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UNIVERSITY OF SAN DIEGO

Hahn School of Nursing and Health Science

DOCTOR OF NURSING PRACTICE

Telehealth Breastfeeding: Best Practice Guideline

By

Laura Amabile BSN, RN

A Doctoral of Nursing Practice Portfolio presented to the

FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE

BEYSTER INSTITUTE FOR NURSING RESEARCH

UNIVERSITY OF SAN DIEGO

In partial fulfillment of the

requirements for the degree

DOCTOR OF NURSING PRACTICE

May 2021

Kathy James DNSc, FNP, FAAN, Faculty Advisor

Table of Contents

List of Figures	v
Acknowledgments.....	vi
Final Manuscript	1
Abstract	2
Identification of the Clinical Problem.....	3
Problem Clarification.....	4
Framework/EBP Model	6
Specific Aims.....	6
Proposed Evidence-Based Solution	7
Methods.....	8
Participants and Setting.....	8
Data Collection	8
Data Analysis	9
Ethical considerations	9
Results.....	9
Discussion	10
Summary	10
Interpretation.....	11
Cost Benefit Analysis	11
Limitations	13
Conclusion	13

Conflicts of Interest.....	14
References	15
Appendix A IRB Approval	18
Appendix B Letter of Support from Clinical Site	19
Appendix C Poster	20
Appendix D PowerPoint Stakeholder Presentation	21
Appendix E Telehealth Breastfeeding: Best Practice Guideline	28
Appendix F Certification	36
Appendix G AACN DNP Essentials/NONPF Competencies/ USD DNP Program Outcomes Exemplars	38
Summary of AACN, NONPF and USD DNP Competencies	56
DNP Essential I: Scientific Underpinnings for Practice	56
DNP Essential II: Organizational & System Leadership for Quality Improvement & Systems Thinking	57
DNP Essential III: Clinical Scholarship & Analytical Methods for Evidence- Based Practice	58
DNP Essential IV: Information Systems/Technology & Patient Care Technology for Improvement & Transformation of Health Care	58
DNP Essential V: Health Care Policy for Advocacy in Health Care	59
DNP Essential VI: Interprofessional Collaboration for Improving Patient & Population Health Outcomes	60
DNP Essential VII: Clinical Prevention & Population Health for Improving Nation's Health.....	61

DNP Essential VIII: Advanced Nursing Practice	61
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List of Figures

Figure 1 AGREE II Instrument results [Breastfeeding Best Practice Guideline AGREE II Instrument]	16
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Final Manuscript

Telehealth Breastfeeding: Best Practice Guideline

Laura Amabile

Kathy James

University of San Diego

Abstract

Background: Only 24.9% of United States infants are exclusively breastfed through six months. Healthy People 2020 breastfeeding goals include increasing the proportion of infant breastfed through six months to 60.6%. The Surgeon General's Call to Action identified increasing access to International Board-Certified Lactation Consultants as a priority to improve breastfeeding percentages.

Purpose: Implementation of an evidence-based telehealth breastfeeding guideline, will provide mothers with consistent education regarding breastfeeding practices and guidance to overcome common obstacles, which will then result in increased confidence levels regarding breastfeeding and increase breastfeeding durations.

Study and Design: The Iowa model was utilized to guide this project. A literature review of PUBMED and Cochrane databases, the National Institute for Health and Care Excellence, American Academy of Pediatrics and international lactation consultant association was performed. Articles included recommendations regarding breastfeeding hurdles, education, promotion and telehealth.

Methods: The evidence-based research was integrated into a guideline, which was then evaluated by the AGREE II instrument.

Results: The AGREE II instrument resulted as followed; Scope and Purpose 95.80%, Stakeholder Involvement 98.60%, Rigor of Development 82.80%, Clarity of Presentation 100%, Applicability 79.20%, Editorial Independence 89.60%, Overall Quality 95.80% and Recommendation for use 100%.

Key Words: Breastfeeding; Telehealth; Postpartum; Lactation support; Breastfeeding barriers.

Telehealth Breastfeeding: Best Practice Guideline

Identification of the Clinical Problem

An estimated 4 million babies are born each year in the United States. Breast milk provides the essential nutrients required for infant health and development. Breastfeeding is an integral part of the reproductive process with important implications for the health of mothers (WHO, 2018). The World Health Organization recommends that all infants be exclusively breastfed for the first six months of life to achieve optimal growth, development and health (WHO, 2018). In 2015, 4 out of 5 infants were breastfed initially at birth (CDC, 2020). This validates that the vast majority of mothers desire to breastfeed their infant and attempt to do so. Although the breastfeeding initiation rate at birth is relatively high, at 83.2%, less than 25% of infants are exclusively breastfeeding at 6 months (CDC, 2020).

The benefits to breastfeeding are vast. Exclusive breastfeeding reduces child mortality, promotes sensory and cognitive development, and protects the infant against infectious as well as chronic diseases (WHO, 2018). Mothers who breastfeed experience benefits which include reducing the risk of ovarian and breast cancer, increasing family resources, and providing a secure method for feeding their young (WHO, 2018). The benefits extend well beyond the initial breastfeeding period. Additionally, it is the optimal feeding preference for the environment as it decreases waste and pollution (WHO, 2018).

The Healthy People 2020 breastfeeding goals include increasing the proportion of infants who are ever breastfed from 74.0% to 81.9%; infants breastfed at 6 months from 43.5% to 60.6% and infants breastfed at 1 year from 22.7% to 34.1% (Healthy People,

2019). Exclusive breastfeeding goals for Health People 2020 included increasing the proportion of infants who are breastfed exclusively through 3 months from 33.6% to 46.2% and those breastfed exclusively through 6 months from 14.1% to 25.5% (Healthy People, 2019). Additional goals include reducing the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life from 24.2% to 14.2% (Healthy People, 2019).

Problem Clarification

Overall, there has been an increase in breastfeeding rates over the last decade, yet there are numerous complex barriers that are experienced by new mothers attempting to breastfeed and racial disparities still persist (CDC, 2020). Lack of knowledge regarding breastfeeding continues to be one of the most significant barriers for all mothers. Breastfeeding is often portrayed as “natural” but in truth it is a process in which both the new mother and infant have to become skilled at. Skills such as achieving a deep latch, positioning and breast care need to be learned. Mothers tend to expect breastfeeding to come effortlessly and therefore become frustrated easily. It is also important to note that breastfeeding rates noticeably vary in regard to race/ethnicity, mothers age, and education level, participation in WIC, and the ratio of family income to the federal poverty threshold (CDC, 2020). There are multiple factors influencing a woman’s decision on whether or not to initiate and sustain breastfeeding (CDC, 2020).

The lack of knowledge and support continue to be two of the largest barriers experienced by mothers attempting to breastfeeding exclusively. This is disproportionately to mothers of the lower income. These individuals report inadequate breastfeeding information receipt from providers and lack of access to professional

breastfeeding support (CDC, 2020). Furthermore, most common reasons mothers discontinue breastfeeding are due to factors such as breast pain, soreness, and infection (30%), nipple shields (25%), latch and positioning (24%), milk supply and production (17%), and the use of breast pumps (17%) (Kapinos et al., 2019). The Surgeon General's Call to Action to Support Breastfeeding identified increasing access to International Board-Certified Lactation Consultants (IBCLC's) as a priority to improve breastfeeding duration and exclusivity (Kapinos et al., 2019).

