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Empowering Newly Diagnosed Patients with Hypertension in Reducing Complications through Self-Managed Care

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UNIVERSITY OF SAN DIEGO

Hahn School of Nursing and Health Science

DOCTOR OF NURSING PRACTICE

Empowering Newly Diagnosed Patients with Hypertension in Reducing Complications through Self-Managed Care

by

Ana Pacis, BSN, RN

A Doctor of Nursing Practice Portfolio presented to the

FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE

UNIVERSITY OF SAN DIEGO

In partial fulfillment of the

requirements for the degree

DOCTOR OF NURSING PRACTICE

May 2020

Joseph Burkard, DNSc, CRNA, Faculty Advisor

Richard Mallo, MD, Clinical Mentor

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Acknowledgments

First, I would like to thank God for His never-ending love and guidance in this journey. It has been a stressful and challenging three years and without His help, I don't think I would have made it in this program. I pray for His continuous gifts of wisdom, grace, and good health so I may continue to serve others in His name.

To my husband, the best partner and supporter I could ever have and dream of. Thank you for always bring there and helping me achieve my goals. Thank you for always being patient with me through the ups and downs while I completed this program. Thank you for everything and I will always love you.

To my beloved daughters whom I love dearly, Caitleen and Faith. You have given me your love, patience, and understanding and you have helped me laugh during difficult times. You and your dad are my rock. You all encouraged me to fight during this journey, inspired me to complete this program, and helped me achieve my dreams.

To my siblings, thank you for always being there even though we are all thousands of miles apart. I wish that we could all live close together, share more laughs, and create more memories.

To my Life Study group, especially to Ate Vangie and Marissa, who are always there listening to my problems and praying for me. To all my friends who continuously giving me support and advice, thank you for being there for me.

To Dr. Joseph Burkard, thank you for believing, guiding, and encouraging me in finishing this EBP project. You are always lending a hand, sharing your knowledge, and inspiring us all to make a change and promote a positive impact in nursing.

I would like to acknowledge all the faculty and staff at Hahn School of Nursing at the University of San Diego. To Dr. Kevin Maxwell, Dr. Pedro Colio, Dr. Michelle Kabakibi, Dr. Razel Milo, Dr. Nicole Martinez, Dr. Karen Macauley, and Dr. K. Sue Hoyt, thank you for instructing all of us and setting a high standard for our education. I also would like to thank Dr. Donna Agan, for guiding me in analyzing the data in this EBP project. To all my clinical instructors and clinical mentors, thank you for sharing your knowledge and your constructive criticisms to make me a better NP in the future.

To Natalie Higgins from Graybill Urgent Care. Thank you for putting up with me, understanding my shortcomings during clinicals, sharing your knowledge, and teaching me. To all the staff at Graybill Medical Group clinic especially to Marlene, thank you for helping me in this DNP project. Lastly, to Dr. Richard Mallo, who gave me his full support and trained me, thank you so much. I could not have made it this far without your help.

Documentation of Mastery of DNP Program Outcomes

Final Manuscript

Empowering Newly Diagnosed Patients with Hypertension in Reducing Complications through Self-Managed Care

Ana Pacis, BSN, RN

Joseph Burkard, DNSc, CRNA

Richard Mallo, MD

University of San Diego

Abstract

Background: High blood pressure affects millions of people, including children and adults. According to the Centers for Disease Control and Prevention (CDC), about 1 in every 3 adults or approximately 75 million American adults are affected with high blood pressure. High blood pressure often does not cause any signs and symptoms, which is why it is also known as the "silent killer," and many people are not aware that they have elevated blood pressure (AHA, 2017). If high blood pressure is not controlled, it can lead to other heart diseases such as stroke. It can also cause other health problems, which can affect the eyes and kidneys.

Purpose of the Study: Individuals diagnosed with hypertension are at risk for developing complications due to a lack of knowledge and education on the importance and ways of managing their disease. The purpose of this project is to empower and educate newly diagnosed patients with hypertension on how to self-manage their disease to reduce complications. Lifestyle modifications such as exercise, adopting the dietary approach to stop hypertension (DASH) diet, reducing sodium intake, and medication adherence will all be included in the education.

Methods: Patients that were diagnosed within the past five (5) years, can speak and read in English or have an immediate family member that lives with the patient and can speak or read in English will be encouraged to join in this evidence-based practice project. Patients and their caregivers will be educated through a self-care model with a focus on medication adherence and lifestyle modifications as recommended by AHA, ACC, and JNC-8 guidelines.

Results: This evidenced-based project showed a significant decrease of 9.71 mmHg in systolic blood pressure (SBP) for those who adhere to taking their prescribed hypertensive medications. Those who followed the DASH diet showed an improvement in their SBP by 5.38 mmHg within six (6) months.

Significance: Empowering patients with hypertension through self-managed care is essential in reducing complications. Adhering to lifestyle modifications such as the DASH diet, reducing sodium intake, and engaging in regular exercise, in addition to taking the prescribed hypertensive medications, are all significant factors in reducing the risk of high blood pressure. Increasing education, awareness, and counseling on managing their disease can lead to a reduction in SBP, which can eventually lead to a decrease in complications, mortality, and morbidity.

Key words: DASH diet, hypertension, high blood pressure, lifestyle modification, exercise, and medication adherence.

Empowering Newly Diagnosed Patients with Hypertension in Reducing Complications through Self-Managed Care

Introduction

Hypertension, also called high blood pressure, is when the force of blood pushing against the arterial wall is consistently high (American Heart Association, 2016). High blood pressure affects millions of people, including children and adults. According to the Centers for Disease Control and Prevention (CDC), about 1 in every 3 adults or approximately 75 million American adults are affected with high blood pressure. High blood pressure often does not cause any signs and symptoms, which is why it is also known as the "silent killer," and many people are not aware that they have elevated blood pressure (AHA, 2017). If high blood pressure is not controlled, it can lead to other heart diseases such as stroke. It can also affect the eyes, kidneys, and can cause other health problems.

