Nurse Planner Modules to Expand Continuing Nursing Education Capacity in Hawai’i

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Abstract
The State Board of Nursing mandated continuing education competency requirements for
nursing re-licensure in 2017. Nurses need continuing education that is affordable, accessible, and
culturally sensitive. The Hawai‘i State Center for Nursing (HSCN) obtained direct American
Nurses Credentialing Center’s (ANCC) CNE provider status to provide quality CNE programs.
The nurses working in underserved agencies and living in rural areas have a higher need for CNE
than those who have more resources. Objective: HSCN aimed to extend the reach and impact of
CNE programs by developing more nurses (Nurse Planners) skilled in delivering quality
programs. The goal of this project was to expand professional opportunities for nurses in
Hawai‘i. Method: A provider-directed learner-paced modular process was developed to train
participants. Five modules were constructed, reviewed, edited, administered and evaluated. Each
module included a pre-test, PowerPoint slide presentation, and post-test measure of learning.
Results: The six nurses from a convenience sample of HSCN Board members and their delegates
completed a total of 10 module evaluations, 12 pre-tests, and 12 post-tests. Overall effectiveness
was high (4.8 on a 5-point scale), pace was “just right” (M=3, SD=0), and difficulty was not too
easy or difficult (M=3.08, SD=0.319). The post-test score (91.1%) significantly improved over
the pre-test score (71.3%), t (22) = 5.66, p=0.0007, 95% CI= (30.76, 8.57). Conclusion: The
Nurse Planner modules were a highly effective format for delivering content on the educational
design process. This provider-directed, learner-paced model will provide an efficient, quality
sustainable format for the Nurse Planners at HSCN to use to train additional Nurse Planners.
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CHAPTER 1

Statement of the Problem

Background

In 2011, the Institute of Medicine (IOM, 2011) issued a recommendation to ensure that nurses engage in lifelong learning. This recommendation was later extended to the year 2030 with the Future of Nursing 2020-2030 Campaign for Action (National Academy of Medicine, 2020). To assure this lifelong learning for nurses, the Hawai‘i Board of Nursing (BON) requires all Hawai‘i nurse licensees to complete at least one learning activity prior to renewing the Hawai‘i Registered Nurse (RN) license every two years. The first time that this was mandated was in 2017, causing an increase in need for quality continuing nursing education (CNE).

The Hawai‘i State Center for Nursing (HSCN, 2020) supports lifelong learning licensing requirements for the BON (Board of Nursing state of Hawai‘i Professional and Vocational Licensing Division, 2017) by providing CNE programs. HSCN is accredited as a program provider of nursing continuing professional development for CNE by the American Nurses Credentialing Center's (ANCC) Commission on Accreditation (ANCC, 2016a; ANCC, 2016b). Approximately 30 applications for CNE programs are received from nurses each year. HSCN would like to create one or more learning modules that further develop nurses (Nurse Planners) to jointly provide more CNE with them. By expanding the number of nurses who are familiar with the ANCC standards of quality CNE, the capacity of HSCN will be increased. The focus is expansion in rural areas, community settings and on neighbor islands. This project will use the ANCC (2016a; 2016b) guidelines to develop and evaluate Nurse Planner modules as a mechanism to educate more Hawai‘i nurses on the ANCC criteria for quality CNE.
Patient Safety and Continuing Education

Over twenty years ago, a landmark study was released that reported nearly 100,000 people die every year due to medical errors (Institute of Medicine Committee on Planning a Continuing Health Care Professional Education Institute, 2000). The report, “To Err is Human Institute of Medicine (US) Committee on Quality of Health Care in America” raised public awareness and recommended increasing the level of patient safety in American health care (Institute of Medicine [IOM], 2000). One of the recommendations from the report was that certifying and credentialing organizations take steps to prevent negative events, and develop effective methods to identify and take action when providers are unsafe (IOM, 2000). The IOM committee recommended a four-tiered approach: (1) establish a national focus to create leadership, research, tools, and protocols about safety; (2) identify and learn from errors through mandatory reporting; (3) raise standards and expectations for improvements in safety through the actions of oversight organizations; and (4) create safety systems inside health care organizations (Shojania et al., 2001; IOM, 2003).

Nursing became a leader in safety, and in 2006, the National Council of State Boards of Nursing (NCSBN) recognized the role that nurses have to stay competent. The NCSBN defined continuing competency as the ongoing ability of a nurse to “integrate knowledge, skills, judgment, and personal attributes to practice safely and ethically in a designated role and setting in accordance with the scope of nursing practice (National Council of State Boards of Nursing Learning Extension, 2006). The states were given the authority to license nurses and assure the public that they are safe and competent in current practice. In the event that the nurse is not responsible, the state is given authority to revoke a license. Thus, starting with the very first license obtained, the competent professional will continue with education as part of the
integrated professional growth process.

A second IOM report published seven years later examined continuing education in the health professions. The IOM found “major flaws in the way [continuing education in the health professions] is conducted, financed, regulated, and evaluated” and called the evidence base underlying continuing education programs “fragmented and undeveloped.” It called for continuous professional development that ensures that “all health professionals engage in a process of lifelong learning aimed squarely at improving patient care and population health.” (IOM, 2010, p. 202). As a professional organization, the American Nurses Association (ANA) supported the concept that the individual Registered Nurse (RN) is responsible to continually reassess competencies and “identify needs for additional knowledge, skills, personal growth, and integrative learning experiences” (ANA, 2010).

Also from the IOM, “The Future of Nursing: Leading Change, Advancing Health” (IOM, 2011), stated “accrediting bodies, schools of nursing, health care organizations and continuing competency educators from multiple health professions should collaborate to ensure that nurses and nursing students and faculty continue their education and engage in lifelong learning to gain competencies needed to provide care for diverse populations across lifespan.” Nursing practice and academia have had similar goals, but the two have not always shared a common language or understanding necessary for transition from academia into practice. All health care organizations and schools of nursing should foster a culture of lifelong learning and provide resources for continuing competency programs. Health care organizations and other organizations that offer continuing competency programs should regularly evaluate their programs for adaptability, flexibility, accessibility, and impact on clinical outcomes and update the programs accordingly (Committee for Assessing Progress on Implementing the

To prepare future nurses for this environment focused on safety indicators, the Robert Woods Johnson Foundation (2015) implemented a Quality and Safety Education for Nurses (QSEN) project. QSEN focuses primarily on academic preparation for student nurses with knowledge, skills, and attitudes needed for care. The program is integrated with academic goals and curriculum design to continuously improve the quality and safety of the healthcare systems in which they work. Although the QSEN competencies were originally designed for nursing education, they are an effective framework to drive excellence and lifelong learning in practice. The QSEN quality and safety indicators include: patient-centered care, teamwork and collaboration, evidence-based practice (EBP), quality improvement, safety, and informatics (Cronenwett et al., 2007). QSEN is a framework that practicing nurses are familiar with, and the approach of linking safety as a registered nurse with formal quality and safety education is an effective method. Many state licensing boards have adopted this model, not just in nursing, but in other health professions such as pharmacy and medicine. By bridging the gap between academia and practice, knowledge moves from the classroom to clinical settings to improve real-life patient care and outcomes.

The Agency for Healthcare Research and Quality (AHRQ, 2017), as a lead Federal agency, accelerated efforts to improve patient safety practices within organizations. The AHRQ’s mission is to produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable. It functions within the U.S. Department of Health and Human Services (USDHHS) and with other partners to make sure that the evidence is understood and used (AHRQ, 2017). The quality indicators developed by AHRQ represent various aspects of quality: prevention quality indicators, inpatient quality indicators, patient safety indicators,
and pediatric quality indicators. It is expected that nurses comply with and support these measures by keeping current with standards of practice in a rapidly changing health care environment (AHRQ, 2020). These standards evolve as new evidence is uncovered.

In 2019, the Joint Commission Resources introduced its Tracers with AMP Analytics Reporting Tool, a cloud-based software platform that helps organizations assess quality of care, levels of compliance, and identify areas of vulnerability in their organizations. Root Cause Analysis in Health Care guides health care organizations through the Joint Commission requirements, outlining steps to prevent sentinel events such as medication errors, patient suicide, wrong-site surgery, patient elopement, and more. Online and face-to-face education programs to help health care professionals achieve both individual and organizational goals (Joint Commission, 2022).

The Medicare and Medicaid Services (CMS, 2022) agency has taken a lead in changes to information systems. It introduced new technical certification criteria to advance interoperability and make it easier for patients to access electronic health information on their mobile devices. The agency added new privacy and security certification criteria. The agency offers self-paced online training, training modules (PowerPoints), webinars, and train-the-trainer workshops.

The ANCC developed a program with Magnet® standards to improve patient care, safety, and satisfaction (ANCC, 2022). Magnet® hospitals increase patient satisfaction, decrease mortality rates, decrease pressure ulcers, decrease falls, and improve patient safety and quality. The five Magnet® components are: transformational leadership; structural empowerment; exemplary professional practice; new knowledge, innovation, and improvements; and empirical quality results. The program offers guidelines to improve nursing satisfaction, nursing-sensitive
indicators, and patient satisfaction. The Magnet® program acknowledges emerging challenges and changes in health care.

Health care organizations and experienced nurses must value continued learning and competency. The QSEN competencies, Medicare and Medicaid standards (Center for Medicare and Medicaid Services, 2018), Magnet® standards, and the Joint Commission Accreditation Standards (Joint Commission, 2019) are aligned to demonstrate how nursing education, quality, and safety promotes excellence in nursing practice (Lyle-Edrosolo & Waxman, 2016). The quality and safety indicators and interventions change based upon evidence, and it is the individual nurse’s responsibility to keep up with these current practices.