Support from International Board-Certified Lactation Consultants (IBCLCs) is associated with longer breastfeeding durations and exclusivity (Uscher Pines et al., 2019). Lactation consultant provided telehealth breastfeeding support provides mothers with the support and knowledge needed to successfully breastfeed their infant. Breastfeeding telehealth visits provide access to valuable breastfeeding support to those who otherwise are not be able to access lactation care. Telehealth breastfeeding support promotes exclusive breastfeeding and/or maintenance of breastfeeding as well as decreases the probability of discontinuing breastfeeding (Santos, Borges, Zocche, 2020). IBCLCS are well positioned to address breastfeeding obstacles that other providers such as pediatricians may not be able to due to limited training and competing time demands (Uscher Pines et al., 2019). Telehealth breastfeeding support has been found to have an overall satisfaction rating of 94% with participants reporting telehealth visits as simple and convenient (Santos et al., 2020). Telehealth breastfeeding has increased exclusive breastfeeding duration/maintenance and decreased probability of breastfeeding by those who participate (Santos et al., 2020).

Framework/EBP Model

The Iowa Model is a highly recognized guide for health care providers to apply research findings to improve patient care (Titler et al., 2001). The Iowa model serves as a 7-step process to identify an opportunity for practice improvement and to institute a practice change (Melnyk & Fineout-Overholt, 2019). Since there is currently a lack of telehealth breastfeeding guidelines to be utilized by lactation consultants, this model serves as a framework for designing an evidence-based practice guideline, instituting such guideline and disseminating its results. The feedback loops utilized in this model are vital to the success of this project. Since there is no current telehealth breastfeeding guideline available the dissemination of this project could be of service to all medical professionals seeking to provide telehealth breastfeeding support.

Specific Aims

The purpose of this Evidence Based Project was to create a guideline for lactation consultants to utilize during telehealth breastfeeding visits to improve the patients breastfeeding experience and support breastfeeding continuation. Current telehealth breastfeeding services provided by lactation consultants at this current location were limited and no current guideline existed for these encounters. Lactation consultants expressed the desire for a guideline to aid their current practice by providing consistent breastfeeding education, recommendations, and encouragement from one provider to the next. Lactation consultants expressed apprehension toward providing telehealth visits and it was the hope that the creation of a guideline would promote confidence. An additional goal of the guideline was to promote all staff discharging patients from the postpartum unit to provide patients with information regarding telehealth lactation services and

encourage they utilize the resource. Following the development of the guideline, the AGREE II instrument was used by the lactation consultants to evaluate the acceptance level of the guideline and its potential recommendations for use.

Facilitators of this project included support from the nursing managers and lactation consultants on the mother baby unit at this specific hospital. Barriers included staff resistance, lactation consultant buy in and ineffective communication. The aims of increasing the percentages of infants exclusively breastfed and IBCLC's comfort is providing telehealth care are noteworthy reasons to complete the project.

Proposed Evidence-Based Solution

In order to create the telehealth breastfeeding best practice guideline; Cochrane and PUBMED databases were searched through August to October 2020 for articles published in the last 10 years using terms such as lactation support, postpartum, breastfeeding, breastfeeding promotion, and telelactation. A wider search was expanded to the National Institute for Health and Care Excellence searching for specific breastfeeding guidelines. The American Academy of Pediatrics and International Lactation Consultant Association were also searched for relevant guidelines. Articles were incorporated only if they included recommendations for overcoming common breastfeeding hurdles, breastfeeding education, breastfeeding promotion or telehealth breastfeeding recommendations. Articles had to have cited evidence and reference lists available through the internet in full text English. A total of 13 articles were chosen to provide the evidence based breastfeeding recommendations and interventions based on their overall quality of evidence. Each source of evidence was categorized using the John Hopkin's Appendix D Evidence Level and Quality Guide.

Relevant research was taken into account to develop a telehealth breastfeeding guideline to be utilized by International Board-Certified Lactation Consultants. The guideline concentrates on managing breastfeeding mothers most frequently reported obstacles and difficulties. The evidence-based recommendations were integrated into the breastfeeding telehealth guideline to aid in providing patients with accurate and consistent information.

Methods

Participants and Setting

The Institutional Review Board deemed the project exempt from IRB approval as it is secondary research for which consent is not required. The support of the nursing manager and obstetric provider on the Mother Baby unit at the hospital in Southern California were both obtained prior to the start of this project. Additionally, buy in from the Lactation Consultants at the hospital in Southern California was obtained.

Data Collection

Following collection of the evidence based breastfeeding recommendations the initial draft was created by the project creator. The initial draft of the guideline was distributed to the lactation team via email. A virtual meeting was held on December 15th, 2020 to review the guideline, answer questions and receive criticism. All lactation consultants were able to provide feedback and proposals for modifications. Amendments to the initial guideline were made and the final guideline was distributed on December 21st, 2020 to the lactation team through email. With the final breastfeeding telehealth guideline, all team members received an AGREE II Instrument to evaluate the created guideline with. Results from the AGREE II instrument were collected by January 10th

2020. Results of the survey were analyzed and prepared for distribution January 11th-16th 2021.

Data Analysis

Of the six lactation consultants, four completed the AGREE II instrument. Microsoft Excel was used to compute the quality score for each of the six AGREE II domains. The AGREE II instrument consists of 23 key items which are organized into six domains and two global rating items for overall assessment. The six domains are as follows: Scope and Purpose, Stakeholder Involvement, Rigor of Development, Clarity of Presentation, Applicability, and Editorial Independence. Each domain is rated on a scale from 1-7, 1 being strongly disagree and 7 being strongly agree. The six domain scores remained independent and were not aggregated into a single quality score. The domain scores were used to determine if the guideline should be recommended for use or not.

Dissemination of the results from the AGREE II Instrument and telehealth breastfeeding best practice guideline was provided on February 16th, 2021 via videoconference meeting with the lactation consultant team and maternal child health nurse managers of the hospital.

Ethical considerations

Ethical aspects of implementing were addressed. Neither patient information nor patient contact was required. An ethics review was performed and considered exempt. There were no conflicts of interest identified.

Results

The DNP student analyzed each domain of the AGREE II instrument to accurately calculate the scaled domain scores. As seen in table 1, the pattern of domain

scores differentiated the telehealth breastfeeding best practice guideline as a high-quality guideline. The findings regarding the overall guideline quality and its recommendation for use provide positive influence for implementing guideline at this particular hospital in Southern California. It also bears significant weight in its potential usage in additional settings across this hospital system and medical practices across the country.

Table 1

Breastfeeding Best Practice Guideline: AGREE II Instrument

Discussion

Summary

Implementing telehealth best practice breastfeeding guideline was 100% recommended for use by lactation consultants at this specific Hospital. The guideline provides a framework for care provided supporting mothers breastfeeding knowledge, confidence and skills to successfully sustain breastfeeding. Breastfeeding positively impacts the health of mothers, infants, the environment and economy.

Interpretation

The creation of the evidence based breastfeeding guideline will support lactation consultants in providing accurate and consistent information regarding breastfeeding practices. It will promote consistent care which focuses on helping mothers understand the importance of breastfeeding and how to overcome obstacles that might prevent them from continuing breastfeeding

Cost Benefit Analysis

The project experienced minimal cost. The total cost was \$480. This cost included the expense of two one-hour assessment and education sessions for six lactation consultants at \$40/hour. There were no additional costs experienced for this project.

The United State Lactation Consultant Association compiled the excessive medical costs non breastfeeding mothers and infants experience and the potential health care savings that could be seen from supporting breastfeeding for all mothers. It was discovered that there was an excessive costs of office visits, hospitalizations and medications in non-breastfed infants compared to breastfed infants which totaled \$5,909 per child per year (Gutowski et al, 2014). Therefore, it was stated that the cost benefit of exclusively breastfeeding for the first six months and continued breastfeeding for one year would be \$5,909 per child per year (Gutowski et al, 2014). Data evaluation of medical costs had determined that if 90% of United States families followed medical recommendations of breastfeeding exclusively for the first 6 months of life and then continuing for one year, \$13 billion could be saved and 911 infant deaths prevented annually (Gutowski et al, 2014).