Blood pressure is written in two numbers. The top number, known as systolic blood pressure or SBP, is the force of blood when the heartbeats and the diastolic blood pressure or DBP is the force of blood when the heart is at rest in between beats (AHA, 2017). Normal blood pressure for adults as defined by the American Heart Association's (AHA) new guidelines for hypertension is SBP below 120 mmHg and a DBP of less than 80 mmHg. 120-129 mmHg and less than 80 mmHg DBP is considered elevated BP. Stage 1 hypertension is with SBP of 130-139 mmHg and DBP of 80-89 mmHg. Stage 2 hypertension is those individuals with equal or greater than 140 mmHg SBP and equivalent to or greater than 90 DBP (AHA, 2017). Lifestyle changes such as diet and exercise are recommended to prevent complications from high blood pressure. In some patients, a single blood pressure-lowering medication or a combination of

prescribed antihypertensive medications may be necessary to control elevated blood pressure, especially for those individuals with stage 2 hypertension.

Several factors increase a person's risk of hypertension. A family history of high blood pressure, race or ethnicity, age, and gender are factors that cannot be modified or change. Factors that can be modified are weight, diet, physical inactivity, and medication compliance.

Currently, the Internal Medicine clinic of Richard Mallo, MD has numerous patients with hypertension, the exact number unknown. No current education materials are being used. Patients that were recently diagnosed in five (5) years or less, can speak and read in English or have an immediate family member that lives with the patient and can speak or read in English were encourage to join this project.

Description of Evidence-Based Practice Project, Facilitators, and Barriers

According to AHA, the American College of Cardiology (ACC), and CDC, high blood pressure is a contributing factor for stroke and heart disease, which are the two leading causes of death in the United States (CDC, 2016). Individuals diagnosed with high blood pressure are at risk for developing complications due to a lack of education on the importance and ways of managing their disease. High blood pressure management should include lifestyle modifications, medication adherence, and a follow-up appointment with their primary care provider (Go, et al. 2014). "Lifestyle modifications should be initiated in all patients with hypertension" (Go, et al. 2014). The relative decrease in SBP for lifestyle modifications ranges from 4-20 mmHg. 4-9 mmHg for physical activity with at least 30 minutes of aerobic exercise such as brisk walking; 2-8 mmHg for lower sodium intake of less than 2,400 mg of sodium/day; 8-14 mmHg for adopting the dietary approaches to stop hypertension (DASH) diet; and 5-20 mmHg/10 kg for

maintaining a healthy body weight or keeping a body mass index of 18.5-24.9 kg/m2 (Whelton, et al 2017).

Support and cooperation from Graybill Medical staff such as the medical assistants and Dr. Richard Mallo are of utmost importance. Barriers that were addressed with the stakeholders are time and availability of space or room.

The internal medicine clinic where this project was implemented has a very busy schedule, and each patient was allotted a time of 15 minutes per visit. Education and counseling were limited due to insufficient time. Another barrier was the availability of the room. Because of the high turn-around of the patient visit and the limited number of rooms, it was impossible to fully educate the patients on the importance and positive impact of lifestyle modifications and medication adherence in managing their disease. To supplement the lack of time and room availability, follow-up phone calls were made to each participant to reaffirm the teachings. Throughout this EBP project, it was also discovered that some patients were unwilling to change their negative habits due to hectic work and home life schedule, and thus, is another hindrance in improving their blood pressure and managing their disease.

Evidence-Based Practice Model

Dorothea Orem, a theorist in the field of nursing developed the self-care theory in 1959. She believed that an individual should be able to take care of themselves, be self-reliant, and be responsible for their own care. She also believed that it is necessary for an individual to be informed of potential health problems in order to promote self-care behaviors (currentnursing.com, 2012).

Hypertension is a chronic illness that affects individuals' overall health. It creates a burden, not only to the hypertensive patients but also to their families. According to Han, Lee,

Commodore-Mensah, and Kim, in their study, an adequate self-care is important for blood pressure control. The self-care theory will guide this EBP project in educating and creating opportunities for the patients and their families, empowering them to take an active role in reducing complications from high blood pressure.

Proposed Evidence-Based Solutions

To show the rationality and strength of this proposed EBP project, literature reviews were used from different search engines such as CINAHL, PubMed, Cochrane, and Medline. Literature reviews varied from a randomized controlled study, review articles, a systematic review and meta-analysis review. A total of 25 articles were reviewed; six have been categorized according to the John Hopkins evidence level and quality guide.

A. Heagerty (2006) in his review of optimizing hypertension management in clinical practice states that "patient compliance with prescribed antihypertensive medications is poor and lifestyle advice is inadequate." Physicians guidance on the importance of lifestyle modifications may not be sufficient due to insufficient time, the low reimbursement rate for counseling, and physicians' skepticism on patients' willingness to transform negative habits into positive behavior (Heagerty, 2006). A.Heagerty added that educating and involving patients in managing their illness can increase compliance.

A systematic review and meta-analysis on DASH diet comparing sixty-five articles for full review with twenty articles included in the systematic review stated that “DASH diet interventions have significant improvements in systolic and diastolic BP along with significant reductions in total cholesterol and LDL concentrations” (Sacks et al. 2001). This literature review showed that the DASH diet has beneficial effects on the prevention and management of hypertension.

Sodium is believed to be related to blood pressure elevation and other cardiovascular diseases. In a study that was published in The New England Journal of Medicine, Sacks, F.M. et al., showed that reducing salt intake in combination with DASH diet lowered SBP by 11.5 mmHg in participants with hypertension and 7.1 mmHg in participants without hypertension. In another study, He, F.J., et al., publicized that reduction in salt intake to a recommended 2,300 milligrams (mg) per day by 2015-2020 Dietary Guidelines for Americans for four or more weeks will result in a decrease in blood pressure in both hypertensive and non-hypertensive individuals.

Regular physical activity can lower your systolic blood pressure by 4-9 mmHg according to AHA, ACC, and CDC guidelines. The Department of Health and Human Services recommends at least 150 minutes of moderate aerobic activity or 75 minutes of brisk walking a week, or a combination of both (Whelton et al. 2017). A meta-analysis review on the effect of aerobic exercise on blood pressure that included 54 clinical trials with a total number of 2419 participants showed a decrease of 3.84 mmHg for SBP and 2.58 mmHg for DBP (Whelton et al. 2002). In this study, results showed that blood pressure reduction might be independent of change in body weight since participants did not lose weight overall. However, despite the outcome that participants did not lose weight during this study, the reduction in blood pressure showed that a decrease in blood pressure due to aerobic exercise could reduce complications and death from cardiovascular disease (Whelton et al. 2002).