**Hawai‘i State Law and Continuing Nursing Education Requirements**

The state of Hawai‘i legislated the BON to support safety and quality in health care by making it mandatory for nurses who apply for license renewal to demonstrate a minimum amount of education to show currency in practice (Hawai‘i Revised Statute, 2013). All Hawaii nurses are required to complete 30 hours of CE in order to renew a license. Continuing nursing education (CNE) competency in Hawai‘i is defined as the “long-term educational and professional process by which an individual undertakes and documents with verifiable evidence a personal learning plan that encompasses a periodic self-assessment of personal strengths and weaknesses as present in the individual’s practice as a nurse as well as a commitment to furthering the individual's professional knowledge relating to the nursing field” (Definition of “Continuing competency” in HRS 457-2, 2013). The Hawai‘i BON and HSCN both recognize that nurses must continue lifelong learning to deliver safe high-quality patient care. Continuing education must focus on the outcomes of nursing competencies to deliver quality and safe health care (Act 127, HAR 16-89-2, 2018).
According to Hawai‘i State law, "Accredited" is defined as “certification by the appropriate board of nursing that the nursing program meet established nursing education standards”. (Definition of “Accredited” in HAR 16-89-2). “Recognized national certifying body” means nurse credentialing agencies are accredited by the National Commission for Certifying Agencies (NCCA) or the American Board of Nursing Specialties (ABNS) and recognized by the Board (BON, 2017). "Approved provider" means a local, state or national agency, institution, organization, or agency responsible for the development, implementation, evaluation, financing, record-keeping, and maintenance of a continuing education offering program or a total continuing education curriculum. Education may be delivered in a variety of formats, including electronic, journal, and lecture/seminar, as recognized by the board (Definition of “Approved provider” in HAR 16-89-2). The law includes the Hawai‘i State Center for Nursing as an approved provider since it is credentialed by ANCC. The national recognition of the risks associated with health care (IOM, 2000) created an effort by the Hawai‘i State Legislature to decrease medical errors and improve quality as hospital scores were released. The 2018 National Healthcare Quality Report shows that Hawai‘i is “average” in overall health care quality (AHRQ, 2020). Many would like for Hawai‘i to be above average, and have taken action to improve quality.

HSCN supports education efforts for nurse license renewal requirements by providing quality CNE courses and approving professional development programs. The program-approved learning activity options are not simply an in-service offered on a new piece of equipment or policy, but they must relate to foundational knowledge, such as an advanced professional certification, doing nursing research, writing for publication, or a quality approved continuing education program. The intent is that the reward for increased knowledge, skills, judgment, and
personal attributes to practice safely becomes a habit of professional practice. Continuing education alone is not sufficient to ensure competency. Competence is situational and dynamic. Context determines what competencies are necessary and the practice setting demands safe and competent professionals (ANA, 2010). It is both an intended outcome and an ongoing process.

Needs Assessment: Nurses in the State of Hawai‘i

In 2021, there were 17,593 nurses working in license-relevant roles in Hawai‘i (HSCN, 2021). There were 1,287 LPNs (7.4%), 15,072 RNs (85.6%), and 1,234 (7.0%) APRNs. LPNs were employed, in order, in ambulatory care (35%), post-acute (32%), other (17%), home health/hospice (11%), and hospital (4%) settings. RNs were employed, in order, in the hospital (42%), other (20%), ambulatory (17%), post-acute (13%), home health (8%) settings. APRNs were employed in order, in ambulatory care (50%), other (26%), hospital (20%) and home health/hospice (4%). This is significant because LPNs are employed most commonly in ambulatory care (35%), RNs are most commonly employed in the hospital (41%) and APRNs are employed in ambulatory care (50%).

The large organizations, e. g., Queens Medical Center, and Hawai‘i Pacific Health, who employ many nurses (mostly RNs) who work in hospitals, already have CNE providers within their structure. There is a need for continuing education activities for many nurses who work outside of big hospitals and who must obtain their own CNE outside of their employer. It also illustrates the larger burden of cost for continuing education on the LPNs who earn lower wages and are least able to pay out of pocket costs.

By county, 59% of nurses live in Honolulu County, 28% in Hawai‘i County, 9% in Maui County, and 4% in Kauai County (HSCN, 2019). Therefore, a little less than half of Hawai‘i nurses work or live off the island of Oahu. These nurses do not have the resources of
those living in urban areas on Oahu, and rural areas make up 94% of Hawaii’s total land area. Furthermore, 34% of RNs have 21 or more years of being licensed, and are in need of education to keep current with practice (HSCN, 2019). The use of technology and the coronavirus pandemic have accelerated the pace of change and need for lifelong learning.

**Problem Statement**

The state of Hawai‘i legislated the BON to support safety and quality in health care by making it mandatory for nurses who apply for license renewal to demonstrate a minimum amount of education to show currency in practice (Hawai‘i Revised Statute, 2013). About one-half of Hawai‘i nurses work or live off the island of Oahu. These nurses do not have the resources of those living in urban areas on Oahu. Rural areas make up most of Hawaii’s total land area. More than half of the nurses do not work in hospitals. There is a gap of availability of quality CNE between those nurses who work in hospitals on Oahu and those who work in smaller organizations or in rural areas. The development of modules to train more Nurse Planners, who can then provide more CNE for underserved nurses, seeks to close this gap. A provider-directed learner-paced modular approach to training has not been implemented by the Hawai‘i State Center for Nursing. The effectiveness of this modular approach to train more Nurse Planners is unknown.

Because 2017 was the first year of implementation of mandatory continuing education for nurse re-licensure in the State of Hawai‘i, there was increased demand for quality approved CNE credit. HSCN is taking the lead to expand the pool of Nurse Planners to jointly offer CNE that meets these rigorous accreditation requirements. It is expected that long-term, the number and variety of course options provided by HSCN will increase. The goal of this project was to develop, implement and evaluate one or more modules with training for 4-6 RNs, so that they
may become Nurse Planners and jointly provide CNE with HSCN. These Nurse Planners will have the skills, knowledge and attitudes to provide more CNE to the nurses in Hawai‘i, especially those nurses working in underserved agencies and living in rural areas. The question of interest was: Are provider-directed, learner-paced modules an effective method of training Nurse Planners?

**Expected Outcomes**

The overarching goal of this project was to expand professional opportunities for nurses in Hawai‘i. Nurses need CNE that is affordable, accessible, and culturally sensitive. A long-term outcome, outside the timeframe of this project, is to use Nurse Planners to provide more CNE for nurses who are employed in underserved agencies and rural areas. The short-term outcome, also outside the timeframe of this project, is to educate selected qualified Nurse Planners who can then teach other nurses in Hawai‘i. The scope of this project is to develop Nurse Planner modules, implement them, and evaluate their effectiveness with 4-6 participants who complete two or more modules. If the modules are effective, the training is completed and a successful activity is executed, participants will be able to plan activities with Hawai‘i Center for Nursing’s CNE team.
CHAPTER 2

Review of the Literature, Background and Project Description

There is lack of clarity regarding the language, terms and concepts related to lifelong learning for a health professional’s practice. Not only is there a difference in the terms used, but there is also a difference in the concepts related to mandatory continuing education. There is also a difference in the intent and scope of education. Pharmacy has the broadest concept of professional development, with an emphasis on lifelong learning that is internally motivated. As nursing evolves, and the concept of professional development expands, it is anticipated that the requirements for nursing license renewal will include professional development activities that go beyond the didactic classroom. These include learning activities with people that involve reflection on practice.

QSEN knowledge, skills, and attitudes are essential components of care (Altmiller & Hopkins-Pepe, 2019). These safety and quality components contribute to continuing professional development. It is thought that continuing professional development has more positive effects on both provider behaviors and patient outcomes because of the element of reflection on practice (Karas et al., 2020).

Key Terms for Professional Development

Although “long-term educational and professional process”, “professional knowledge”, “self-assessment” and “personal learning plan” is the language is used by the State of Hawai‘i, the key words used in the literature search included “continuing education” and “competency”. These were used across health professional disciplines of medicine, dentistry, pharmacy and nursing. Common key phrases in MeSH, included “continuing education”, “professional competency”, “professional development”, and “lifelong learning”. These key words were
included in the review of literature along with “nursing” and “mandatory”. “Periodic self-assessment” is the language used in the Hawai’i Administrative Rule (2018), which may be compared to “lifelong learning” and “continuing professional development”. The following discusses the similarities and differences of each.

In a systematic review by Micallef & Kayyali (2019), it was found that continuing education and continuing professional development both contribute to lifelong learning. Continuing education is generally one component of professional development. Continuing education and continuing professional development are both elements of lifelong learning. In a descriptive explorative qualitative study, continuing education was noted as a basic component of professionalism (Eslamian et al., 2015). Lifelong learning is required of every professional to assure that the care they are providing is current, safe and evidenced based.

Qaleshsari, et al. (2017) summarized in a systematic review, that these terms all imply a process of learning over time, in response to a learning need. The literature review focuses on three major themes: mandatory continuing education requirements, continuing education practices in nursing, effective methods and modes of education, and outcomes of professional development. There is inconsistency in the use of the terms related to continuing nursing education competency in the literature. This makes it difficult to compare continuing education requirement with professional development programs for nursing and other health professionals.

**Mandatory Continuing Education Across Health Professions**

In U.S. nursing, mandatory continuing education and professional development is on a state-by-state basis. There is no national requirement and there are 12 states who require no continuing education credit for registered nurse license renewal (Nurse.org, 2022). There is also a wide range internationally. For example, nurses in Iran must satisfactorily complete 40–60
hours of CNE which is much more than the specified educational hours in most developed countries (average of 24 hours in a year) (Eslamian et al., 2015). The United Kingdom, which has acknowledged the need for a functioning system of CE for nurses since the mid-1990s (Nolan et al., 1995), has a system in which nurses must register with a council. This registration requires renewal every three years with evidence that continuing professional development was performed. Similarly, advanced degree nurses in Japan (as categorized by their level of education) must apply for certificate renewal every 5 years. Japan requires participation in qualified continuing professional development activities, and the documentation of a practice report (IOM, 2003). There are a variety of learning activities types, such as taking a course, precepting, authoring, and returning to school or obtaining a professional certification that can qualify.

For medical doctors in the United States, the continuing education requirement varies by state; only three states have no continuing education required (Federation of State Medical Boards, 2021). In Hawai’i, medical doctors are required to obtain 40 or 20 category 1 or 1A CME hours in the following activities over a two-year period. (Hawai’i Medical Board, 2019.)