The cost saving of breastfed infants was found as a result from the risk reductions of childhood illnesses. The risk reduction percentages were found to be the following; 100% reduction in acute otitis media, 47% reduction in atopic dermatitis, 178% reduction in gastrointestinal infections, 275% reduction in lower respiratory infection, hospitalization rate, 67% reduction in asthma, with family history, 35% reduction in asthma without family history, 32% reduction in childhood obesity, 64% reduction in type II diabetes, 13% reduction in acute lymphocytic leukemia, 18% reduction in acute myelogenous leukemia, 56% reduction in sudden infant death syndrome and 138% reduction in necrotizing enterocolitis in preterm infants (Gutowski et al, 2014). Infants who are breastfed experience a reduction in health risks across their lifetime and those who are not breastfed or are breastfed for only a short period are exposed to a higher disease risk not only as infants and children but also as adults (Gutowski et al, 2014).

The excessive medical costs for mothers were identified as \$9,715 per individual (Gutowski et al, 2014). The overall cost benefit yield for women who breastfed was found to be \$18.265 billion based off 2011 projections (Gutowski et al, 2014). The risk reduction for women who breastfeed were found to be as followed; 12% reduction in diabetes, 8.4% reduction in metabolic syndrome, 21% reduction in ovarian cancer, 4.3% reduction in breast cancer, 23% reduction in coronary artery disease, 22% reduction in aortic calcifications and 15% reduction in coronary calcifications (Gutowski et al, 2014).

The cost savings for one mother and one infant couplet who adhere to the recommendations to breastfeed exclusively for six months and continue for one year would yield \$15,624. There would continue to be a \$5,909 saving per child per year. In this particular project for every dollar spent, there is a \$32.55 cost savings. The return on

investment is projected to be 3,155%. The non-financial benefits to this project include patient appreciation and empowerment, improved communication with patients and families, and improved patient confidence regarding breastfeeding obstacles and continuation.

Limitations

Limits to the generalizability of the work include possible need for language translation. Given the nature of the work there were very few factors that limited internal validity. Those who completed the AGREE II instrument were able to submit their responses anonymously in an effort to minimize limitations. The team of lactation consultants at this particular location was small and therefore lead to a limited sample size of guideline analysis.

Conclusion

The telehealth breastfeeding guideline was 100% recommended for use by the board-certified lactation consultants. The guideline will be implemented at this specific location with the oversight by the nursing manager of the postpartum unit. The guideline will be proposed to the other applicable locations which are attempting telehealth breastfeeding support within the hospital network. The board-certified lactation consultants will sustain the guideline with the assistance from nursing managers. There is a potential to spread this guideline further to any medical facility wanting or already attempting telehealth breastfeeding support. This would be incredibly applicable to rural settings. Further study would include the direct impact this guideline provides to breastfeeding initiation and sustenance. Additionally, the impact of mother's confidence, knowledge and attitude to breastfeeding practices would be of interest.

Conflicts of Interest

The author has no conflict of interest.

Acknowledgments

This work was supported by the University of San Diego and the hospital in southern California.

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Appendix A

IRB Approval

Nov 9, 2020 9:49:05 AM PST

Laura Amabile
Hahn School of Nursing & Health Science

Re: Exempt - Initial - IRB-2021-82, Telehealth Breast Feeding Best Practice

Dear Laura Amabile:

The Institutional Review Board has rendered the decision below for IRB-2021-82, Telehealth Breast Feeding Best Practice.

Decision: Exempt

Selected Category: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

- (i) The identifiable private information or identifiable biospecimens are publicly available;
- (ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;
- (iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or
- (iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Findings:

Research Notes:

Internal Notes:

The USD IRB requires annual renewal of all active studies reviewed and approved by the IRB. Please submit an application for renewal prior to the annual anniversary date of initial study approval. If an application for renewal is not received, the study will be administratively closed.

Note: We send IRB correspondence regarding student research to the faculty advisor, who bears the ultimate responsibility for the conduct of the research. We request that the faculty advisor share this correspondence with the student researcher.

The next deadline for submitting project proposals to the Provost's Office for full review is N/A. You may submit a project proposal for expedited or exempt review at any time.

Sincerely,

Appendix B

Letter of Support from Clinical Site

Scripps Mercy Hospital

435 H Street
Chula Vista, CA 91910-4307

Tel 619-691-7000

To: Institutional Review Board, University of San Diego

From: Elizabeth Retts, Nursing director and Shaila Serpas, MD
Maternal Child Health Scripps Mercy Hospital

Re: DNP Project: Telehealth Breastfeeding Guideline

Laura Amabile has our support to begin her scholarly practice project at Scripps Mercy Hospital Maternal Child Health as part of her coursework for the DNP Program at the University of San Diego. Laura Amabile has agreed to cleanse all information of patient or institutional identifiers, and we understand that she will request to use information from this experience for publication and professional presentation.

If you have any questions, please contact Elizabeth Retts at retts.elizabeth@scrippshealth.org or by phone at (602)-402-0044. You may also contact Dr. Serpas at serpas.shaila@scrippshealth.org or by phone at (619)-691-7587.

Sincerely,

Elizabeth Retts, Nursing Director

Scripps Mercy Maternal Child Health

Shaila Serpas, MD, MPH

Scripps Mercy Maternal Child Health

Appendix C

Poster

Appendix D

PowerPoint Stakeholder Presentation

Telehealth Breastfeeding: Best Practice Guideline

Laura Amabile, BSN, RN
DNP Student
University of San Diego
Kathy James DNSc FNP FAAN

Background & Significance

- The AAP recommends all infants be exclusively breastfed the first 6 months of life and continue to breastfeed for at least 1 year.
- Healthy People 2020 breastfeeding goals include increasing the proportion of infants breastfed to 81.9% and those breastfed at 6 months to 60.6%
- In the United States 46.9 % of infants are exclusive breastfeeding through 3 months
 - 24.9% of infants are exclusive breastfeeding through 6 months
- The Surgeon Generals Call to Action identified increasing access to IBCLC's a priority to improve breastfeeding duration and exclusivity
- In California 53.0% of infants are exclusive breastfeeding through 3 months
 - 26.3% of infants are exclusive breastfeeding through 6 months
- The lack of knowledge and support continue the largest barriers experienced

Driving Forces for Project

Problem statement:

Current breastfeeding rates fail to meet the healthy people 2020 goals. Woman lack breastfeeding knowledge and confidence needed to initiate and sustain breastfeeding.

Overarching Project Goal:

By implementing a telehealth breastfeeding guideline, we can provide consistent education to mothers regarding breastfeeding practices and guidance to overcome common obstacles, which will result in increased confidence regarding breastfeeding and increase breastfeeding durations.

PICO(T) Question

For Lactation Consultants at Scripps Mercy Chula Vista Mother Baby Unit, what is the level of acceptance of an evidence based breastfeeding guideline using the AGREE II instrument.

Framework/EBP Model

- The Iowa model was used to guide this project. The model provides a step by step guide to identify issues, research solutions and implement change.