Methods

After receiving the approval from the University of San Diego Institutional Review Board (IRB) and the letter of support from Richard Mallo, MD of Graybill Medical Group Internal Medicine Clinic, recruitment and screening process of participants began. Inclusion criteria were a definite diagnosis of hypertension within the past five (5) years by a physician, participants'

ability to speak and read in English or have an immediate family member that lives with the patient and can speak or read in English. A total of 61 patients with hypertension qualified and participated in this evidence-based project; age varied from 20 to 77 years old. Patients and their caregivers were educated through a self-care model with a focus on medication adherence and lifestyle modifications such as routine exercise, adopting the DASH diet, and low sodium intake as recommended by AHA, ACC, and JNC-8 guidelines.

Four variables were used for data collection. The first one was blood pressure reading. Each of the qualified participants was informed of the project either during their visit at the clinic or over the phone, and if interested, their BP during that visit or their latest BP reading during their last visit was used as a baseline. Second was their BMI, which was calculated based on their height and weight. A self-report exercise regimen was used next, and last but not the least, the participants were asked to answer 9 questions regarding their medication adherence using the Hilll-Bone Medication Adherence Scale (HB-MAS). Each of the participants was provided with written educational materials on HBP, DASH diet, and exercise guidelines as recommended by CDC and AHA.

The patient's activities were assessed from the 2nd week to the 24th week of this project. A phone call during the 2nd week, followed by monthly until the fifth month were made to each participant to follow-up on their progress and adherence to the interventions provided. A face-to-face session was done at the end of the project and a review of their written self-report was conducted.

Data were analyzed using the SPSS program; individual variables were compared using descriptive statistics; chi-square test was used for comparison of individual groups; and paired t-test for before and after the intervention.

Results

As seen in Table 1, there is a significant increase in the number of participants between the pre- and post- interventions who include exercise activities as part of their lifestyle modifications ($P < .01$). The result also showed a higher participation among the participants in the DASH diet ($P < .001$). Finally, there was a great response in medication adherence, showing a statistically significant difference ($P < .0376$).

In Table 2, the data showed that with self-care model, after educating and empowering the participants, it resulted in a significant decrease in their systolic blood pressure. Those who were compliant in taking their prescribed blood pressure medications showed a significant decrease in their systolic blood pressure of 9.71 mmHg within the six months period ($P < .0376$). Those who followed the DASH diet resulted a significant decrease in their SBP by 5.38 mmHg ($P < .001$). Lastly, although those who exercise regularly showed a decrease in their systolic blood pressure but because the P value in this particular variable is 0.067 ($P > .05$), the data collected is not enough to be statistically significant.

The findings of this study also showed that participants who were non-adherent to their prescribed blood pressure medications are more likely to not exercise and therefore, no decrease in their SBP was noted ($P > .05$). While those who adhere to taking their prescribed blood pressure medications, together with following an exercise routine and DASH diet have shown to decrease their SBP by 6.869 mmHg in six-month period ($P < .001$).

Cost/Benefit Analysis

This project incurred a minimal cost. The total expense was $124.00, which include the folders and printing of questionnaire and informational flyers. No cost was incurred to the patient.

In a study that was recently published in Journal of American Heart Association, it stated that "individuals with hypertension are estimated to face nearly $2000 higher annual healthcare expenditure compared to non-hypertensive peers (Kirkland et al 2018). This means that investing in the prevention and management of hypertension, it will save our healthcare system an approximate $121,876 per year just for the 61 patients who participated in this project. Please see Table 3 for further details and breakdown of the cost.

Discussion

Hypertension is among the diseases that can be controlled by taking an active role in self-care activities. Lack of awareness about an individual's disease and knowing the importance of proper interventions, the hypertensive patients may not be compliant with their treatment. To control their high blood pressure in order to reduce the complications, it is important to identify their educational needs, empower them, and provide them with materials that would explain the importance of adhering to medication treatment and participating in proper interventions.

The self-care behavior in this EBP project focused on medication adherence and lifestyle modifications such as exercise, DASH diet, and low sodium intake. The study findings in this project indicated the effectiveness of lifestyle modifications and medication adherence in lowering the systolic blood pressure. This is consistent with a medication adherence study conducted in a primary care setting in Malaysia (Ramili et al. 2012). A systematic review with meta-analysis study on DASH diet showed a significant decrease in systolic blood pressure, which have confirmed the importance of lifestyle modifications in lowering blood pressure and reducing complications from hypertension (Siervo et al. 2014).

Practice Implications

Empowering patients with hypertension through self-managed care is essential in reducing complications. Providing education, counseling, and increasing awareness on managing their disease, the anticipated outcome would be a reduction in blood pressure as outlined in the AHA and ACC hypertension clinical practice guidelines. As a result, individuals affected with high blood pressure will have a reduction in complications, which can eventually lead to a decrease in mortality, and morbidity.

Limitations

Participants in this EBP project were patients diagnosed with hypertension five (5) years or less. These participants were only recruited from one provider's clinic, which limit the number of qualified patients for the study. The clinic where this study was conducted has a very demanding schedule. As a result, a follow-up face to face session with the participants was a challenge. Additionally, knowledge deficit with hypertension combined with patients' unwillingness to change their negative habits due hectic work and home life schedule, patients had difficulty adhering to taking the prescribed medications and partaking in lifestyle modifications.

For future improvements of this project, an increase in the number of participants is highly encouraged, at least a year of assessing, educating, and evaluating the outcome would be an ideal to see a significant result statistically, and finally, a 10-15 minutes allotted time to do a face to face session to each participant for follow-up, investigation of challenges, and continuing education would be an ideal for the success of the project.

Conflicts of Interest

The author have no conflicts of interest.

Acknowledgements

This work was supported by the University of San Diego and Graybill Medical Group Internal Medicine Clinic. The author wishes to thank Dr. Richard Mallo for his full support and his staff for their great help with participant recruitment and data collection.