Although there is no global model for pharmacy continuing education in place for lifelong learning, pharmacy does have a model in place for the United States. In the field of pharmacy globally, and in countries when continuing education and continuing professional development is present, about three-fourths (76%) use a “credit system” and about two-thirds (33.3%) use a portfolio system (Micallef & Kayyali, 2019). The credit system is similar to contact hours used by the State of Hawai’i, with 40 hours of required continuing education.

The International Pharmaceutical Federation acknowledges that it is essential to keep current in the field of pharmacy with the rapidly expanding list of pharmacotherapeutics.
Pharmacy respects the important role continuing education plays in maintaining and updating pharmaceutical skills and knowledge (International Pharmaceutical Foundation, 2002). The federation stressed the link between pharmacy skills and quality improvement when it established the International Forum for Quality Assurance of Pharmacy Education, upon which the principles for continuing education programs are based. The statement of professional standards on continuing professional development includes a provision about a pharmacist’s individual responsibility to ensure his own competency through “systematic maintenance, development, and broadening of knowledge, skills, and attitudes” (International Pharmaceutical Foundation, 2002).

It is clear from the review of literature that there is a wide variety of continuing education requirements depending upon the health profession. Pharmacy, nursing, and medicine have some requirements but they vary widely from state to state and country to country. The type of continuing education also varies widely, from no educational requirement at all, to that of a portfolio that shows increased development, and not merely a maintenance of practice. This variety of standards may create issues for nurses who practice in different states in the U.S. and those who may want to move their registered nurse license to a different state.

Although mandatory continuing education is required by 38 states in the United States, no studies of outcomes related to improvement in practice related to CNE were found in the literature. Most of the studies are qualitative and descriptive. Pharmacy has a well described continuing professional development model while nursing and medicine have minimal national requirements related to continuing education. There are gaps in the literature concerning the role of continuing education and continuing professional development’s effectiveness and utility. The largest gap in the literature is linking mandatory continuing education and professional
development to patient outcomes and improved safety and quality of practice.

**Continuing Education Practices in Nursing**

There is a lack of agreement in nursing about how much education is expected, what type of education and professional development is acceptable, and what continuing education and professional development licensing requirements are best practice. Nursing may consider some minimum level of continuing education nationally to increase standardization and assure that an effort is being made to provide current care and base decisions on evidence. This is important to patients who value and respect nursing care, as well as the organizations that employ them.

The IOM report on the Future of Nursing (2011) noted that a single professional degree cannot provide a nurse with the knowledge base to last a lifetime. The individual nurse must embrace lifelong learning as key to delivering safe high-quality patient care. According to The Institute of Medicine (IOM, 2010) “sizable work remains to be done by the health professions regarding the methods and formats of continuing education”. Traditional continuing education offerings are noted to be passive and didactic in format.

By participating in continuing nursing education developed by accredited organizations, nurses are able to maintain continued competence in a rapidly changing health care environment. Continuing education may be team-based or interprofessional. ANCC provides an educational design process for continuing education activities that support the lifelong learning needs of professional registered nurses (RNs). Educational activities are designed using criteria that are evidence-based and independent from commercial influence. Although designed for RNs, the state of Hawai’i also includes LPNs and APRNs within its domain.

It is hoped that continuing professional development improves based upon a cycle of reflection, planning, learning and evaluation (Karas et al., 2020). Some examples of activities
that quality for the State of Hawai‘i learning activity options include: national certification of recertification related to the nurse’s practice role; thirty contact hours of continuing education activities; participation as a preceptor; completion as principal or co-principal investigator of a nursing research project; authoring or co-authoring a peer reviewed published nursing or health-related article, book, or book chapter; and developing and conducting a nursing education presentation (BON, 2017). Some of the activities are continuing education, while performing research may be considered professional development. Thus, the activities that qualify for credit in the State of Hawai‘i are both educational and developmental.

ANCC (2016b) grants accredited status to institutions, programs or services that meet structure, process, and outcome criteria. HSCN is an accredited provider of CNE, credentialed by ANCC after having submitted an in-depth analysis to determine its capacity to provide quality CNE initially, and annual reports to ANCC are required. This credential grants the HSCN provider unit status to deliver quality CNE activities. ANCC is also encouraging interprofessional continuing education; members from two or more professions “learn with, from, and about each other to enable effective collaboration and improve health outcomes.” (Joint Accreditation, n. d.). Interprofessional continuing education is included in the future direction of CNE with HSCN. The 2015 ANCC Primary Accreditation Provider Application Manual includes criteria that focus on structure, process, and quality outcomes that impact the professional practice of nursing and/or patient or system outcomes (ANCC, 2016b).

Within the accreditation framework, the following principles of high-quality educational design are employed (ANCC, 2016b):

- Address a professional practice gap
- Incorporate the active involvement of a nurse planner in the planning process
● Analyze educational needs (knowledge, skills, and/or practices) of nurses

● Identify learning outcomes

● Use strategies that engage the learner in the activity

● Develop and measure desired learning outcomes

● Choose content based on evidence-based practice or best available evidence

● Plans independently from the influence of commercial interest organizations.

Contact hours are awarded for the time learning and evaluating the activity; one contact hour equals 60 minutes. HSCN provides the official accreditation statement to learners prior to the start of each educational activity and on each certificate of completion. A participant must successfully complete these requirements to be awarded the contact hours that qualify for nurse license renewal.

**Professional Development Modes and Methods**

The modes of training that involve group or peer learning are more effective at influencing provider behavior than individual learning (Karas, et al., 2020). Peer learning includes a wide range of activities, such as group simulations and problem-solving activities with peers in the work place. Other examples include small group sessions, patient rounds or group attendance at outside conferences. Superiority of electronic learning over traditional learning for acquisition of skills and knowledge has not been established (Rouleau et al., 2017) as found in a systematic review with quantitative, qualitative and mixed methods. Electronic learning has been shown to reduce the cost related to education, and also save time for students and teachers (Rouleau et al., 2017).

In a qualitative study, five main themes identified as challenges to continuing education include: learners related factors, teachers related factors, educational process related factors,
inadequate facilities, and defective evaluation processes (Eslamian et al., 2015). To facilitate learning and overcome these challenges, a team approach is suggested for needs assessment, planning, and evaluation of course. Nurses also identify continuing education challenges if the obligatory education is not seen as important. There may be a lack of motivation for learning in some nurses (Eslamian et al., 2015), a large number of participants in classes, financial resources restriction, work overload, family or other outside obligations, lack of workforce, lack of satisfaction with time and schedule of the educational classes, no coincidence between educational needs and conferences outlines, and lack of familiarity with nurses’ educational needs among physicians (Eslamian et al., 2015).

There are a variety of learning activities included in the categories of “continuing education” and “continuing professional development”. At the most basic and lowest level of learning are didactic courses. Courses that involve a needs assessment, planning and evaluation and approved by a program provider assures that there is quality in the program. At a higher level of learning, peer learning, using a team approach allows for higher motivation and more transfer of knowledge from the classroom to the bedside. As nursing evolves, a broader professional development model similar to that of pharmacy may provide a better representation of continued learning, but those outcomes and processes need further development.

In a literature review that examined the effectiveness of continuing education programs in nursing (Griscti & Jacono, 2006), a more self-directed and self-reflective approach was suggested. Because traditional methods of continuing education such as lectures have less impact on practice, a more interactive approach that adds greater context and application of knowledge as a “professional development” activity is recommended. This format is believed to encourage lifelong learning and better meet the educational needs of health professionals (Evans et al.,
In nursing, the elements and strategies of lifelong learning include: intellectual and practical independence, collaborative (cooperative) learning, researcher thinking, persistence in learning, need-based learning, learning management, suitable learning environment, and inclusive growth (Qalehsari, et al., 2017). It is suggested that using these strategies of lifelong learning will lead to increased quality of education, development of nursing competency and increased quality of patient care. Including continuing professional development as part of continuing education promotes a learner-led, needs-based model, rather than a time-based model motivated by providers (Micallef & Kayyali, 2019).

Several models have been outlined for continuing education and continuing professional development, including assessment of learning needs, portfolio development, learning at work, reflection in and on action, and peer review (Driesen et al., 2007). Formats include face-to-face, asynchronous distance learning, and synchronous online learning. Models differ globally within and between countries but no review of these models has been carried out, so there is no reference of whether one model shows better outcomes (Driesen et al., 2007) Requirements for continuing education in nursing arise from individual, professional and organizational demands (Grisci & Jacono, 2006).

**Outcomes of Continuing Education and Professional Development**

Continuing education and professional development should both focus on health priorities. The needs identified for quality assurance measures should be linked to improvements in quality and safety (Micallef & Kayyali, 2019). Participation in mandatory lifelong learning activities should provide knowledge, skills, and behaviors to demonstrate competence in nursing practice. The improvement of patient health is the key goal that binds all practitioners. The focus should be on outcomes, rather than inputs (Micallef & Kayyali, 2019). Some models focus on
practitioner development to ensure that skills and knowledge are built upon throughout a career, with a primary focus on patient care. Continuing professional development offers a greater return of investment compared to continuing education as there is a greater focus on context and application (Micallef & Kayyali, 2019). Continuing professional development has increasing popularity in countries that have a tradition of lifelong learning (Driesen et al., 2007; McConnell et al., 2010; Wheeler & Chisholm-Burns, 2018).

In a qualitative study using semi-structured interviews with nurses, increasing competence was the primary motive that stimulated nurses to engage in self-directed learning during work, and in formal learning activities (Pool et al., 2016). To comply with requirements, nurses engaged in mandatory courses and registered for conferences. To develop their careers, they enrolled in postgraduate education. Continuing education is intended to ensure healthcare practitioners’ knowledge is current, but it is difficult to determine if those who attend these courses are implementing what they have learned (Griscti & Jacono, 2006). It is important to engage nurses related to content and learning activities that are seen as pertinent to practice. Nurses can use these findings to increase their awareness of why and how they develop professionally. Managers and organizations can develop approaches that meet the nurses' needs and also the needs of organizations and patients.

