---|---|---|---|
| 1. Little interest or pleasure in doing things | 0 | 1 | 2 | 3 |
| 2. Feeling down, depressed, or hopeless | 0 | 1 | 2 | 3 |

For office coding:  _____0_____ + _____ + _____ + _____

= Total Score _____

# APPENDIX D – Patient Health Questionnaire

## PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME:_____     DATE:_____

Over the last 2 *weeks*, how often have you been
bothered by any of the following problems?
*(use "✓" to indicate your answer)*

| | Not at all | Several days | More than half the days | Nearly every day |
|---|---|---|---|---|
| 1. Little interest or pleasure in doing things | 0 | 1 | 2 | 3 |
| 2. Feeling down, depressed, or hopeless | 0 | 1 | 2 | 3 |
| 3. Trouble falling or staying asleep, or sleeping too much | 0 | 1 | 2 | 3 |
| 4. Feeling tired or having little energy | 0 | 1 | 2 | 3 |
| 5. Poor appetite or overeating | 0 | 1 | 2 | 3 |
| 6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down | 0 | 1 | 2 | 3 |
| 7. Trouble concentrating on things, such as reading the newspaper or watching television | 0 | 1 | 2 | 3 |
| 8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety or restless that you have been moving around a lot more than usual | 0 | 1 | 2 | 3 |
| 9. Thoughts that you would be better off dead, or of hurting yourself | 0 | 1 | 2 | 3 |

add columns _____ + _____ + _____

*(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card).*     TOTAL: _____

| | |
|---|---|
| 10. If you checked off *any problems*, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people? | Not difficult at all _____<br>Somewhat difficult _____<br>Very difficult _____<br>Extremely difficult _____ |

## PHQ-9 Patient Depression Questionnaire

**For initial diagnosis:**

1. Patient completes PHQ-9 Quick Depression Assessment.
2. If there are at least 4 ✓s in the shaded section (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.

***Consider Major Depressive Disorder***

- if there are at least 5 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

***Consider Other Depressive Disorder***

- if there are 2-4 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

**Note:** Since the questionnaire relies on patient self-report, all responses should be verified by the clinician, and a definitive diagnosis is made on clinical grounds taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient.
Diagnoses of Major Depressive Disorder or Other Depressive Disorder also require impairment of social, occupational, or other important areas of functioning (Question #10) and ruling out normal bereavement, a history of a Manic Episode (Bipolar Disorder), and a physical disorder, medication, or other drug as the biological cause of the depressive symptoms.

**To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:**

1. Patients may complete questionnaires at baseline and at regular intervals (eg, every 2 weeks) at home and bring them in at their next appointment for scoring or they may complete the questionnaire during each scheduled appointment.
2. Add up ✓s by column. For every ✓: Several days = 1 More than half the days = 2 Nearly every day = 3
3. Add together column scores to get a TOTAL score.
4. Refer to the accompanying **PHQ-9 Scoring Box** to interpret the TOTAL score.
5. Results may be included in patient files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

**Scoring:  add up all checked boxes on PHQ-9**

**For every** ✓ Not at all = 0; Several days = 1;
More than half the days = 2; Nearly every day = 3

**Interpretation of Total Score**

| Total Score | Depression Severity |
|-------------|---------------------|
| 1-4 | Minimal depression |
| 5-9 | Mild depression |
| 10-14 | Moderate depression |
| 15-19 | Moderately severe depression |
| 20-27 | Severe depression |

APPENDIX F – Informed Consent

CONSENT TO PARTICIPATE
Measuring the Development of Depression while in a Long-term Care Facility

The following information describes the project in which you are being asked to participate. Please read the information carefully. At the end of the document, you will be asked to mark the box if you agree to participate in the study. Thank you for your time and participation.

PURPOSE OF THE STUDY:
You are being invited to participate in a research study. The purpose of this DNP project is to determine the effectiveness of a depression screening tool in a long-term care facility.

PROCEDURES:
Answer the questions from the nurse about depression.

CONFIDENTIALITY:
This project will not include information that will make it possible to identify you. No attempt will be made to identify participants.

VOLUNTARY PARTICIPATION:
Your participation in this study is completely voluntary. You may refuse to participate in this study or withdraw at any time.

COSTS:
There are no costs associated with your participation in this study.

RISKS AND/OR DISCOMFORTS:
There may be a psychiatric referral based on your responses to the PHQ-9. That may not be your desired outcome from this study.

BENEFITS:
No benefit can be promised to you from your participation in this study. The knowledge gleaned from your participation in this study will have the potential of assisting to identify and begin treatment for depression in residents at long-term care facilities.

CONTACT INFORMATION:
For questions about this study, please contact the project leader, Cantrell Anderson by email: cantrell.anderson█████████ or by cell: █████████████. I will gladly answer any questions that you may have concerning the purpose, procedures, and outcome of this study.

☐  I agree to participate in this study.

☐  I do not agree to participate in this study.


_____  _____       _____
Printed Name                                    Signature                                            Date

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