Synopsis of the Evidence

Author(s) Name of article	Evidence Ranking	Summary of Evidence
Oliveria, 2001 <i>Extending breastfeeding duration through primary care: a systematic review of prenatal and postnatal interventions.</i>	Level I	<ul style="list-style-type: none"> Interventions most effective in extending the duration of breastfeeding generally combined information, guidance, and support and were long term and intensive
Kapinos, 2019 <i>The use of and experiences with telelactation among rural breastfeeding mothers: secondary analysis of a randomized controlled trial</i>	Level II	<ul style="list-style-type: none"> The most common challenges experienced on video calls included, breast pain, soreness and infection, use of nipple shields, latch or positioning, milk supply and production and use of breast pump. There is a strong demand for telelactation, particularly in the first weeks following delivery. Video visits tend to be short in duration (7 minutes average) Participants are appreciative of the scheduling and flexibility. Telelactation is acceptable and feasible for rural mothers
Uscher-Pines, 2020 <i>Feasibility and effectiveness of telelactation among rural breastfeeding woman</i>	Level II	<ul style="list-style-type: none"> Support from International Board Certified Lactation Consultants (IBCLCs) is associated with longer breastfeeding durations and exclusivity. IBCLCs are well positioned to address breastfeeding problems that other providers such as pediatricians may not be able to due to limited training and competing time demands 91% of telelactation participants reported they were very satisfied with the advice they received Higher percentages of woman offered telelactation were breastfeeding and were breastfeeding exclusively at 12 weeks Telelactation is likely to increase access to IBCLCs and increase convenience for woman seeking support.

Synopsis of the Evidence

Author(s) Name of article	Evidence Ranking	Summary of Evidence
Cross Barnett, 2012 <i>Long-term breastfeeding support: failing mothers in need.</i>	Level VI	<ul style="list-style-type: none"> Mothers received <ul style="list-style-type: none"> misinformation regarding breastfeeding, were not given referrals to available resources received inconsistent information regarding breastfeeding Mothers need <ul style="list-style-type: none"> consistent, sustained information and support to develop and meet personal breastfeeding goals. Medical professionals should follow guidelines issued by their own organizations
National Institute for Health and Care Excellence, 2015 <i>Postnatal care up to 8 weeks after birth Clinical guideline</i>	Level I	<ul style="list-style-type: none"> Unrestricted breastfeeding frequency and duration should be encouraged Woman should be reassured and advised regarding breast discomfort and good latching. A woman's experience with breastfeeding should be addressing at each contact to assess if she is on course to breastfeed effectively and to address areas for additional support. Woman should be advised on expression and storage of breastmilk Nipple pain, engorgement, mastitis, inverted nipples, ankyloglossia, sleepy baby, formula feeding prevention, identification and treatment should be discussed with the breastfeeding mother.
Ferraz dos Santos, 2020 <i>Telehealth and Breastfeeding: an integrative review</i>	Level VI	<ul style="list-style-type: none"> Participants of telephone based breastfeeding support report being satisfied or very satisfied with help and support received Participants report videoconferencing as simple to implement and that they otherwise would not have access to lactation consultants. Telehealth breastfeeding supports increase the exclusive breastfeeding time and/or maintenance of breastfeeding, as well as decreased probability of discontinuing breastfeeding.

Project Implementation Timeline

- Implementation December 15, 2020
- Date Auditing for December 20, 2020
- Completion January 1, 2021

Results/Outcomes

Cost-Benefit & ROI

Formulas:

$$\text{CBA} = \frac{\$15,624}{\$480} = \$32.55$$

For every dollar spent, there is a \$32.55 cost savings.

$$\text{ROI} = \frac{\$15,624 - \$480}{\$480} \times 100 = 3,155\% \text{ ROI}$$

Expected Implications for Clinical Practice & Sustainability

- Increased breastfeeding initiation and duration.
- Increased patient satisfaction.
- Decreased negative health consequences for infants, including sudden infant death syndrome, obesity, necrotizing enterocolitis, respiratory infections and type 2 diabetes.
- Decreased negative health consequences for women including diabetes, breast and ovarian cancers.
- Decreased number of unnecessary office visits.
- Project will be sustained through lactation consultants and nursing managers

Conclusion

Implementing the telehealth best practice breastfeeding guideline was 100% recommended for use by lactation consultants at Scripps Mercy Chula Vista Hospital. The guideline provides a framework for supporting mothers breastfeeding knowledge, confidence and skills to successfully sustain breastfeeding. Breastfeeding positively impacts the health of mothers, infants, the environment and economy.

Key References

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Appendix E

Telehealth Breastfeeding: Best Practice Guideline

I. PURPOSE

- a. To promote breastfeeding duration and exclusivity and provide the support mothers need to breastfeed their infants.³
- b. To promote a system to guarantee continuity of skilled support for lactation between hospital and health care settings.³
- c. To promote a philosophy in maternal-infant care which advocates and supports breastfeeding as the optimal form of infant feeding.
- d. To provide breastfeeding families accurate and consistent information in accordance with the WHO/UNICEF, the American Academy of Family physicians, and CDC.
- e. To assist breastfeeding families with the continuation of exclusive breastfeeding by providing a positive maternal-infant environment that is maximally conducive for breastfeeding success.
- f. To provide new and current Maternal Child Health (MCH) staff with the education and procedures for successful telehealth breastfeeding support.

II. PERSONNEL

- a. International Board-Certified Lactation Consultants (IBCLC's)
- b. Registered Nurses
- c. Physicians, Certified Nurse Midwives, Nurse Practitioners

III. EQUIPMENT

- a. Computer with webcam
- b. Internet
- c. Breast Pump
- d. Nipple Shield
- e. Lanolin
- f. hydrogels
- g. Additional teaching tools such as breast model, stomach size capacity visuals etc.

IV. RECOMMENDATION

- a. IBCLC's will provide mothers with telehealth breastfeeding support visit after hospital discharge.
- b. IBCLC's and registered nurses will educate and encourage mothers prior to hospital discharge on how to contact the lactation line after discharge to schedule a telehealth visit with a lactation consultant.
- c. Mothers experiencing breastfeeding difficulties during their hospital stay or mothers who are likely to discontinue breastfeeding should be encouraged to schedule telehealth lactation consultation 2 days after discharge or sooner.

d. EDUCATION OF BENEFITS OF BREASTFEEDING

- i. Mothers should be encouraged to breastfeed exclusively for the first 6 months of life with continued breastfeeding up to 2 years of age or beyond.⁵
- ii. Mothers should be educated regarding the health benefits of breastfeeding as they relate to both mother and infant
 - 1. MATERNAL HEALTH BENEFITS
 - a. Decrease risk of breast and ovarian cancer, hypertension, type 2 diabetes mellitus, and postpartum depression.⁴
 - 2. INFANT HEALTH BENEFITS
 - a. Decrease risk of atopic dermatitis and intestinal gastroenteritis.⁴
 - b. Higher IQ later in life.⁴
 - c. Decrease risk of childhood leukemia, hypertension, necrotizing enterocolitis, obesity, otitis media, respiratory illnesses such as asthma, severe lower respiratory infections, sudden infant death syndrome and type 1 and 2 diabetes.⁴

e. ASSESSING BREASTFEEDING

- i. Unrestricted breastfeeding frequency and duration should be encouraged.²
- ii. Women should be advised on indications of proper infant latch, positioning and feeding.²
- iii. Women should be given information about available breastfeeding support groups.
- iv. Patient breastfeeding experience should be addressed at each visit to assess if she is on course with effective breastfeeding and to identify need for additional intervention. Breastfeeding progression should be addressed and documented at each visit.²

f. BREASTFEEDING CONCERNS

- i. INSUFFICIENT MILK SUPPLY
 - 1. If insufficient milk is perceived by the patient, attachment and positioning should be reviewed and her infant's health evaluated. Reassurance should be offered to support the patient to gain confidence in her ability to produce enough milk.²
 - 2. Infant weight should be monitored through weight testing and infant output.⁴
 - 3. Patient should be instructed to weigh infant with clothes on before and after feeding. IBCLC's will then subtract the pre-

feeding weight from the post feeding weight. One gram of weight is estimated to be the equivalent of 1ml of milk intake.⁴