From a systematic review, intellectual and practical independence, collaborative (cooperative) learning, researcher thinking, persistence in learning, need-based learning, learning management, suitable learning environment, and inclusive growth, emerged as themes in nursing continuing education (Qalehsari, et al., 2017). There is not a clear answer about whether forcing people into learning they are motivates them toward lifelong learning (Griscti & Jacono, 2006). In a qualitative study, it was found that inadequate support, passive educational supervision, and
discomfort with forced education are challenges (Vaezi, et al., 2012). In addition to lack of motivation for education, supervision and enforcement are necessary to assure compliance. If learning is based on needs, however, interest in learning grows.

It is the nursing profession’s responsibility to shape and guide any process for assuring nurse competence (ANA, 2010). Nurses are essential in achieving quality and safety outcomes, and they are frequently viewed as the last defense between the patient and potential errors (Sherwood & Zomorodi, 2014). In order to be a champion for safer health care for patients and to make an appreciable difference, nurses need to be informed and educated (Sherwood, 2017).

The review of literature indicates that we need to find ways to measure the effectiveness of continuing nursing education professional development. This is challenging as there are many confounding variables, and the gap between educational programs and outcomes at the bedside is wide. Best practice is a philosophy of lifelong learning that is internally motivated, and not mandating by licensing agencies. It is hoped that as nurses get into the habit of continuing learning and grow in professional practice, it becomes a way of being with a goal of improving patient outcomes and safety. As a profession, we need to perform further research that links continuing education for nursing license renewal to outcomes at the bedside. We need to assure that the interventions we are performing are indeed the outcomes that we desire.

**Significance of the Problem to Population and Rural Health**

Continued learning is important for all nurses. It may be even more important that nurses in rural areas participate in clinical learning as they are, by necessity, on the front lines of care. Rural areas make up about 93.9% of Hawaii's total land areas and 19% of the state's population lives there (Rural Health Information Hub, 2020; State of Hawai‘i, 2013). The per capita income in rural Hawai‘i is 24% less than a person living in urban Hawai‘i (U.S.
Department of Agriculture, n.d.). The poverty rate in rural Hawai`i is 12.1% compared to 8.3% of an urban setting. Food insecurity is 3.9% in urban areas compared to 3.0% when living in urban areas in Hawai`i. Fewer people in rural areas completed college (29.3%) compared to those living in urban areas (33.9%). Unemployment is higher in rural areas (3.2%) compared to those in urban areas (2.6%) (U.S. Department of Agriculture, n.d.).

Being away from the urban centers creates disparities. Rural risk factors for health disparities include geographic isolation, lower socioeconomic status, poor access to telehealth, higher rates of health risk behaviors, limited access to healthcare specialists, and fewer job opportunities (Rural Health Information Hub, 2020). This inequality is made worse as rural residents are less likely to have health insurance coverage, and if they are poor, they often are not covered by Medicaid (Rural Health Information Hub, 2020). They have higher rates of chronic conditions.

Much of the State of Hawai`i is federally designated as a health professional shortage area (Kaiser Family Foundation, 2021). Only about 44% of the needs for providers has been met, as many professionals do not want to work in rural settings, and cost of housing is high in Hawai`i making it difficult to live there. All nurses need to show proof of contact hours for nurse license renewal that includes a ‘long-term educational and professional process”, “professional knowledge”, “self-assessment” and “personal learning plan” and most nurses choose continuing education. Many nurses would like to have opportunities for education that is specific for their practice setting and health care issues where they live and work in areas away from the major urban areas. As is noted in the above data, the population characteristics and therefore the health needs are different in rural settings. HSCN is accredited as a provider of CNE and would like to offer more educational activities for nurses who work in rural, community, and under-resourced
areas. It is important to have affordable, accessible and culturally inclusive CNE for the nurses in Hawai‘i—especially those working and living in rural settings.

**Aims and Objectives**

The overarching goal of this project was to expand professional opportunities for nurses in Hawai‘i. The short-term outcome was to educate selected qualified Nurse Planners who can then teach other nurses in Hawai‘i. To do this, learning modules were written to be used by HSCN to increase their capacity to provide CNE. The nurses working in underserved agencies and living in rural areas have a higher need for CNE than those who have more resources. Because of the limited people resources at HSCN, a provider-directed, learner-paced modular process was developed. The intent is that the modular process will provide an efficient, quality sustainable format for the Nurse Planners at HSCN to use to train additional Nurse Planners.

**Aim 1:** Develop five high quality provider-directed, learner-paced modules that include educational content and activities on the Nurse Planner process described by ANCC.

- **Objective 1.1** Construct modules for ANCC Nurse Planner education.
- **Objective 1.2** Evaluate the module design and instructor effectiveness.

**Aim 2:** Evaluate the learning of the participants.

- **Objective 2.1** Recruit 4-6 participants to become Nurse Planners.
- **Objective 2.2** Assess the performance of the participants.

**Summary Chapter Two**

In summary, there is inclusive evidence on the best guidelines to assure practice competency and professional development. There are gaps in the literature about the type and amount of continuing education that is linked to improved patient safety and quality outcomes. There is a difference between professions such as nursing, pharmacy and medicine in the type of
model that is used. The most complete and progressive model focuses on continuing professional development as opposed to simply taking a single education course. Although there is little evidence to show that mandatory continuing education improves practice, in theory it will provide motivation to nurses that continued learning is part of staying current. This project develops capacity for continued learning and professional development at the state level.
Theoretical Framework

Kolb’s learning cycle theory has been used extensively in nursing and is a foundation for both the AACN and NLN in education today (Powell & Engelke, 2020). The cycle works well with continuing education for nurses because it values holistic learning. Many nurses learn by being actively involved. Experienced nurses renewing their license are reflecting and experimenting naturally. The increased knowledge gained by participating in continuing education increases the thinking and abstract conceptualization component of the learning cycle.

The ANCC model in Appendix A shows the framework for primary accreditation. Nursing professional development is the umbrella for CNE activities. This specialized nursing practice facilitates growth of nurses along the continuum from novice to expert. Structural capacity, the educational design process, and quality outcomes are essential elements for accreditation (ANCC, 2016b). As part of the educational design process with AACN, CNE activities and learning strategies incorporate Kolb’s theories along with others (Committee on the Developments in the Science of Learning, 2000).

The conceptual model for this project (Appendix B) incorporates the Hawai‘i State Center for Nursing’s support for continuing education contact hours required by the Hawai‘i State BON. The project contributes to the resources and structural capacity of the Hawai‘i State Center for Nursing, using human resources from the project coordinator, and intellectual resources from the modules and systems developed. The individual nurse completes CNE activities that may be provided by the Hawai‘i Center for Nursing (HSCN). These CNE activities, because they are approved for contact hours by an approved provider (HAR 16-89-2),
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qualify for CNE for license renewal.

There are a variety of learning choices incorporated into the Hawai‘i state law requirements, and supported by HSCN. These choices are consistent with Kolb’s model with a variety of experiences that include thinking, feeling, doing and watching (Kolb, 2014). The BON enforces the rule for CNE requirements, and HSCN offers CNE opportunities. The model shows how CNE improves quality patient outcomes and supports nursing standards of practice. It is important to note, however, that the individual nurse is the person responsible for professional development.

Definitions of Concepts

The educational activities offered through the legal, professional and credentialing nursing organizations have differing nomenclature. A few of the essential words and ideas used by ANCC, HSCN and this project are included here.

Continuing Nursing Education. CNE is defined by ANCC as “learning activities intended to build upon the educational and experiential bases of the professional RN for the enhancement of practice, education, administration, research, or theory development, to the end of improving the health of the public and RNs’ pursuit of their professional career goals.” (ANCC, 2016a).

Lead Nurse Planner. A registered nurse who holds a current, unencumbered nursing license (or international equivalent) and a graduate degree, with either the baccalaureate or graduate degree in nursing (or international equivalent), and who has the authority within a Provider Unit to ensure adherence to the ANCC Accreditation Program criteria in the provision of CNE. There is one lead Nurse Planner at HSCN (Laura Reichardt).

Nurse Planner. A registered nurse who holds a current, unencumbered nursing license
and a baccalaureate degree or higher in nursing (or international equivalent) who is actively involved in all aspects of planning, implementation, and evaluation of each CNE activity. The Nurse Planner is responsible for ensuring that appropriate educational design principles are used and that processes are consistent with the requirements of the ANCC Primary Accreditation Program. There are two additional Nurse Planners at HSCN (Katherine Finn Davis and Liane Hussey).

**Nurse Planner Learning Activity.** An educational activity in which the participant uses the information from the PowerPoint presentations and applies knowledge to determine learning needs, develop course content, design integrate learning activities, and evaluate learning outcomes for a learning activity that they create. The learner also determines the pace at which they engage in the learning activity. Learner-directed activities are developed with support and mentorship. create their own learning activity following successful completion of all three modules.

**Nurse Planner Learning Module.** An educational module in which HSCN takes the initiative in identifying learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. The learner participates in determining the pace at which he or she engages in the content. Each module consists of a 15–25-minute voice over PowerPoint presentation, pre-test, post-test and module evaluation.

**Participant.** A nurse who meets Nurse Planner requirements, invited by HSCN, communicating interest in participation, and submitting consent to participate in the project.

**Project Coordinator.** The person who develops modules, communicates with participants, tracks progress, collates and summarizes data, and implements this project.
**Provider-directed, learner-paced.** The provider determines the desired learning outcome based on a needs assessment and gap analysis, selects content based on best available evidence, chooses strategies to facilitate learning, and identifies methods for collecting and analyzing evaluation data. The learner determines the pace at which he/she engages in the learning activity (ANCC, 2016b).

**Provider Unit.** Term used by an organization (in this case HSCN) after becoming accredited as an Accredited Provider of CNE (ANCC, 2016b). The unit comprises the members of the organization who support the delivery of continuing nursing education activities.