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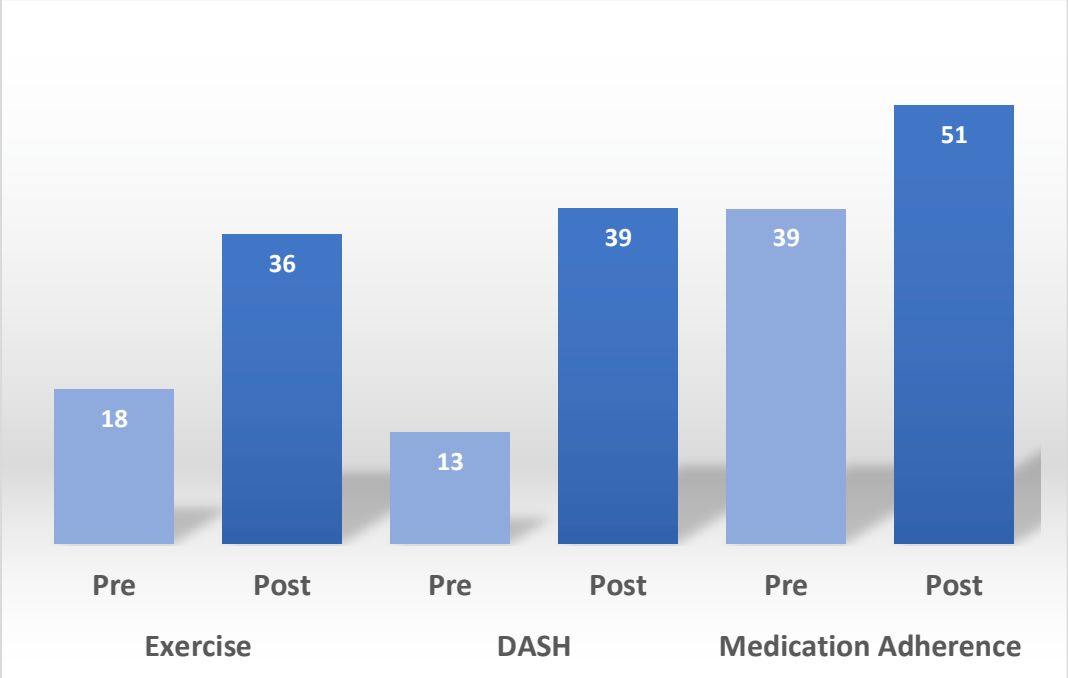
Table 1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36
13
39
39
51
Pre
Post
Pre
Post
Pre
Post
Exercise
DASH
Medication Adherence

Table 2

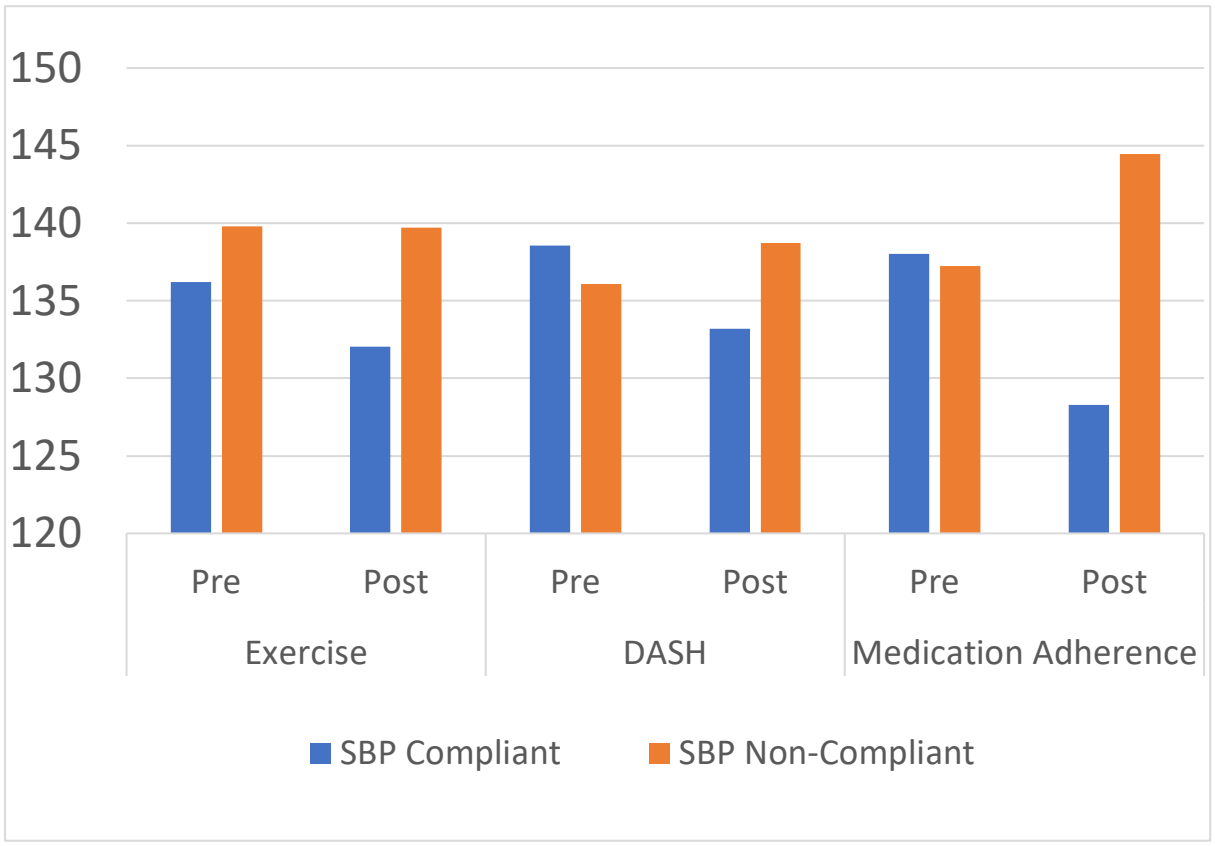

150
145
140
135
130
125
120
Pre
Post
Pre
Post
Pre
Post
Exercise
DASH
Medication Adherence
SBP Compliant
SBP Non-Compliant