4. IBCLC's will assess feeding, pumping and infant stooling and voiding patterns during each visit.
5. Mothers should be educated regarding recommended milk intake, voiding pattern and stooling patterns for breastfeeding infants.⁴
 - a. 6 or more voids should be expected in a 24-hour period.⁴
 - b. 0-24 hours – intake 2-10ml per feeding, 1 stool a day which is dark green to black and sticky.⁴
 - c. 24-48 hours – intake 5-15ml per feeding, 2 stools a day which are dark green to black and stick.⁴
 - d. 48-72 hours – 15-30 ml per feeding – 6-8 stools per day which are green.⁴
 - e. 72-96 hours – 30 to 60 ml per feeding, 6-8 stools per day which are green.⁴
 - f. >5 days 60-120 ml per feeding, 6-8 stools per day which are light mustard-seed yellow.⁴
6. If infant is not taking sufficient milk from the breast directly and supplementation is necessary, expressed milk should be offered first by cup or bottle.²
7. Additional finger feeding, spoon feeding, and French feeding tube should be utilized as seen appropriate by IBCLC
8. For medically necessary formula supplementation, the academy of breastfeeding medicine protocol for supplementation will be used.⁴

ii. NIPPLE PAIN

1. Patients should be advised that nipples often become painful or cracked due to improper latching.²
2. Infant latch and positioning should be evaluated for signs of good positioning and latch each visit.
3. Signs of good positioning and latch will be assessed and discussed with patient
 - a. Infant nose is free from the breast (also referenced as sniffing position).⁴
 - b. Infants chin is pressed against the breast.⁴
 - c. Infants cheeks are rounded, no sunken in or dimpled
 - d. Infants mouth is open wide like a yawn.⁴
 - e. If any areola is visible, more is seen above the infant's top lip, with little to none showing near the chin.⁴
 - f. Infants lower lip is flanged outward.⁴

- g. Infants body is in line with the head and facing towards the mother “tummy to tummy”.⁴
- h. Feeding is not painful to the mother after the initial 30 seconds to one minute after latching.⁴
- i. Infant has a rhythmic suck and swallow pattern.⁴

iii. NIPPLE DAMAGE

- 1. Lactation consultant will aid in the adjustment of latch and infant position or pump flange size to stop trauma to the nipple.⁴
- 2. Patient should be encouraged to apply expressed breast milk to the nipple after feedings and as needed in between feedings.⁴
- 3. Patient education provided should include lanolin, all-purpose nipple ointment, breast shells, and glycerin pads which can be used but are no more effective than expressed breast milk. Hydrogel dressings should be encouraged as they manage pain more effectively than lanolin.⁴

iv. BLOCKED MILK DUCTS

- 1. Patient should be encouraged to massage area of tender nodule or apply vibration.⁴
- 2. Patient should be educated regarding avoiding constricting clothing, increasing frequency of feedings or pumping, hand expression focusing on area for complete emptying.⁴
- 3. Patient should be educated regarding dangle feeding, heat therapy, and rest and hydration.⁴

v. MASTITIS

- 1. Patients should be educated regarding the signs and symptoms of mastitis, including flu like symptoms, tender, red, and painful breast.²
- 2. Patients with symptoms of mastitis should be counseled on infant positioning and latch.²
- 3. Patient should be encouraged to continue breastfeeding and hand expression for effective milk expression and if symptoms continue more than a few hours the patient should schedule an urgent appointment with primary care provider.²

vi. ENGORGEMENT

- 1. Patient education should be provided that breast may become tender, painful and firm around day 3 of life for infant as it at this time that the milk “comes in”.²
- 2. Patients should be educated to wear well-fitting bras that do not compress breast.²
- 3. Engorgement of the breasts should be treated with unrestricted breastfeeding, breast massage, hand expression,

hot or cold packs, application of cabbage leaves and analgesia as needed.²

4. Lactation consultant should provide education regarding reverse pressure softening, feeding infant in reclined position.⁴

vii. MILK BLEBS

1. Patient encouraged to soak the breast in warm saltwater for 5-10 minutes and gently rub the nipple with soft cloth to abrade and unroof blister. If ineffective patient should be encouraged to make appointment with primary care provider.⁴

viii. INVERTED NIPPLES

1. Patients with inverted nipples should receive additional support and care to ensure successful breastfeeding.²

ix. NIPPLE SHIELD

1. Lactation consultants will assess the underlying reason which cause the mother to initially use the nipple shield and offer the appropriate education and support.⁴
2. The lactation consultant will assess at each visit the need for continued use of the nipple shield and refer the patient to pediatrician if referrals are needed to remedy the situation.⁴

x. EXPRESSION AND STORAGE

1. Mothers will receive education regarding breast pump use, milk storage and preparation in accordance with the CDC recommendations. *CDC recommendations can be noted at the end of guideline.*⁵

ACCESSIBLE VERSION: <https://bit.ly/2dxVYLU>

STORAGE AND PREPARATION OF BREAST MILK

BEFORE EXPRESSING/PUMPING MILK

Wash your hands well with soap and water.

Inspect the pump kit and tubing to make sure it is clean.

Replace moldy tubing immediately.

Clean pump dials and countertop.

STORING EXPRESSED MILK

Use breast milk storage bags or clean food-grade containers with tight fitting lids.

Avoid plastics containing bisphenol A (BPA) (recycle symbol #7).

HUMAN MILK STORAGE GUIDELINES

TYPE OF BREAST MILK	STORAGE LOCATIONS AND TEMPERATURES		
	Countertop 77°F (25°C) or colder (room temperature)	Refrigerator 40 °F (4°C)	Freezer 0 °F (-18°C) or colder
Freshly Expressed or Pumped	Up to 4 Hours	Up to 4 Days	Within 6 months is best Up to 12 months is acceptable
Thawed, Previously Frozen	1–2 Hours	Up to 1 Day (24 hours)	NEVER refreeze human milk after it has been thawed
Leftover from a Feeding (baby did not finish the bottle)	Use within 2 hours after the baby is finished feeding		

(CDC,2020)

STORE

Label milk with the date it was expressed and the child's name if delivering to childcare.

Store milk in the back of the freezer or refrigerator, not the door.

Freeze milk in **small amounts of 2 to 4 ounces** to avoid wasting any.

When freezing leave an inch of space at the top of the container; breast milk expands as it freezes.

Milk can be stored in an insulated cooler bag with frozen ice packs for **up to 24 hours** when you are traveling.

If you don't plan to use freshly expressed milk **within 4 days**, freeze it right away.

THAW

Always thaw the oldest milk first.

Thaw milk under lukewarm running water, in a container of lukewarm water, or overnight in the refrigerator.

Never thaw or heat milk in a microwave. Microwaving destroys nutrients and creates hot spots, which can burn a baby's mouth.

Use milk **within 24 hours** of thawing in the refrigerator (*from the time it is completely thawed, not from the time when you took it out of the freezer*).

Use thawed milk **within 2 hours** of bringing to room temperature or warming.

Never refreeze thawed milk.

FEED

Milk can be **served cold, room temperature, or warm.**

To heat milk, place the sealed container into a bowl of warm water or hold under warm running water.

Do not heat milk directly on the stove or in the microwave.

Test the temperature before feeding it to your baby by putting a few drops on your wrist. It should feel warm, **not hot.**

Swirl the milk to mix the fat, which may have separated.

If your baby did not finish the bottle, leftover milk should be used **within 2 hours.**

CLEAN

Wash disassembled pump and feeding parts in a clean basin with soap and water. **Do not wash directly** in the sink because the germs in the sink could contaminate items.