**Data Analysis Methods**

**Design Steps: Population, Methods, Resources**

**Design**

The descriptive and prospective project design was chosen because of the small sample size, narrow scope of the project, and limited generalizability to other states or agencies. The project process included planning content, constructing modules and forms (pre-test, post-test, module evaluation), collecting data, organizing files, creating communication methods, monitoring participant progress, describing and summarizing data, reporting back on outcomes, and recommending revisions.

**Setting**

The setting was virtual, and exchanges between the project coordinator and participants occurred via email. No live or real-time streaming sessions were held. The email exchanges occurred using University of Hawai‘i email with Google Forms that were also in the University of Hawaii system. All data was stored on a secure server with the University of Hawai‘i.
Population

Because of the added time commitment of HSCN in coordinating participants from the general nursing workforce, a small convenience sample of participants was invited from the Board of the Hawai‘i State Center for Nursing (ten members are on the Board). These participants are all nurse leaders in the state of Hawai‘i and met the requirements for becoming a Nurse Planner. The sample was selected by their interest, ease of access, and proven leadership abilities. All members of the Board were mailed an invitation from HSCN (Appendix C), and the names of those who accepted the invitation were forwarded to the project coordinator. Consent was first obtained by the coordinator, and then directions to begin the modules were emailed to participants.

Professional Collaboration

One of the goals of ANCC (2016a) is to, “Promote interprofessional activities by entities that hold accreditations for more than one health-related profession and where nursing is a major participant.” In discussion with HSCN, this interprofessional collaboration is a long-term goal, and the focus at this point is to develop nurses first, and then later to develop relationships outside of nursing for interprofessional educational activities. Therefore, the project was limited to those participants that met Nurse Planner requirements. No participants outside the nursing profession were recruited.

Data Collection Instruments

Prior to beginning each Nurse Planner learning module, the participant completed a pre-test on an electronic form (Appendix D). Google Forms were developed because of the higher level of security in the UH system and ability to store responses there. Prior to beginning the PowerPoint, the participant finished a pre-test of knowledge. At the end of each PowerPoint, the
participant completed a second electronic form which was the post-test. After completing the post-test, the participant evaluated the quality of the module on a third Google electronic form (Appendix E). For each module the participant was emailed four items: the PowerPoint slide set, the pre-test form, the post-test form and the module evaluation form.

**Data Analysis Methods**

Since the numbers of participants was small, the significance was limited. No inferential analysis was performed. Both quantitative and qualitative data were collected. For quantitative data on the module evaluation, the outcome variable was recorded as a number with a Likert-style anchor (Appendix E), so the data were ordinal discrete variables. Descriptive analysis was completed. Mean, median and mode were reported, along with numbers of responses for each question. The qualitative items were open ended questions that included: strengths of modules, improvements, and additional comments about the modules. These data were recorded verbatim and common themes were identified. Since the qualitative data were limited in number, themes were identified based upon word repetition.

Following the pre-test and post-test (Appendix D) construction, the test was reviewed by a Nurse Planner at HSCN. Revisions were made, and a key was written. Items were assigned a point value, generally one point for each correct item. There was no partial scoring, and no points were deducted for a wrong answer. Each module had a different number of correct answers, so the percentage score on each test was calculated. When the scores were summarized, each module’s test percentage was weighted equally. Mean, median and mode percentages were reported. A test-retest analysis of differences was completed to establish significance of the change in the score before and after viewing the PowerPoint presentation.

**Steps for Project Implementation**
Aim 1: Develop five provider-directed, learner-paced modules that include educational content and activities on the Nurse Planner process described by ANCC.

Objective 1.1 – Construct modules for ANCC Nurse Planner education.

There were several things to keep in mind as the modules were developed. First, the continuing competency requirements to promote quality of practice were without financial burden to nurses, their employers, or academic institutions. Second, the continuing education modules promoted personal responsibility and accountability. It was flexible in the learning activities, easy to access, and had quality standards. Third, requirements considered the need for learning from the nurse’s perspective and fostered motivation toward continued learning. They should require an efficient use of time given the participants busy schedules. Each module’s content (PowerPoint, pre-test, post-test and module evaluation) was reviewed for face, construct, and internal validity in collaboration with the Nurse Planners at HSCN. Communication systems, methods for accessing the modules, and directions for completing the module were developed.

Objective 1.2. Evaluate the module design and instructor effectiveness. The modules were evaluated upon their completion, to serve as feedback for the module effectiveness and to provide suggestions for future improvements. The evaluation provided feedback on the learning modules, and guided changes to support high quality outcomes. The evaluation document was based upon forms that had previously been used at HSCN but revised to reflect the unique structure and content of this project. A numeric scale, along with Likert-style anchors was used. Mean, median and mode scores were reported, along with numbers of responses for the questions. The qualitative tool included: strengths of modules and why they are strengths, improvements and how to improve, and take-aways from the modules. These qualitative data were recorded and themes were identified.
Aim 2: Evaluate the learning of the participants.

Outcome 2: Qualified nurses who complete the Nurse Planner learning modules will have increased knowledge on the educational design process described by ANCC.

Objective 2.1. Identify 4-6 participants to become Nurse Planners. There was a target goal of 4-6 participants who met the criteria for becoming a Nurse Planner. A convenience sample of nurses was chosen by the Nurse Planners at HSCN. They invited their Board members (or their delegate) to participate in the project, which would enable the invitee to participate on the CNE team and provide CNE at their organization (Appendix C). It was not expected that the selected participants were representative of the population of nurses, as they are identified leaders in the State of Hawai‘i. The names of those who accepted the invitation were forwarded to the project coordinator. The small convenience sample was selected by their interest, ease of access, and established experience working with HSCN.

Objective 2.2. Assess the performance of the participants. The pre and post-test evaluated knowledge before and after viewing the voice-over PowerPoint. A five-item pre-test (one for each module’s content) was constructed; the same questions were administered after the modules as a post-test. There were a variety of item types, to reflect current testing practices. They included multiple choice, select all that apply, fill in the blank, and matrix multiple choice. Scores received were reported as descriptive statistics (mean, median and mode). The items that required a text entry, as opposed to a checkbox, were manually scored. All tests were reviewed for accuracy of scoring prior to data entry. A test-retest analysis of differences was used to establish the significance of the pre-test and post-test change in score. Self-assessment of learning was scored in the module evaluation form, asking the participant to agree or disagree with, “The module increased my knowledge”. This reflected a personal perspective on learning.
Resources and Services Utilized

HSCN is funded by the State of Hawai‘i and by statute uses the resources at UH Manoa School of Nursing and Dental Hygiene. It has a statistician, three nurses who are also all Nurse Planners (one nurse with a specialty in evidence-based practice), and a web administrator. The data is managed with privacy and confidentiality guidelines established by the University of Hawai‘i. The HSCN Lead Nurse Planner, Nurse Planners, and staff provided their time and expertise. HSCN provided a shared Google Drive, and set up a file for document storage specific to this project. The project coordinator had access to previous pre- and post-test formats, the standard course evaluation instrument, and the resources HSCN used to write the accreditation reports (HSCN, 2019b).

All Nurse Planners at HSCN had access to the project documents and data. A separate folder was created to hold documents related to participants. Nurse Planner modules, evaluations, data, and outcomes for the Nurse Planners were available to HSCN for their reports and audits. The project design and materials goals were to create a sustainable model for improved capacity to deliver quality and specific content for nurses in Hawai‘i.

The University of Hawai‘i at Hilo provided email access and communication methods. It provided software programs including Office, Word, PowerPoint, Google Drive, Google Forms, and others. The faculty at UH Hilo School of Nursing supported the project with their time. The staff provided communication on the forms required, processes (IRB) and approval (Scientific Review Committee).

Protection of Human Subjects and Memorandums of Understanding

A Memorandum of Understanding (MOU) was already in place between University of Hawaii at Hilo and HSCN (based at University of Hawai‘i, Mānoa). An additional letter
regarding this DNP project was signed by Laura Richardt, Director of HSCN (Appendix E). The Scientific Review Committee signed for approval of the Practice Inquiry Project (Appendix F). Data was stored according to University of Hawai‘i guidelines. Instruments and surveys were taken online and identified by email address. CITI Training Requirements were completed. Human subject permission was written, revised, and approved by the University of Hawai‘i at Hilo Internal Review Board (IRB) (Appendix G). The board requested that a written consent be signed by participants (Appendix H). Consent of participants was obtained through a written communication with a letter requesting consent and signed via email. Email correspondence and replies to Google Forms occurred on the University of Hawai‘i at Hilo system.

Chapter Three Summary

The goal of this project was to create and test learning modules to educate participants qualified to become Nurse Planners, in order to increase CNE courses and options for nurses in Hawai‘i. This project includes an intervention, data collection, data analysis, and dissemination of results and the following objectives:

Objective 1.1 Construct modules for ANCC Nurse Planner education.

Objective 1.2 Evaluate the module design and instructor effectiveness.

Objective 2.1 Recruit 4-6 participants to become Nurse Planners.

Objective 2.2 Assess the performance of the participants.
CHAPTER 4

Project Outcomes Evaluation

Theoretical Framework and Outcomes

The conceptual model for this project (Appendix B) incorporated professional development with Kolb’s learning cycle, ANCC criteria, HSCN, and CNE hours required by the Hawai’i State BON. The BON enforces the rule for CNE requirements, and HSCN offers CNE opportunities. The increased capacity of HSCN, as a result of this project, expands professional opportunities for nurses in Hawai’i. The broad goal was partially met via the project aims and objectives. This project developed and evaluated modules for CNE that are part of a larger goal for professional development of nurses in Hawai’i. The results of these project aims and objectives are detailed in this chapter.

Results

Aim 1: Develop five provider-directed, learner-paced modules that include educational content and activities on the Nurse Planner process described by ANCC.

Objective 1.1 Construct modules for ANCC Nurse Planner education.