Table 3

Resource	Cost	Rationale
Education and Training	$0.00	Completed during clinical hours
Forms/Flyers 620 copies x $0.10	$62.00	Hill-Bone Medication Adherence Questionnaire and BP log form
Folders 62 x 0.10/folder	$62.00	Folders for the educational materials provided to the participants
Total cost	$124.00	
Benefit	Cost	Rationale
Annual healthcare expenditure in hypertensive patients = $2000 per person x 61 patients = $122,000/yr	$122,000	
Cost Benefit Analysis	Savings in healthcare costs = $121,876 per year	

Appendix A

IRB Approval

Date: 5-20-2019

IRB #: IRB-2019-444
Title: Empowering Newly Diagnosed Patients with Hypertension in a Primary Care Setting in Reducing Complications through Self-Managed Care
Creation Date: 5-14-2019
End Date: 5-13-2020
Status: Approved
Principal Investigator: Ana Pacis
Review Board: USD IRB
Sponsor:

Study History

Submission Type Initial	Review Type Exempt	Decision Exempt

Key Study Contacts

Member Ana Pacis	Role Principal Investigator	Contact apacis@sandiego.edu
Member Joseph Burkard	Role Primary Contact	Contact jburkard@sandiego.edu
Member Joseph Burkard	Role Co-Principal Investigator	Contact jburkard@sandiego.edu

Appendix B

Letter of Support from Clinical Site

Floyd Farley
Chief Executive Officer

Graybill
Medical Group
www.graybill.org

Alejandro Paz, MD, MPH
President

Personalized healthcare for all generations

ESCONDIDO | OCEANSIDE | SAN MARCOS | VISTA | SABRE SPRINGS | RAMONA | VALLEY CENTER | FALLBROOK | TEMECULA | MURRIETA

May 14, 2019

To: Institutional Review Board, University of San Diego

From: Richard Mallo, MD

Re: Doctor of Nursing Practice Capstone Project

Ana Pacis, a Doctor of Nursing Practice student from University of San Diego has been doing a clinical residency at Graybill Medical Group since Fall 2018.
Ms. Pacis is requesting the use of data from this clinical residency for her evidence-base project "Empowering Newly Diagnosed Patients with Hypertension in a Primary Care Setting in Reducing Complications through Self-Managed Care" and for possible presentations and publications.

I am supportive of Ms. Pacis in this EBP project and will work with her in developing the clinical significance of this project.

If you have any questions, please do not hesitate to contact me at rmallo@graybill.org.

Sincerely,

Richard Mallo, MD

Appendix C

Letter of Acceptance to Conference

Dear Presenter,

Thank you for submitting an abstract to present a poster at CANP's 43rd Annual Educational Conference taking place March 19-21. 2020 in Riverside. **Congratulations, your poster has been accepted**.

Poster presenters will be assigned a specific presentation time within one of the following time slots:

Thursday, March 19

- 7:45 – 8:15 a.m.
- 10:15 – 11:15 a.m.

Friday, March 20

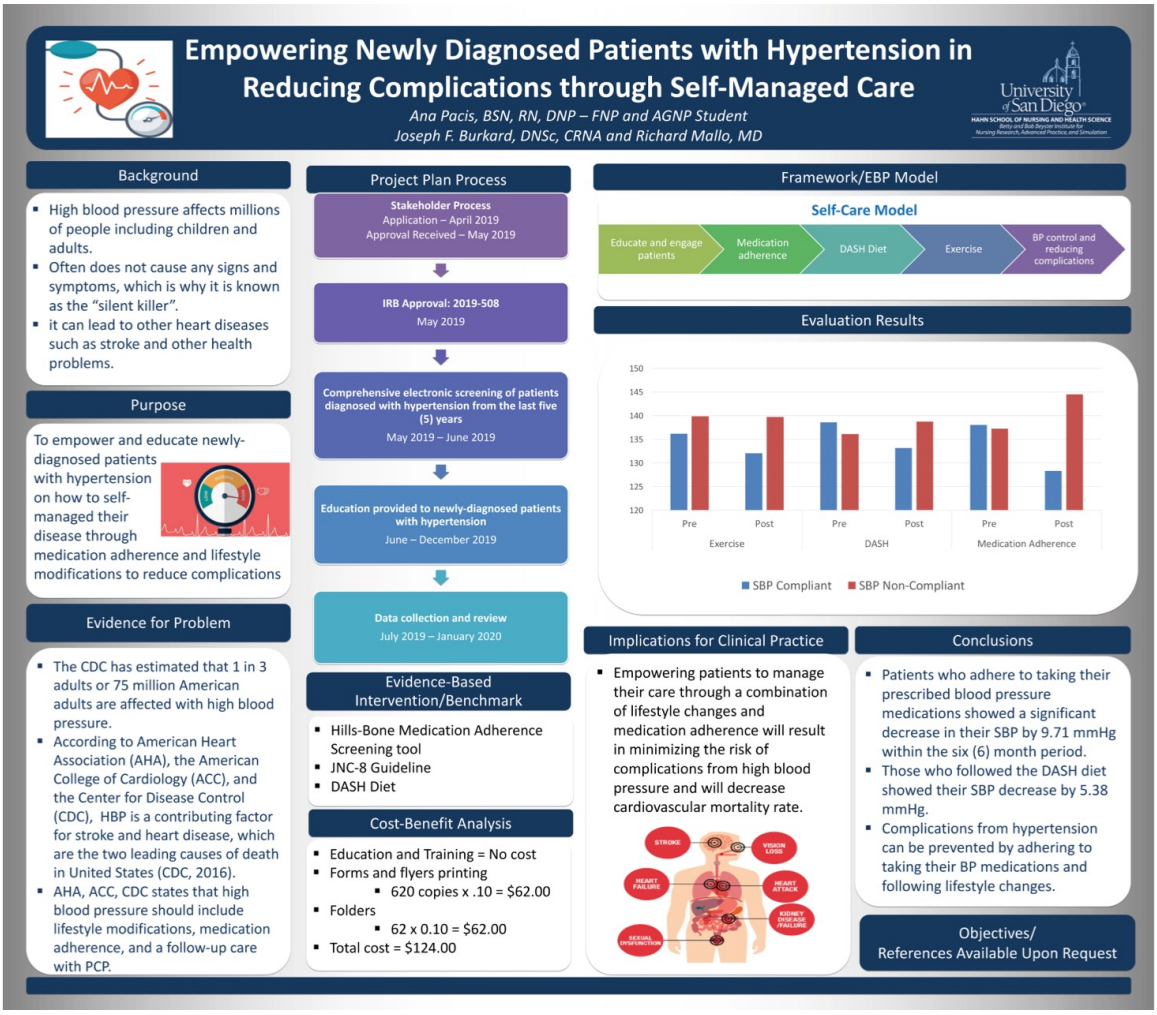
- 7:30 – 8:15 a.m.
- 10:30 – 11:15 a.m.