Rinse thoroughly under running water. Air-dry items on a clean dishtowel or paper towel.

Using clean hands, store dry items in a clean, protected area.

For extra germ removal, sanitize feeding items daily using one of these methods:

- clean in the dishwasher using hot water and heated drying cycle (*or sanitize setting*).
- boil in water for 5 minutes (*after cleaning*).
- steam in a microwave or plug-in steam system according to the manufacturer's directions (*after cleaning*).

June 20 19

Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion

FOR MORE INFORMATION, VISIT:

[https:// bit.ly/ 2dxVYLU](https://bit.ly/2dxVYLU)

298657-B

(CDC,2020)

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Appendix F

Certification

Completion Date 01-Nov-2018 Expiration Date 31-Oct-2021 Record ID 29314157
This is to certify that:		
laura johnson		
Has completed the following CITI Program course:		
Human Subjects Research - Biomed Biomedical Research - Basic/Refresher 1 - Basic Course	(Curriculum Group) (Course Learner Group) (Stage)	Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).
Under requirements set by:		
University of San Diego
		Collaborative Institutional Training Initiative
Verify at www.citiprogram.org/verify/?w048662c5-8bcb-49bb-94aa-340b4e6b4a8c-29314157

<h2>Certificate of Completion</h2>
<h3>Laura Amabile</h3>
<p>has successfully completed the 2020 Culture of Safety Infection Prevention for Students and Faculty course.</p>

Certificate of Completion

This is to certify that

Laura Amabile

has successfully completed the **Nursing
Faculty and Traveler Orientation** course.

Appendix G

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
<p>DNP Essential I: Scientific Underpinnings for Practice</p> <p>NONPF: Scientific Foundation Competencies</p> <p><i>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.</i></p>	<p>2. Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.</p>	<p>Fall 2018</p> <ul style="list-style-type: none"> • Integrated nursing theories into analysis of current research in practice, developed PICO statement in methods of translational Science (DNPC 611). • Conducted literature reviews related to breastfeeding and evidence-based practice recommendations (DNPC 611). <p>Summer 2019</p> <ul style="list-style-type: none"> • Critically examined the character and constitutions of advanced nursing practice and practice inquiry (DNPC 610). • Critically evaluated the literature regarding the development of reflective practice (DNPC 610).

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		<ul style="list-style-type: none"> Analyzed the relationships between philosophical stance, practice perspectives, and inquiry/research methodologies (DNPC 610). Fall 2019 <ul style="list-style-type: none"> Synthesized knowledge of advanced pathogenesis and clinical genetics as a basis for evaluation of patients with multi-system disease states (DNPC 622). Evaluated subjective and objective clinical findings to formulate differential diagnoses for patients with complex disease states (DNPC 622). Explored current therapies and investigational interventions including pharmacogenetics for complex disease states in the acutely or chronically ill individual utilizing evidence-based practice models (DNPC 622).

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		<p>Spring 2020</p> <ul style="list-style-type: none"> • Evaluated relevant developmental, behavioral and sociocultural concepts in assessing the health care needs of individuals and their families (NPTC 604). • Differentiated appropriate screening techniques to identify and manage individuals at risk for common acute and chronic health problems (NPTC 604). • Utilized pathophysiological concepts to develop differentials and working diagnosis in the evaluation of individuals with common acute and chronic health problems (NPTC 604). • Delineated the Iowa model underlying a specific prenatal breastfeeding education program (DNPC 686). <p>Fall 2020</p> <ul style="list-style-type: none"> • Conducted literature reviews related to breastfeeding and evidence-based practice

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		<p>recommendations for telehealth (DNPC 630).</p> <ul style="list-style-type: none"> • Critically evaluated literature regarding the telehealth breastfeeding evidence-based practice (DNPC 630). • Delineated the Iowa model underlying a specific telehealth breastfeeding guideline (DNPC 630).
<p>DNP Essential II: Organizational & System Leadership for Quality Improvement and Systems Thinking</p> <p>NONPF: Leadership Competencies/Health Delivery System Competencies</p> <p><i>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 expertise in assessing organizations, identifying system's issues, and facilitating organization-wide changes in practice</i></p>	<p>5. Design, implement, and evaluate ethical health care delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes.</p>	<p>Fall 2018</p> <ul style="list-style-type: none"> • Identified and evaluated the need for breastfeeding promotion and supportive care in primary care clinics. • Analyzed current research regarding successful breastfeeding promotion programs and implementation. <p>Spring 2019</p> <ul style="list-style-type: none"> • Analyzed the health care environment of breastfeeding practice setting, prepared a strategic plan appropriate for the environment, developed implementation steps for

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<i>delivery. This also requires political skills, systems thinking, and the business and financial acumen needed for the analysis of the practice quality and costs.</i>		<p>increasing breastfeeding rates and accomplishing the strategic plan (DNPC 626).</p> <ul style="list-style-type: none"> • Participated in needs assessments of breastfeeding market and in the design of programs (10 steps to breastfeeding), products, and services to meet lactation needs (DNPC 626). <p>Summer 2019</p> <ul style="list-style-type: none"> • Applied principles of program planning to the design of an evidence-based practice project and health care delivery educational program (DNPC 686). • Summarized the evidence base for a specific prenatal breastfeeding education program (DNPC 686). • Utilized scientific evidence as a basis for designing practice changes and outcomes (DNPC 686). • Delineated the Iowa model underlying the specific program (DNPC 686). <p>Fall 2019</p>

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		<ul style="list-style-type: none"> • Demonstrate an understanding of and practice within an ethical framework and the legal requirements for clinical practice as a nurse practitioner (NPTC 602). Spring 2020 <ul style="list-style-type: none"> • Developed and implement plans of care in collaboration with individuals and their families that integrate developmental, psychosocial, spiritual, and physiological needs (NPTC 604). • Analyzed the role and economic impact of the nurse practitioner in a collaborative interdisciplinary model of care (NPTC 604). • Demonstrated understanding of and practice within an ethical framework and the legal requirements for clinical practice as a nurse practitioner (NPTC 604). • Developed an evaluated plan for a specific prenatal breastfeeding

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		<p>education program with an emphasis on sustainability (DNPC 686).</p> <ul style="list-style-type: none"> • Formulated a plan for effective dissemination of evaluation results to appropriate stakeholders (DNPC 686). <p>Fall 2020</p> <ul style="list-style-type: none"> • Identified and evaluated the need for a telehealth breastfeeding guideline for lactation consultants in the hospital setting. • Analyzed current research regarding successful telehealth breastfeeding promotion • Formulated a plan guideline evaluation using the AGREE II instrument and a plan for the dissemination of evaluation results to appropriate stakeholders (DNPC 630). <p>Spring 2021</p> <ul style="list-style-type: none"> • Implemented telehealth breastfeeding best practice guideline in the hospital setting (DNPC 630).

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<p>DNP Essential III: Clinical Scholarship & Analytical Methods for Evidence-Based Practice</p> <p>NONPF: Quality Competencies/Practice Inquiry Competencies</p> <p><i>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 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</i></p>	<p>4. Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing evidence-based practice guidelines.</p>	<p>Fall 2018</p> <ul style="list-style-type: none"> • Conducted a systematic review of current practice guidelines regarding breastfeeding (DNPC 611). • Developed implementation plan regarding breastfeeding promotion and clinical care practices (DNPC 611). <p>Spring 2019</p> <ul style="list-style-type: none"> • Expanded literature review regarding barriers experienced by postpartum women when breastfeeding (DNPC 626). • Expanded literature review of current practice guidelines in promotion of breastfeeding during the prenatal and postpartum period (DNPC 626). <p>Fall 2019</p> <ul style="list-style-type: none"> • Evaluated the effectiveness of evidence-based strategies to promote and maintain the health of individuals and families across the lifespan (NPTC 602).