As a foundation, resource materials were collected from HSCN including the ANCC manual, foundational literature, accreditation materials, and accreditation reports (HSCN, 2019). These materials were used to develop the module content. To provide content validity, the content for the modules was taken from the ANCC (2016b) 2015 ANCC Primary Accreditation PROVIDER Application Manual and Hawaii State licensing and professional guidelines. Conclusions on content, design, and evaluation methods were by consensus with the HSCN Nurse Planners. Face and construct validity was collaborative with the HSCN Nurse Planners, and limitations were identified together. Internal validity was discussed with the team at HSCN,
which included a statistician. Data collected was descriptive and qualitative in nature. There are currently only three existing Nurse Planners at HSCN and six participants. At least one Nurse Planner reviewed all voice-over PowerPoint presentations, pre and post-tests, and module evaluation.

After reviewing the AACN three criteria and the time anticipated to cover all three criteria completely, four modules were written. The educational design process was the largest and so it was divided into two modules with the practice gap analysis as a separate content module. An overview module was placed before the specific content modules to provide context for the material. The PowerPoints were constructed visually, and then voice-over audio was added to provide an additional mode of learning.

Five modules total were written, with a PowerPoint, pre-test, post-test, and module evaluation form for each (N= 5 PowerPoints, N=15 forms). The module evaluations followed the same template, while the pre and post-test content tests were different, and covered each course’s specific objectives. Each module was between 15-25 minutes long. Each form took a few minutes to take, including 5-6 questions for the pre and post-test; questions were reflective of the course learning objectives. A Nurse Planner at HSCN reviewed all PowerPoints, pre, and post-tests. There were 13 questions on the module evaluation which was developed by the project coordinator and reviewed by the HSCN Nurse Planners. Forms were sent with instructions, using the Google Forms “send” and “send reminder” system. Additionally, templates for communication were written and used to consistently communicate instructions.

**Objective 1.2 Evaluate the module design and instructor effectiveness.**

Each module’s content was reviewed for content, face, construct, and internal validity. There were several things to keep in mind as the modules were developed. First, the continuing
competency requirements to promote quality of practice were without financial burden to nurses, their employers, or academic institutions. Second, the continuing education promoted personal responsibility and accountability. It was flexible in the learning activities, easy to access, and had quality standards. Third, requirements considered the need for learning from the nurse’s perspective and fostered motivation toward continued learning. They should require an efficient use of time given the participants busy schedules.

The PowerPoints were emailed and then downloaded onto the participant’s technology device since the audio files were too large. Because of this, there was no mechanism to identify how much time the participant spent viewing the slides. The participants were requested to complete the pre-test prior to viewing the slides both in an email correspondence and in the PowerPoint. The slides included a reminder at the end to complete both the post-test and the module evaluation. The first module was the overview, and then the next module was sent according to the interest of the participant. This was consistent with motivational principles and learning theory. If there was no preference, the modules were released in order of the three criteria from ANCC: structural capacity, educational design process (includes the practice gap), and quality outcomes.

A total of 10 module evaluations were completed by five participants. The overview module had the most evaluations (n=5), followed by the structural capacity (n=2), practice gap (n=2) and educational design process (n=1). All ten module evaluations were collated as a group rather than separately, due to the small sample size. As shown in Figure 1, six items were ranked on a Likert style scale. Of those, three items on the evaluation achieved the top Likert style score of five, strongly agree (M=5, SD=0), from all 10 participants. These items were “The learning objectives for the module are clear”, “The module is well organized”, and “The module
increased my knowledge”. The “Overall how will you rate this module?” item rating (M=4.8, SD=0.26) was close to the “excellent” high anchor. The visual effectiveness (M=4.8, SD=0.261) and audio effectiveness (M=4.6, SD=0.784) of the module was also scored near the “highly agree”. Taken together, the overall score of the six items was 4.87 on a 5-point scale with five the highest.

**Figure 1**

*Module Evaluation*

![Module Evaluation Chart]

The module evaluation (Figure 2) also asked participants to identify the pace and difficulty of the content. Pace scored “just right” with a rating of three for all 10 respondents (M=3, SD=0). The mean rating on difficulty (M=3.08, SD=0.319) was rated as “too easy” by two participants and “too difficult” by one participant.

**Figure 2**

*Module Pace and Difficulty*
Themes from the narrative responses were tabulated using word frequency. A summary of the raw data is available in Appendix I. The data collected included future learning activities, strengths, improvements and additional comments.

For future learning activities, the specific application of a learning activity was mentioned three times. One participant stated, “I look forward to participating in the active learning and course development.” Another participant mentioned, “teaching content to others…and see one, do one, teach one.” Two participants mentioned learning about the “gap analysis” and “needs assessments”.

Strengths of the module were being clear, concise and with a logical order. Participants mentioned the logical order consistent with learning expectations. Participants noted the consistency between the outcomes, content and pre and post-test to define the learning that occurred in the module. The self-paced advantage was also mentioned, with the ability to go back in the slides for reference. The size of the module was positive, as one participant stated a strength as “Splitting the sections into different modules assists with attention and digesting the information”.
In regards to improvements, two participants noted “none”. Several individuals noted single improvements. No themes emerged. However, due to the small sample size and qualifications of the participants it is important to include these:

- “I was confused by the answers in the post-test that scored incorrect and then did not provide the correct answers.”
- “A slide listing all three criteria and subtopics or a slide with criterion 2 subtopics listed.”
- “Add "international equivalents" to answer for requirements for nurse planners.”
- “Audio fluctuated, which made it difficult to hear and concentrate on presentation”
- “Make it easier to communicate on email so that the modules don't get lost”

There were no themes from the additional comments. The three additional comments included one that may be an improvement. The three comments were:

- “Fun to do!”
- “Thank you for this learning!”
- [improvement] “the YouTube links did not work in your presentation”

**Aim 2: Evaluate the learning of the participants.**

**Objective 2.1. Recruit 4-6 participants to become Nurse Planners.**

Six participants were recruited. Four participants were on the Board of HSCN and two were referred by the Board members. No demographic information was collected on participants in addition to their qualifications as a Nurse Planner. All participants hold advanced degrees and leadership positions in Hawai’i. Participants were emailed the consent after expressing interest. They were emailed an initial module with instructions, and then were sent reminders every 1-2 weeks on their progress and next steps. The active participants completed a total of 32 Google Forms. One participant completed four modules; two participants completed two modules; and
Objective 2.2. Assess the performance of the participants in the Nurse Planner education. Due to the small sample size, data from all twelve pre-tests and data from all twelve post-tests were aggregated (Appendix J). The percentage pre-test score (M=71.3, SD=18.08, range 50-100) reflected some prior knowledge of the content, which was expected due to the leadership and position of the participants (n=5) (Figure 3). The percentage post-test score (M=91.07, SD 12.09, range 64-100) demonstrated an improvement.

Figure 3

Comparison of Pre and Post Test Scores

As seen in Figure 4, the post-test mean score improved over the pre-test mean score by almost 20 points. The results are significant with p <.05 at t (22) =5.66, p = .00007, 95% CI (30.76, 8.57).

Figure 4

Pre and Post Test Mean Scores
After viewing the PowerPoint, the median score of the post-test (Mdn=100) increased from the pre-test (Mdn=65.1). All participants achieved equal or higher scores on the post-test. The mode of the pre-test appeared two times (63.6, 60) and the mode of the post-test increased to 100. Seven participants received 100% on the post-test (compared to one on the pre-test). In an item placed on the module evaluation to assess self-perception of learning, all 10 participants rated the item “The module increased my knowledge” as 5/5 scale or “highly agree”.
CHAPTER 5
Recommendations and Conclusions

Discussion of Data Linked to Specific Aim and Objectives of the Project

Aim 1. Develop five high quality provider-directed, learner-paced modules that include educational content and activities on the Nurse Planner process described by ANCC.

Objective 1.1 Construct modules for ANCC Nurse Planner education. Beginning in August 2020, ideas for increasing the capacity of HSCN were initiated as part of this project. The idea was generated based upon the goals of HSCN for CNE and evidence-based practice. HSCN has limited resources and developing and approving CNE can be time consuming. The self-paced modules seemed to be an alternative to the one-on-one mentoring that the Nurse Planners were providing. There were six virtual meetings to discuss the design and mechanism for implementing the modules. After meeting with the Lead Nurse Planner, statistician, and two other Nurse Planners on the staff, it was decided that a provider-directed, learner paced design was the most efficient.

The theme for the modules was that they needed to be based upon the educational design process that was supported by ANCC and required for accreditation as a provider. The process and three criteria outlined by ANCC were used: structural criteria, educational design process and quality outcomes. The practice gap was jointly established with HSCN. The educational design aimed to have the objectives, learning activities, and assessment strategies well aligned. Due to time and resource restrictions, the active learning application of content was deferred in the form of a virtual one-on-one at the time the participant was ready to begin planning a CNE activity. Ideally this active learning would have been completed in smaller portions with each module. The outcomes were designed using the plan-do-check-act modeled
The Nurse Planners considered offering CNE contact hours for completion of the modules, but it was decided that ANCC criteria consider independence of CNE activities. HSCN must ensure there was no commercial influence in the planning and execution of the project and no conflict of interest be present. For that reason, it was decided to not grant contact hours to avoid the impression of promoting ANCC.

After collaboratively reviewing the content, it was decided to break the content into pieces not more than 30 minutes each. Time limitations were a major factor for both the coordinator and the participant. Katherine Finn Davis took the lead in providing feedback on each module, and a second Nurse Planner, Liane Hussey, also reviewed them. They request that the slides were streamlined, text was free of jargon, fonts were consistent, amount of text on slide was decreased, and slides were simplified. After adding the voice-over in a second review, they recommended that the audio be repeated with a higher quality microphone. These changes to both audio and video were implemented.

Although it was tedious to construct and revise the slides, the high standards of the staff at HSCN contributed to the quality of the modules. Despite the improvements in both audio and video, one participant commented that the audio quality fluctuated, and it was distracting. It was affirmed that it was important to make the slides as high quality as possible. Learners should be able to concentrate on the content of the slide, rather than be distracted from it. The expertise of the Nurse Planners at HSCN was a great asset in developing the slides and modules.