Poster presenters are required to register for at least the day of the conference they are presenting. However, we encourage you to register and attend the entire conference. Additional information including specific presentation times will be sent to poster presenters later this month. Please let me know if you have any questions.

Erin Meyer
Events & Education Director
1415 L Street, Suite 1000
Sacramento, CA 95814
916 441-1361
canpweb.org

Appendix D

Poster Presentation



Appendix E

DNP Exemplars

AACN DNP Essentials/NONPF Competencies/USD DNP Program Outcomes Exemplars

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
DNP Essential I: Scientific Underpinnings for Practice **NONPF: Scientific Foundation Competencies** *The scientific foundation of nursing practice has expanded and includes a focus on both the natural and social sciences including human biology, genomics, science of therapeutics, psychosocial sciences, as well as the science of complex organizational structures. In addition, philosophical, ethical, and historical issues inherent in the development of science create a context for the application of the natural and social sciences.*	**2.** Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.	**Fall 2017** - Utilized Roy Adaptation model and Humanistic Nursing Theory of Paterson and Zderad to guide PICO question in Evidence-Based Practice Presentation (DNPC626) **Spring 2018** - Driver diagram model used to outline EBP Effective Management of Pain for hospice patients (DNPC626) - Plan-Do-Study-Act (PDSA) Model selected to guide DNP EBP project to improve quality care (DNPC626; also applies to 4,5,6,7, and 8) - Utilized and distributed evidence-based research in Complementary and Alternative Medicine Modalities Presentation: Tea Tree Oil (ANPC523)

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		Summer 2018 - Reflected on current change management skills including evidence-based research in discussion boards (DPNC630) - Completed narrative reflection on clinical experiences (DNPC 610) **Fall 2018** - Learned about principles of Primary Care and what it encompasses (NPTC 602) - Applied theories of primary care and acute care nursing to clinical experiences (NPTC 602) **Spring 2019** - Used Orem's Self-Care Theory to guide my DNP project on empowering hypertensive patients in reducing complications through self-managed care (NPTC 605 and 535; also applies to Examplar 8) **Summer 2019** - Used SBIRT to understand how to help treatment of adolescents with

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		addiction (NPTC 605; also applies to exemplar 8) - Applied the theories of primary care and acute care nursing to clinical experiences in Internal Medicine clinic, Endocrinologist clinic and Urgent Care clinic (NPTC 605 & NPTC 535) **Fall 2019** - Applied the theories of primary care and acute care nursing to clinical experiences in Internal Medicine clinic, Cardiology clinic and Urgent Care clinic (NPTC 608)
DNP Essential II: Organizational & System Leadership for Quality improvement and Systems Thinking **NONPF: Leadership Competencies/Health Delivery System Competencies** *Advanced nursing practice includes an organizational and systems leadership component that emphasizes practice, ongoing improvement of health outcomes, and ensuring patient safety. Nurses should be prepared with sophisticated*	**5.** Design, implement, and evaluate ethical health care delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes.	**Spring 2018** - Conducted needs assessment of target population and designed quality improvement project based on measures and evaluation of care outcome (DNPC 626, also applies to essential 5, 6, and 7) **Summer 2018** - DNPC 626 learning on how to complete quality improvement practices to improve protocols and health outcomes

AACN DNP Essentials & NONPF Competencies	**USD DNP Program Objectives**	**Exemplars** Provide bulleted exemplars that demonstrates achievement of each objective
expertise in assessing organizations, identifying system's issues, and facilitating organization-wide changes in practice delivery. This also requires political skills, systems thinking, and the business and financial acumen needed for the analysis of the practice quality and costs.		- Learned to guide care and referrals based on health insurance, while also contemplating the option of pro-bono health information or visits (DNPC 610) - Developed a business proposal to implement an EHR system in order to meet meaningful use criteria and advance technology to increase productivity and quality of patient care (DNPC 653) - Apply principle of health care finance, needs assessment, strategic planning models, and SWOT analysis in order to develop a health care product proposal regarding EHR on a video platform (DNPC 653) **Fall 2018** - Explored options for treatment plans based on the clinic's set formulary (NPTC 602) **Spring 2019** - Analyzed and applied strategic management principles in a case study presentation to learn proper dissemination of roles,

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		planning for workplace or health-care issues, and advocate for change (DNPC 626, also applies to DNP essentials 4, 5, 6, 7, and 8)) - Learned the ability to differentiate insurance coverage for prescribed treatment for example, having to split up prescriptions so insurance will cover the medication (NPTC 604) - Explored options for treatment plans within various health care insurance plans and providers (NPTC 604) - Explored options for treatment plan for prescribed medications based on insurance plans and coverage (NPTC 604) **Summer 2019** - Learned about how insurance limits the availability of medications and treatments for patients (NPTC 605 & 535) - Learned how insurance inhibits patients from seeing certain providers who are not covered under the insurance (NPTC 605 & 535)

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		- Explored the benefits and limitations of having a valid POLST signed by every patient (NPTC 535) - Learned the financial benefit through reimbursement from Medicare of having a POLST filled out by every patient (NPTC 535) - Learned how to identify elder abuse as a provider (NPTC 535) - Learned how to identify and limitations to identifying child abuse as a provider (NPTC 605)
DNP Essential III: Clinical Scholarship & Analytical Methods for Evidence-Based Practice **NONPF: Quality Competencies/Practice Inquiry Competencies** *Scholarship and research are the hallmarks of doctoral education. Although basic research is viewed as the first and most essential form of scholarly activity, an enlarged perspective of scholarship has emerged through alternative paradigms that involve more than discovery of new knowledge. These paradigms recognize: (2) the scholarship*	**4.** Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing evidence-based practice guidelines.	**Fall 2017** - Synthesized and completed evidence-based literature review on the need of order sets for inpatients nearing end of life (DNPC611) - Utilized evidence-based articles for the improvement of patient care and outcomes (DNPC 611) **Spring 2018** - Completed complementary and alternative medicine research project on the use of Tea Tree Oil