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<i>into practice and dissemination and integration of new knowledge.</i>		Spring 2020 <ul style="list-style-type: none"> Summarized the evidence base for a specific project to increase breastfeeding initiation and duration through a prenatal breastfeeding program (DNPC 686). Utilized scientific evidence as a basis for designing practice changes and outcomes (DNPC 686).
DNP Essential IV: Information Systems/Technology & Patient Care Technology for Improvement & Transformation of Health Care NONPF: Technology & Information Literacy Competencies <i>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</i>	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.	Spring 2019 <ul style="list-style-type: none"> Began in the collection of exclusive breastfeeding rates and compiled data into chart for analysis (HCI 540). Compared and contrast various technology and data resources needed for retrieving, storing, analyzing, managing, and communicating information for the delivery of nursing and health care (HCI 540). Used spreadsheets, statistical and database applications to support clinical and management decision-

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<p><i>patient care technology 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.</i></p>		<p>making and outcomes management in the clinical and health care management setting (HCI 540).</p> <ul style="list-style-type: none"> • Critiqued software applications and existing health care information systems for their utility and their appropriateness to support health care practice (HCI 540). <p>Spring 2020</p> <ul style="list-style-type: none"> • Utilized technology and systematic reviews of clinical research as a basis for evidence-based practice (NPTC 604). <p>Fall 2020</p> <ul style="list-style-type: none"> • Obtained Biomedical Research Human Certification – Basic/Refresher Course through CITI (DNPC630). • Obtained USD IRB approval for DNP EBP project. • Implementation of DNP project in hospital care setting utilizing telehealth breastfeeding best practice guideline.

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<p>DNP Essential V: Health Care Policy for Advocacy in Health Care</p> <p>NONPF: Policy Competencies</p> <p><i>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 and the commitment to policy development are central elements of DNP practice.</i></p>	<p>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).</p>	<p>Spring 2019</p> <ul style="list-style-type: none"> • Conducted a policy analysis related to a health care delivery issue using a theoretical framework (DNP 648). • Developed and critiqued strategies for promoting nursing involvement in policy development (DNP 648). • Examined the impact of legal and regulatory issues on health care delivery and advanced nursing practice roles (DNP 648). • Addressed policy brief to American Nursing Association regarding implementation of mental health screenings changes that could aid in decreasing the homeless veteran population and vulnerability military members (APNC 523). • Addressed the American College of Obstetricians and Gynecologists on furthering the education of primary care providers relating to breastfeeding practices to combat the astronomically low

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		breastfeeding rates across the nation (APNC 523). <ul style="list-style-type: none"> • Addressed congress regarding short term disability insurance to permit mothers to take maternity leave in hopes of increasing breastfeeding rates (APNC 523). • Use advanced communication skills and processes to lead quality improvement and in aim to meet the healthy people 2020 breastfeeding goals (APNC 523). Spring 2021 <ul style="list-style-type: none"> • Presented telehealth breastfeeding best practice guideline to lactation team and nursing managers (DNPC630). • Became a student member of the American Association of Nurse Practitioners.
DNP Essential VI: Interprofessional Collaboration for Improving Patient & Population Health Outcomes NONPF: Leadership Competencies	1. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidenced-based, culturally competent therapeutic	Spring 2019 <ul style="list-style-type: none"> • Began the process of collaboration with University of San Diego Mentors in regard to EBP project

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<p><i>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 mandate for safe, timely, effective, efficient, equitable, and patient-centered care in this environment, health care professionals must function as highly collaborative teams. DNP's 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.</i></p>	<p>interventions for individuals or aggregates.</p> <p>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).</p>	<p>Summer 2019</p> <ul style="list-style-type: none"> Proposed a business plan to implement a new business idea (DNPC 653). Developed an executive summary of a business plan for a healthcare service (DNPC 653). Explored fundamental financial management knowledge, skills and analytic techniques in various health care settings (DNPC 653). <p>Fall 2019</p> <ul style="list-style-type: none"> Obtained complete and accurate comprehensive and problem-focused histories, modifying interviewing techniques as appropriate based on age, development, culture and cognition capacity (APNC 521). Integrated developmentally and culturally appropriate advanced examination techniques to systematically obtain an expanded physical assessment database (APNC 521).

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		<ul style="list-style-type: none"> • Formulated appropriate differential diagnoses from an expanded physical assessment database (APNC 521). • Demonstrated understanding of ethical and legal requirements for APRN clinical practice (APNC 521). Summer 2020 <ul style="list-style-type: none"> • Differentiated non-emergent from emergent conditions and initiate interprofessional treatment, consultation, and referral (NPTC 605/608). • Analyzed the role and economic impact of the nurse practitioner in a collaborative interdisciplinary model of care (NPTC 605/608). • Demonstrated understanding of and practice within an ethical framework and the legal requirements for clinical practice as a nurse practitioner (NPTC 605/608).

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
		Fall 2020 <ul style="list-style-type: none"> • Shared evidence-based literature with clinicians in hospital setting indicating need for EBP project • Proposed telehealth breastfeeding guideline project to nurse managers, obstetric providers and lactation consultants (DNPC 630). • Submitted EBP project for telehealth breastfeeding guideline project to USD IRB (DNPC 630). • Selected EBP journals to submit final EBP project (DNPC 630). Spring 2021 <ul style="list-style-type: none"> • Implemented DNP EBP project in the hospital setting in collaboration with lactation consultants and nursing managers.
DNP Essential VII: Clinical Prevention & Population Health for Improving Nation's Health NONPF: Leadership Competencies <i>Consistent with national calls for action and with the longstanding focus on health</i>	6. Employ a population health focus in the design, implementation, and evaluation of health care delivery systems that address primary secondary, and tertiary levels of prevention.	Spring 2019 <ul style="list-style-type: none"> • Began design of EBP in prenatal and postpartum breastfeeding promotion and support groups. • Compared and contrasted various technology and data resources needed for retrieving, storing, analyzing, managing, and

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<p><i>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.</i></p>		<p>communicating information for the delivery of nursing and health care (HCIN 540).</p> <p>Summer 2019</p> <ul style="list-style-type: none"> • Used scientific foundation and processes of inquiry to evaluate the evidence base related to a clinical problem (DNP 630). • Provided leadership in system change required for solution of a clinical problem (DNP 630). • Demonstrated advanced clinical competencies in the area of maternity and newborn care (DNP 630). <p>Spring 2020</p> <ul style="list-style-type: none"> • Applied principles of program planning to the design of a prenatal breastfeeding evidence-based practice project (DNPC 686). <p>Summer 2020/Spring 2021</p> <ul style="list-style-type: none"> • Evaluated relevant developmental, behavioral and sociocultural concepts in assessing the health

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		<p>care needs of individuals and their families (NPTC 605/608/609).</p> <ul style="list-style-type: none"> • Differentiated appropriate screening techniques to identify and manage individuals at risk for common chronic and acute health problems (NPTC 605/608/609). • Develop and implement plans of care in collaboration with individuals and their families that integrate developmental, psychosocial, spiritual, and physiological needs (NPTC 605/608/609).
<p>DNP Essential VIII: Advanced Nursing Practice</p> <p>NONPF: Independent Practice/Ethics Competencies</p> <p><i>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</i></p>	<p>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.</p>	<p>Spring 2019</p> <ul style="list-style-type: none"> • Demonstrated knowledge of California Pharmacy Board rules and regulations, California Health & Safety Codes, and the Federal Register (APNC 523). • Examined the furnishing of drugs and/or devices pursuant to the California BRN practice requirements, standardized procedures, and in conformance

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<p><i>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 are of nursing practice. A DNP graduate is prepared to practice in an area of specialization within the larger domain of nursing.</i></p>		<p>with applicable laws, codes, and/or regulations (APNC 523).</p> <ul style="list-style-type: none"> Analyze approaches to the development, monitoring, and modification of the therapeutic regimen based on an evaluation of individual patient characteristics and responses to treatment (APNC 523). Identify appropriate client-related information about furnished/prescribed drugs and/or devices (APNC 523). <p>Spring 2020</p> <ul style="list-style-type: none"> Demonstrated understanding of and practice within an ethical framework and the legal requirements for clinical practice as a nurse practitioner (NPTC 604).