**Objective 1.2 Evaluate the module design and instructor effectiveness.** A Google Form was constructed that evaluated the quality of the module. Since this was a new experience working with the Google Forms for everyone, there was a learning curve. SurveyMonkey, which
HSCN had previously used for their surveys, was not used since it was in the public domain. SurveyMonkey also included advertising within the form and required enrollment which people may find intrusive or inconvenient. Google Forms were tested for functionality and effectiveness prior to implementing them with the participants.

The Likert-style anchors were revised to use more consistent language, following feedback from a Nurse Planner at HSCN. A resource sheet with descriptors was provided to the project coordinator that was very helpful. The revised anchors increased the ease of the final data analysis and simplified the form for participants.

The comments were reviewed as part of an improvement cycle; there were three comments that needed follow-up. One comment suggested that a slide listing all three criteria and subtopics be added to each slide set. This suggestion will be incorporated during the next slide revision, as it provides one more opportunity for reinforcement and also sets the context for the content. One reviewer noted that the audio fluctuated, which made it difficult to hear and concentrate on the presentation. In review of this module, the sound was steady, so it may have been an issue on the participant side. The slides will be examined again if there are other comments about this issue. One participant noted that “the YouTube links did not work in your presentation”. However, when reviewing the slides, the links were functional and led directly to the video. Again, this may be an unknown issue from the learner side, or some changes that occurred as the slides were downloaded. Those links were emailed directly to the participant so that they had them available as a resource. Audio will be reviewed again in the event that there are further comments.

Aim 2. **Evaluate the learning of the participants.**

**Objective 2.1. Recruit 4-6 participants to become Nurse Planners.** HSCN initially
had planned to select a convenience sample of nurses from Oahu and neighbor islands. However, due to the strains of the pandemic on the nursing workforce, HSCN decided to wait until a later date and invite members of their Board to participate instead. This worked well, as most participants had some knowledge of educational design principles by virtue of their job description and leadership role. The participants were all able to communicate well via email, and none had difficulty with downloading or running the slides. They followed the instructions on the order of the module, with the pre-test ahead of PowerPoint slide viewing. One participant had difficulty receiving the Google Forms, as their agency’s email address blocked Google Mail. An alternate form of communication was established.

**Objective 2.2. Assess the performance of the participants.** The pre-test was set to not release answers to participants, so as not to provide them with answers before taking the pre-test and confounding the results. Scores were initially released on the post-test, until it was discovered (in a module evaluation comment) that the items on the fill-in-the-blank and one grid matrix question was scored as “incorrect” when the answers were actually correct. The Google post-test was then set so that scores were not released to participants from either the pre and post-test. All forms were then closely reviewed. The alternative items were hand scored. It was possible in Google Forms to adjust the points and correct the final score.

As participants were added and forms were returned, a filing system became necessary. Two tables were constructed for each participant, one to track their progress through the modules, and another to record the communication sent to participants. This was necessary since forms were emailed and it was easy for the module evaluations to get lost or buried (noted from a comment in a module evaluation). Forms were reviewed weekly and progress reports with next steps were mailed to each individual. In this way, the participant was cued to return the forms
weekly. The systems for communicating and evaluating progress were essential, and an unexpected requirement of the provider-directed, learner-paced system.

**Outcome Evaluation**

The question, “Are provider-directed, learner-paced modules an effective method of training Nurse Planners?” was partially met with the project. The scope of this project was to develop modules, implement them, and evaluate their effectiveness with 4-6 participants who each completed two or more modules. Participants were successfully recruited, meeting enrollment goals of at least four participants (N=6). The modules (N=5) were also successfully developed, implemented and evaluated. The goal for a small sample of at least eight module evaluations was exceeded (N=10). The modules were positively evaluated; an overall score of the six items was 4.87 on a 5-point scale with five the highest. Twelve pre-tests and twelve post-tests were completed on four of the five modules. The participants improved their pre-test scores from 71% to a post-test score of 91%, which was a significant increase of 20% points. Qualitative comments included “Fun to do!” and “Thank you for this learning!” The aims and objectives of the project were met.

The short-term outcome was to educate selected qualified Nurse Planners who can then teach other nurses in Hawai‘i. This goal was partially met, as no participants have yet completed all five modules. The overarching goal of this project was to expand professional opportunities for nurses in Hawai‘i. Nurses need CNE that is affordable, accessible, and culturally sensitive—especially in rural areas. More time is needed to attain this goal. A long-term outcome, outside the scope of this project, is to use Nurse Planners to provide more CNE for nurses who are employed in underserved agencies and rural areas.

**Guidelines or Policies Developed from the Project.**
Continuing nursing education and professional development is an ongoing activity for the Nurse Planners at the HSCN. The project coordinator stopped data collection on April 23, 2022 and has agreed to monitor progress of participants until June 1, 2022. After that date, Nurse Planners at HSCN will work with participants to complete the modules, along with an associated learning activity at the Center. Systems of communication, files, documents, email templates, tracking systems, and forms are all shared with HSCN on a Google Drive.

All PowerPoint slides, pre-tests, post-tests and module evaluations are shared with HSCN and delivered to them for their use. It is expected that the Nurse Planner training will continue, and the Nurse Planners at HSCN will continue to promote and track progress of the participants through the modules. Once all the training has been completed and a successful activity has been executed, the participants will be able to plan activities with the Center's CNE team. The system was developed with a sustainable model in mind, so that the self-paced modules are an efficient method of building capacity for HSCN. As part of the accreditation process, HSCN Nurse Planners can demonstrate that they are contributing to the professional development of the participants, who can grow culturally relevant CNE in the state of Hawai‘i.

**Facilitators and Barriers to the Project**

A major barrier to the project implementation was the COVID-19 pandemic. The project was imagined in August, 2020 before cases in Hawai‘i had increased (N=228). By August, 2021 there were about 800 cases, and by January 2022 there were close to 6,000 cases (State of Hawaii, Department of Health 2022). This had an impact on the nursing workforce and timing of participant recruitment. Nursing resources were placed on the frontlines of care. The MOU between HSCN and UH Hilo took time to process. As an MOU was already in place between HSCN and University of Hawaii at Manoa, it seemed to complicate rather than simplify
the agreement. University of Hawai‘i at Hilo required additional permissions, and an extra layer of agreement with a letter from the Director of HSCN was obtained. The IRB at University of Hawai‘i at Hilo required a consent form and this took additional time to process.

Facilitators to the project were the human resources provided at the University of Hawai‘i at Hilo and Hawai‘i State Center for Nursing. Many emails, forms, and communications were exchanged to proceed with the project. The committee chair, Katharyn F. Daub, and Committee Member, Dr. Jeanette Ayers-Kawakami provided support, expertise and encouragement. Other facilitators were the information systems resources, software, and mail systems. As the project proceeded it was essential to have data management, filing, and data collection systems to track progress and motivate performance.

Project Limitations

The major limitation of the project was the narrow scope, small sample size, and limited generalizability to other populations. The population was a high achieving group of nurses with advanced degrees, and everyone lived on Oahu. Although the sample made it easy to work with the virtual design, it is unknown how easy or difficult navigating the self-paced design will be for those nurses who are less skilled in technology. The pace and difficulty of the modules may also be more challenging for those nurses with less educational and leadership experience.

The pre-tests and post-tests did not have an item analysis performed. The quality of the tests and the quality of the items was not evaluated. There may be ambiguous or misleading items, items may be too easy or too difficult, and items may not discriminate between learning. Ideally the test and items would have been analyzed.

Ideally the project would have had an active learning activity to apply and evaluate learning. Due to time limitations, and the narrow scope of this project, it was decided that HSCN
will mentor participants following completion of the learning modules. HSCN will provide support as the participants as they complete the application for CNE and apply what they have learned to a learning activity that they have developed. A one-on-one virtual learning session is being offered to participants who complete all modules. Ideally, there would have been more interaction and individual application, instead of placing it all at the end.

Email was used as a method of communication for transferring files and issuing instructions. Because each module was a stand-alone parcel, four emails were made for each module. This made it easy for one part of the module to get lost, get buried in email, or get separated. The size of the voice-over PowerPoint slides prohibited sending the files on email and the file instead was sent as a Google Drive link. The participants were required to open the link, download the file onto their device, and view it from there. Ideally the files will have a permanent location within HSCN so that participants can access slides and complete forms without having to use email.

**Contributions to Practice**

Through a collaborative effort with HSCN, quality Nurse Planner modules were constructed. These modules are available to HSCN to use to expand the capacity of CNE for nurses in Hawai‘i. Through a collaborative effort with HSCN, there are six nurses who have gained some knowledge about the ANCC educational design process. These nurses can more easily and efficiently jointly provide quality CNE with HSCN. Nurses need CNE that is affordable, accessible, and culturally sensitive. The nurses working in underserved agencies and living in rural areas have a higher need for CNE than those who have more resources. It is hoped that the self-directed modular process will provide an efficient, quality sustainable format for the Nurse Planners at HSCN to use to train additional Nurse Planners.
Future Projects

As HSCN expects to receive about 30 applications for CNE each year, the Nurse Planners at HSCN must assist applicants to use the educational design process outlined by ANCC. This has required much one-on-one education with nurses applying who have little education experience. The existing project participants may be coached to complete the five-modules of Nurse Planner materials, and engage in jointly planning a course with HSCN. These nurses will require much less coaching than those with less knowledge and experience.

There may be a use for the modules as an on-demand learning platform as inexperienced applicants navigate the HSCN application for CNE and educational design process. For example, when the applicant is having difficulty finding literature resources on the practice gap, a Nurse Planner may forward the practice gap module along to the applicant. The same is true when writing objectives. A list of verbs and resources for writing realistic, measurable goals and objectives is in the educational design process module. Although they are not formally on the path to becoming a Nurse Planner, they can utilize those resources.