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of discovery and integration "reflects the investigative and synthesizing traditions of academic life;" (2) scholars give meaning to isolated facts and making connections across disciplines through the scholarship of integration; and (3) the scholar applies knowledge to solve a problem via the scholarship of application that involves the translation of research into practice and dissemination and integration of new knowledge.		- Quality Improvement project on effective delivery of pain management for hospice patients in home-based setting (DNPC 626; also applies to DNP Essential 2) **Summer 2018** - Researched the benefits of mindfulness and how to teach this to patients to increase QoL (NPTC 610; also applies to DNP essential 5, 7, and 8) **Fall 2018** - Conducted an evidence-based lit review on 10 diferent pathophysiological conditions for Grand Rounds Presentations (APNC 520) - Lit review on effects of sleep deprivation (DNPC 622) - Lit review on Parkinson Disease (DNPC 622) - Lit review on Women's health Screenings (NPTC 602) - Reviewed evidence based immunizations schedules and indications for infants, children, women, men,

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		adults, and geriatric populations (NPTC 602) - Researched Lit review on Pathogenesis of Childhood Asthma (DNPC 622) - Learned Mediterranean Diet and effects on overall health and heart and metabolic disease (NPTC 602) - Learned TLC (Therapeutic Lifestyle Changes) Diet and effects on overall health and heart and metabolic disease (NPTC 602) **Spring 2019** - Researched Lit review on Diabetes Insipidus (NPTC 604) - Researched Lit review on Pneumonia (NPTC 604) **Summer 2019** - Conducted literature review on Alzheimers and Dementia (NPTC 535) - Conducted literature review on medications for older adults and learned Beer's List (NPTC 535) - Conducted literature review on complimentary alternative medications

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		for older adults (NPTC 535) - Conducted literature review on elder abuse in older adults (NPTC 535) - Conducted a literature review on Postmenopause in women (NPTC 605) - Conducted a literature review on Polycystic Ovarian Syndrome (NPTC 605) - Conducted a lit review on abnormal uterine bleeding (NPTC 605)
DNP Essential IV: Information Systems/Technology & Patient Care Technology for Improvement & Transformation of Health Care **NONPF: Technology & Information Literacy Competencies** *DNP graduates are distinguished by their abilities to use information systems/technology to support and improve patient care and health care systems, and provide leadership within health care systems and/or academic settings. Knowledge and skills related to information systems/technology and patient care technology*	**7.** Incorporate ethical regulatory, and legal guidelines in the delivery of health care and the selection, use, and evaluation of information systems and patient care technology.	**Fall 2017** - Obtained Biomedical Research Human Certification – Basic/Refresher Course through CITI (DNPC625) **Summer 2018** - Discussed implementation of EHR systems including evidence-based research in discussion boards (DPNC653) **Spring 2019** - Obtained USD IRB approval for DNP EBP project (DNPC 630) - Obtained Graybill Medical Group Internal Medicine

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
prepare the DNP graduates apply new knowledge, manage individual and aggregate level information, and assess the efficacy of patient care technology appropriate to a specialized area of practice along with the design, selection, and use of information systems/technology to evaluate programs of care, outcomes of care, and care systems. Information systems/technology provide a mechanism to apply budget and productivity tools, practice information systems and decision supports, and web-based learning or intervention tools to support and improve patient care.		Clinic approval and support for DNP EBP project (DNPC 630) - DNP project implementation (DNPC 686) **Summer 2019, Fall 2019** - Implementation of DNP project at Dr. Mallo's Internal Medicine clinic
DNP Essential V: Health Care Policy for Advocacy in Health Care **NONPF: Policy Competencies** *Health care policy, whether created through governmental actions, institutional decision-making, or organizational standards, creates a framework that can facilitate or impede the delivery of health care services or the ability of the provider to engage in practice to address health care needs. Engagement in the process of policy development is central to creating a health care system that meets the needs of its constituents. Political activism*	**3.** Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).	**Spring 2018** - Became a student member of California Association of Nurse Practitioners (CANP) - Became a member of American Association of Nurse Practitioners (AANP) - Educate public on the role of the DNP **Fall 2018** - Gap analysis in Cystic Fibrosis that newborn screenings differ by state - Sweat test is the gold standard and should obtain sweat test in

AACN DNP Essentials & NONPF Competencies	**USD DNP Program Objectives**	**Exemplars** Provide bulleted exemplars that demonstrates achievement of each objective
and the commitment to policy development are central elements of DNP practice.		place of IRT (immunoreactive trypsinogen test) tests or conduct a CFTR gene mutation testing for high risk populations (DNPC 622) **Fall 2019** - Abstract submission and acceptance for poster presentation of DNP Scholarly Project at 2020 CANP Conference (DNPC 630) **Spring 2020** - Presented DNP project to University of San Diego and Graybill Medical Group Internal Medicine Clinic (DNPC 630)
DNP Essential VI: Interprofessional Collaboration for Improving Patient & Population Health Outcomes **NONPF: Leadership Competencies** *Today's complex, multi-tiered health care environment depends on the contributions of highly skilled and knowledgeable individuals from multiple professions. In order to accomplish the IOM*	**1.** Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidenced-based, culturally competent therapeutic interventions for individuals or aggregates. **3.** Demonstrate leadership in collaborative efforts to develop and implement policies to improve health	**Fall 2017** - Conducted evidence-based literature review regarding hypertension in a primary care setting for EBP project (DNPC 630) **Fall 2018** - Examined the role of genomics and epigenetics in identifying personal risk factors and modifying