Summary of AACN, NONPF and USD DNP Competencies

DNP Essential I: Scientific Underpinnings for Practice

Objective 2: Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.

Throughout the doctoral program I have learned the pathophysiological and pharmacological concepts for competent evaluation and management of acute and chronic health conditions across the lifespan. I have expanded my knowledge of pathogenesis of complex disease states and learned how pharmacogenetics and pharmacogenomics could enhance my prescription for patient medications. I have learned the importance of the scientific foundation of nursing practice which includes a focus on both the natural and social sciences including biology, genomics, science of therapeutics, psychosocial sciences, as well as the science of complex organizational structures. In addition, throughout the program I have learned about philosophical, ethical, and historical issues which create a context for application of natural and social sciences. In my final year, I implemented the DNP project, Telehealth Breastfeeding: Best Practice Guideline highlighting the importance of evidence based clinical practice, quality improvement and support for rural communities. Through these experiences, I have become knowledgeable on how to incorporate ethical concepts, scientific knowledge, and complex management to provide all encompassing patient care.

**DNP Essential II: Organizational & System Leadership for Quality Improvement &
Systems Thinking**

**Objective 5: Design, implement, and evaluate ethical health care delivery systems and
information systems that meet societal needs and ensure accountability for quality
outcomes.**

While achieving this degree, I have learned that the advanced nursing practice includes an organizational and systemic leadership component that emphasizes evidence-based practice, quality improvement and the ongoing improvement of health outcomes. In my first year I was given a hypothetical DNP project proposal and chose the topic which addressed the homeless veteran population with a specific look at mental health. In the second year I chose a topic which addressed discrepancies in low-income breastfeeding percentages. In my final year, during the troubling time of the covid 19 pandemic, I identified a need for telehealth breastfeeding support. This became my DNP project. I presented my proposal to stakeholders, developed a systematic approach, performed a literature review and created an evidence-based telehealth breastfeeding guideline. I presented to key stakeholders who then evaluated the guideline using the AGREE II instrument and 100% recommended it for use. The knowledge and experience I have gained will enable me to successfully and effectively develop solutions to problems that arise in my future practice.

DNP Essential III: Clinical Scholarship & Analytical Methods for Evidence-Based Practice

Objective 4: Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing evidence-based practice guidelines.

In the pursuit of higher education, I have learned that scholarship and research are the hallmarks of the doctoral education. The mainstay of the doctoral nursing degree is the incorporation of evidence-based research into practice. In my first year, I conducted systematic reviews and implemented plans regarding health promotion and clinical care practices. I collaborated with peers to create a comprehensive assessment of stickler syndrome's pathogenesis. I presented it for discussion and dissemination of information to my classmates. Through my work on my DNP project, I reviewed and evaluated literature to create an evidence-based practice guideline for implementation. I was successful in completing my EBP project because of the extensive knowledge base I had acquired during my program's progression. I feel confident in my knowledge to solve a problem and influence patient care through the incorporation of research into practice.

DNP Essential IV: Information Systems/Technology & Patient Care Technology for Improvement & Transformation of Health Care

Objective 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.

In the first year of my program, the course Healthcare Informatics provided me with instruments and knowledge required for information systems and technology to

support and improve patient care. I have extensive experience navigating online resources and electronic health records. I have compared and contrasted various technology and data resources needed for retrieving, storing, analyzing, managing and communication information for the delivery of health care. Additionally, given the circumstances of the Covid 19 pandemic I was able to utilize the technologies of telehealth to provide exceptional and easier to access to care. For my DNP project, I utilized technology and systematic reviews for clinical research as a basis for evidence-based practice and utilized technology to present my project highlighting key points of success. The knowledge obtained in relation to technology will enrich my future practice.

DNP Essential V: Health Care Policy for Advocacy in Health Care

Objective 3: Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice.

The DNP program fostered my passion for healthcare policy and advocating for the health promotion of those in my community and nationwide. In my first year I addressed a policy brief to the American Nursing Association regarding the implementation of a mental health screening change that could aid in decreasing the homeless veteran population and vulnerable military members. I also addressed the American College of Obstetricians and Gynecologists on furthering the education of primary care providers relating to breastfeeding. I became a member of a national nurse practitioner organization. Through this organization I have become more aware of the issues that are affecting nurse practitioners across the country. During my EBP project, I collaborated with the nursing leadership to engage the community in breastfeeding

promotion. I feel I have been well prepared to make a difference in healthcare policy in my future practice.

DNP Essential VI: Interprofessional Collaboration for Improving Patient & Population Health Outcomes

Objective 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.

Objective 3: Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice.

The DNP program prepared me to be an effective team leader for today's complex and multitiered healthcare environment. My education has prepared me to work collaborate with highly skilled individuals from multiple professions to provide the highest patient care. I have advanced preparation which will enable me to facilitate collaborative team functioning. Throughout the program I created business proposals and developed executive summaries. Through my DNP project I shared evidence-based literature with clinicals in the hospital setting, proposed new guidelines and effectively implemented change. The guideline I created for my DNP project was implemented and it has been suggested that then guideline will be implemented throughout the hospital system. I plan to disseminate the results of my project both locally and nationwide.

**DNP Essential VII: Clinical Prevention & Population Health for Improving
Nation's Health**

**Objective 6: Employ a population health focus in the design, implementation,
and evaluation of health care delivery systems that address primary, secondary, and
tertiary levels of prevention.**

The DNP program is based on the foundation of health promotion and disease prevention. This foundation will enable me to analyze epidemiological, biostatistical, occupational, and environmental data in the development, implementation, and evaluation of patient and population-based health promotion and prevention. Through my DNP project I addressed low breastfeeding rates and how this directly related to illness and disease progression. I created a guideline to aid in addressing and overcoming common breastfeeding barriers experiencing. At the beginning of my program, I addressed veteran mental health disparities and wrote policy brief to the American Nursing Association. In the clinical setting utilized The PHQ9, ASCVD risk assessment, the confusion assessment tool, the Mini Cog, the generalized anxiety disorder scale and many others in the assessment and prevention of health disorders. I am confident in my ability to apply this foundation of clinical prevention and promotion as an advanced practice provider.

DNP Essential VIII: Advanced Nursing Practice

**Objective 1: Demonstrate advanced levels of clinical practice within defined
ethical, legal, regulatory parameters in designing, implementing, and evaluating
evidence-based, culturally competent therapeutic interventions for individuals or
aggregates.**

The 3 years of DNP school have results in the personal and academic growth. Throughout the program evidence-based practice has been the focus and I have been able to demonstrate my use of evidence-based practice through my clinical rotations. I have demonstrated the ability to utilize evidence-based resources such as UpToDate, Ortho Bullets, Epocrates, lactmed, Center for Disease Control and Prevention, American Academy of Pediatrics, American College of Obstetricians and Gynecologists and many more. I am confident in the knowledge I attained throughout my DNP program. I am prepared to start my new role as a novice NP and further grow into the best NP I can be.