AACN DNP Essentials & NONPF Competencies	**USD DNP Program Objectives**	**Exemplars** Provide bulleted exemplars that demonstrates achievement of each objective
mandate for safe, timely, effective, efficient, equitable, and patient-centered care in this environment, health care professionals must function as highly collaborative teams. DNPs have advanced preparation in the interprofessional dimension of health care that enable them to facilitate collaborative team functioning and overcome impediments to interprofessional practice. DNP graduates have preparation in methods of effective team leadership and are prepared to play a central role in establishing interprofessional teams, participating in the work of the team, and assuming leadership of the team when appropriate.	care delivery and out comes at all levels of professional practice (institutional, local, state, regional, national, and/or international).	pathogenesis of diseases (DNPC 622) - Genotyping at birth to understand risks and preventative factors (DNPC 622) - Learned how to provide nutrition counseling to reduce obesity in adult populations (NPTC 602) - Learned how to provide exercise counseling to reduce obesity in adult populations (NPTC 602) - Created and interpreted two genograms to understand and analyze role of family history in disease processes and to understand personal risk factors for developing diseases (DNPC 622; also applies to DNP Essential 3) - Interviewed two patients to understand their genetic, environmental, and lifestyle risk factors and analyze these to identify risk for disease (DNPC 622; also applies to DNP Essential 3)

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		Spring 2019 - Facilitated meetings with patients to adhere to lifestyle modifications and medication adherence as part of the DNP Project (DNP 630) - Learned how to explain Cardiac Risk Assessment score to reduce incidence of heart attacks and strokes in adult population and prescribe appropriately (NPTC 604) **Summer 2019** - Learned the importance of POLST (NPTC 535) - Learned about the use of GoodRX to help provide cheaper medications to patients without good prescription coverage (NPTC 605 & 535) - Learned how to screen patients for anxiety and depression using PHQ9 and GAD7 to receive treatment faster (NPTC 605)
DNP Essential VII: Clinical Prevention & Population Health for Improving Nation's Health	**6.** Employ a population health focus in the design, implementation, and evaluation of health care delivery systems that	**Fall 2017** - Completed literature review on effective pain management for hospice patients in

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
NONPF: Leadership Competencies *Consistent with national calls for action and with the longstanding focus on health promotion and disease prevention in nursing, the DNP graduate has a foundation in clinical prevention and population health. This foundation enables DNP graduates to analyze epidemiological, biostatistical, occupational, and environmental data in the development, implementation, and evaluation of clinical prevention and population.*	address primary secondary, and tertiary levels of prevention.	home-based setting (DNPC611). - Evaluated and discussed current health care gaps in treatment of hospice patients (DNPC611). **Summer 2019** - Presented Alzheimer's case study and discussed preventative methods, differential diagnosis, and treatment plan (NPTC 535).
DNP Essential VIII: Advanced Nursing Practice **NONPF: Independent Practice/Ethics Competencies** *The increased knowledge and sophistication of health care has resulted in the growth of specialization in nursing in order to ensure competence in these highly complex areas of practice. The reality of the growth of specialization in nursing practice is that no individual can master all advanced roles and the requisite knowledge for enacting these roles. DNP programs provide preparation within distinct specialties that require expertise, advanced knowledge, and mastery in one*	**1.** Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.	**Fall 2017** - Synthesized and critiqued evidence-based paper on effective delivery of pain management in hospice patients (DNPC611) **Spring 2018** - Conducted review on evidence-based literature to guide best practice for delivering effective pain management on hospice patients (DNPC626) **Fall 2018** - Completed 168 clinical hours in 602 to develop advanced

AACN DNP Essentials & NONPF Competencies	**USD DNP Program Objectives**	**Exemplars** Provide bulleted exemplars that demonstrates achievement of each objective
are of nursing practice. A DNP graduate is prepared to practice in an area of specialization within the larger domain of nursing.		practice levels of clinical practice - Conducted physical health assessment in clinical lab and incorporated thorough history intake to rule out medical diagnosis for perspective patients. (DNPC-521) - Learned how to take detailed health histories to build differential diagnoses (DNPC-521; also applies to Essentials 3 and 8) - Met core competencies of Advanced Pathogenesis of Disease (DNPC 622) - Contrasted principles of Primary Care with Acute Care to understand and apply the differences between the two in interpreting and managing patient care (NPTC 602) - Learned about Roles and Responsibilities of Nurse Practitioner and how to interpret this into future practice and differentiate from being an RN (NPTC 602) - Learned Ethical Principles for Nurses to guide practice as an NP (NPTC 602)

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		Spring 2019 - Met core competencies of advanced pharmacology - Completed 216 clinical hours at Internal Medicine clinic and Urgent Care clinic - Assessed patients in Endocrinologist clinic (NPTC 604) - Assessed patients and managed care plans in Nursing homes (NPTC 604) - Proficient at conducting New patient visits (NPTC 604) - Proficient with having conversations and aiding patients in filling out POLSTs (NPTC 604) - Proficient with conducting Cognitive Impairment Assessments for Medicare patients (NPTC 604) **Summer 2019** - Completed required hours for both DNPC 605 and NPTC 535 - Proficient at completing cognitive impairment assessments for Medicare Reimbursement (DNPC 605)

AACN DNP Essentials & NONPF Competencies	**USD DNP Program Objectives**	**Exemplars** Provide bulleted exemplars that demonstrates achievement of each objective
		- Proficient with using the Mini-Cog Assessment tool (DNPC 605) - Proficient with using the PHQ9 Depression Scale (DNPC 605) - Proficient with using the Generalized Anxiety Disorder 7-item scale (DNPC 605) - Proficient with managing treatment supplements for patients requiring Hemodialysis (DNPC 605) - Learned how difficult adhering to diet is for patients with CKD requiring hemodialysis (DNPC 605) - Proficient with administering the POLST and describing the POLST to patients (NPTC 535)

Appendix F

Certificates or Documentation of any Additional Certifications

CITI PROGRAM

Completion Date 22-Oct-2017
Expiration Date 21-Oct-2021
Record ID 25020918

This is to certify that:

Ana Pacis

Has completed the following CITI Program course:

Responsible Conduct of Research (Curriculum Group)
Social and Behavioral Responsible Conduct of Research Course (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

University of San Diego

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w223bd900-ded2-4210-a5bd-94c63400c430-25020918

CITI PROGRAM

Completion Date 22-Oct-2017
Expiration Date 21-Oct-2021
Record ID 25020919

This is to certify that:

Ana Pacis

Has completed the following CITI Program course:

CITI Conflicts of Interest (Curriculum Group)
Conflicts of Interest (Course Learner Group)
1 - Stage 1 (Stage)

Under requirements set by:

University of San Diego

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w1c7950d4-e740-4387-9a09-95c87cced929-25020919