Much of the growth and future projects for CNE sponsored by HSCN depends upon the legislature in the state. As a CNE provider, the HSCN has increased access to continued nursing education and provided another means to fulfill Hawai‘i’s continuing competency requirements. HSCN is the second entity in the state to obtain direct ANCC CNE provider status. The reach and impact of CNE programs may continue to expand. However, due to limited resources, there are competing demands. These include the COVID-19 response, workforce research, promoting best practice and quality outcomes, and legislative initiatives such as the preceptor tax credit. Rapid or excessive expansion of the professional development focus will require additional resources.
Addressing the Next Steps

In the 2021 HSCN Report to the Governor, HSCN wrote, “The Center is currently working with a doctoral student at the University of Hawai‘i at Hilo School of Nursing to develop a nurse planner training. Developing more nurse planners on neighbor islands helps us to reach our goal of increasing the reach and impact of our CNE program” (HSCN, 2021). HSCN maintained offering of CNE contact hours throughout 2021 during the COVID-19 pandemic. There were 27 activities provided throughout the year. In 2021, over 1,600 contact hours were awarded. Since the program began in 2020, 6,700 contact hours were completed by participants. Within the accreditation framework, the following principles of high-quality educational design were employed (ANCC, 2016b):

- Address a professional practice gap
- Incorporate the active involvement of a nurse planner in the planning process
- Analyze educational needs (knowledge, skills, and/or practices) of nurses
- Identify learning outcomes
- Use strategies that engage the learner in the activity
- Develop and measure desired learning outcomes
- Choose content based on evidence-based practice or best available evidence
- Plans independently from the influence of commercial interest organizations.

This project initiated first steps toward expanding the pool of Nurse Planners outside of the HSCN to jointly provide CNE. As part of the strategic plan for ANCC accreditation, and by the end of 2021, HSCN will launch the process to engage with joint providers to expand available content experts in nursing practice. These experts are needed to improve HSCN’s ability to support nurse competency development relative to identified professional practice gaps.
HSCN has finite content expertise to address the learning needs and professional practice gaps that fall within the scope of HSCN (2019b).

Developmental goals are to:

- Define processes needed to support joint planning of CNE activities.
- Develop guidance to support joint planning of CNE activities.
- Complete one jointly provided activity.

The success of the provider-directed, self-paced learning modules will contribute to these goals. The overarching goal of this project was to expand professional opportunities for nurses in Hawai’i. Nurses need CNE that is affordable, accessible, and culturally sensitive. Success is measured in small steps that move along the path to a more ambitious outcome.
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development versus traditional continuing pharmacy education on pharmacy practice.


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https://doi.org/10.19082/5541


Appendix A. ANCC Primary Accreditation Conceptual Framework

ANCC PRIMARY ACCREDITATION CONCEPTUAL FRAMEWORK

- Structural Capacity
- Educational Design Process
- Quality Outcomes

NURSING PROFESSIONAL DEVELOPMENT
Continuing Nursing Education
Appendix B. Framework for Nurse Planner Modules

[Diagram showing the framework with nodes and arrows connecting the following:
- Individual Nurse
- Hawai’i State Board of Nursing Legal Licensing
- Improved Quality Patient Outcomes
- Hawai’i State Center for Nursing
- Educational Activities
- Module for Educational Design Process
- Project Coordinator
- Continuing Education Contact Hours
- Concrete Experience: Feeling
- Active Experimentation: Doing
- Reflective Observation: Watching
- Abstract Conceptualization: Thinking
- Standards of Nursing Practice]
Appendix C. Invitation to Participate in the Project

From: Liane (Muraoka) Hussey <muraokal@hawaii.edu>
Sent: Thursday, February 3, 2022 7:58 PM

Subject: HSCN Training Opportunity - Become Part of Our CNE Team!

Aloha Advisory Board Members,
In an effort to ensure that our CNE program has the greatest reach, the Center would like to invite you (or a delegate) to join our CNE team as a Nurse Planner. This would allow you to work with the Center's staff to provide CNE at your organization. Through collaboration, we'll identify gaps in knowledge and skills, and develop learning activities to fill them while providing CNE credit to your nurses. This training was developed for the Center by Sharon Jensen, a DNP student, for her final project. As Advisory Board members, we'll be asking for your feedback on the efficacy of the training as we consider adopting it for future use.

If you're interested, we are offering training starting this month. The initial training is self-paced and is approximately 90 minutes long. It covers ANCC standards and HSCN provider unit policy and procedures. Following the initial training, Sharon or a member of the Center's staff will work with you 1:1 to plan, develop, and execute a learning activity. Once all the training has been completed and a successful activity has been executed, you will be able to plan activities with the Center's CNE team.

Please let us know ASAP if you are interested in this opportunity and I will connect you with Sharon who will get you started. If you have questions or concerns, let us know. Thank you!

Sincerely,
Liane

--
Liane Muraoka Hussey, RN
Program Lead, Nursing Professional Development
Hawai`i State Center for Nursing
2528 McCarthy Mall, Webster 402
Honolulu, Hawai`i 96822
Office: (808) 956-3983
Fax: (808) 956-0547
hawaiicenterfornursing.org
Appendix D. Sample of Pre and Post-Test for Nurse Planner

1. Email *

2. Identify the correct statement suggested by the ANCC credentialing process with the Hawaii State Center for Nursing *
   Mark only one oval.
   (☐) The Hawaii State Center for Nursing is an organization that accredits providers
   (☐) Nurse Planners work with The Center to provide continuing nursing education
   (☐) Educational activities from Nurse Planners are approved by ANCC
   (☐) ANCC selects Nurse Planners for The Center

3. Select the three main ANCC Provider Criteria below. *
   Check all that apply.
   (☐) Quality Outcomes
   (☐) Educational Design
   (☐) Academic Rigor
   (☐) Structural Capacity
   (☐) Adult learning principles

4. Document one example of the role of a Nurse Planner who is considering Criteria #1 Structural Capacity

5. Select three criteria that are part of Criteria #2 Educational Design Process. *
   Check all that apply.
   (☐) Uses best available current evidence to develop content
   (☐) Actively engages learners in learning activities
   (☐) Measures change in knowledge, skill and practice of participants
   (☐) Directly reports to ANCC to evaluate the Provider Unit activities

6. Check the bubble in the column that matches the description in the Plan-Do-Check-Act cycle. Select only one choice for each description. *
   Mark only one oval per row.
   
<table>
<thead>
<tr>
<th>Identify, launch, and facilitate adoption of improvements</th>
<th>Plan</th>
<th>Do</th>
<th>Check</th>
<th>Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess individual activities and the overall design process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet ANCC provider criteria and follow The Center policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement CNE activities with independence and content integrity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E. Module Evaluation

1. Email *

2. Overall, how will you rate the module? *
   
   Mark only one oval.

   1  2  3  4  5
   Poor  Excellent

3. The learning objectives for the module are clear and specific.
   
   Mark only one oval.

   1  2  3  4  5
   Disagree  Agree

4. The module is well organized.
   
   Mark only one oval.

   1  2  3  4  5
   Disagree  Agree

5. The audio was effective in presenting content
   
   Mark only one oval.

   1  2  3  4  5
   Disagree  Agree

6. The visual was effective in presenting content
   
   Mark only one oval.

   1  2  3  4  5
   Disagree  Agree
7. The module increased my knowledge

Mark only one oval.

1 2 3 4 5
Disagree ☐ ☐ ☐ ☐ Agree ☐

8. The pace of the module was:

Check all that apply.
☐ Too fast
☐ Just right
☐ Too slow
☐ Other

9. The difficulty of the module was:

Check all that apply.
☐ Very difficult
☐ Difficult
☐ Neutral
☐ Easy
☐ Very easy

10. What future learning activities will help me to apply this content as a Nurse Planner?

__________________________________________________________________________

11. Please provide the strengths of the modules and why these are strengths.

__________________________________________________________________________

12. Please suggest improvements for the modules and how these may be implemented.

__________________________________________________________________________

13. Please contribute any other thoughts or ideas that you have. Mahalo for your feedback!
Appendix E. Letter to Support Memorandum of Understanding with Hawai‘i State Center for Nursing

Laura Reichhardt, MS, APRN, AGPCNP-BC
Director
Katherine Finn Davis, PhD, RN, APRN, CPNP, FAAN
Associate Director, Evidence-Based Practice
Liane T. Hussey
Program Lead

Hawaii State Center for Nursing
University of Hawai‘i, Manoa
2528 McCarthy Mall
Webster Hall 402
Honolulu, HI 96822

Dear Ms. Reichhardt, Dr. Finn Davis, and Ms. Hussey:

Thank you for agreeing to provide information and direction for Sharon Jensen, UH Hilo DNP student enrolled in the Doctor of Nursing Practice (DNP) Program at the University of Hawai‘i School of Nursing (UHH-SON). We highly value your expertise and appreciate your contribution to our student’s success.

As a formal Memorandum of Agreement is already in place, please sign the following agreement acknowledging that you approve of the proposed practice inquiry project (PIP) Sharon Jensen regarding a project to increase the number of Nurse Planners in Hawai‘i.

Please contact me if you have any questions or concerns.

Sincerely,

Joyce Norris-Taylor
Joyce Norris-Taylor, DNP, APRN-RX, FNP-C DNP Program Coordinator
joycenor@hawaii.edu
Appendix F. Scientific Review Committee Approval

Doctor of Nursing Practice

Practice Inquiry Project
Scientific Review Committee Approval

Student's Name: Sharon Jensen
Title of Proposal: Continuing Nursing Education for Registered Nurse Re-licensure in Hawai'i
Name of Committee Chair: Katharyn F. Daub, EdD, MNEd, RN, CTN-A

Department Scientific Review Decision
Approved: 
Not Approved: □ Comments:

Signature of SRC Chair: Date: 4/29/2021

IRB
Date Submitted:

Committee: Social & Behavioral □ Biomedical □

Type of Review (check one)
□ Exempt
□ Expedited
□ Full Review

Approved □
Not Approved □
Comments:

Attach a copy of the IRB approval letter to this form
Appendix G. Internal Review Board Approval

Office of Research Compliance
Human Studies Program

DATE: November 29, 2021
TO: Daul, Katharyn, EdD, MNEd, RN
    ,CTN-A, University of Hawaii at Hilo,
    School of Nursing
    DJaene, Rebecca, University of Hawaii
    at Hilo, School of Nursing, Jensen,
    Sharon, MN RN, University of Hawaii at
    Hilo, School of Nursing
    Rivera, Victoria, Dr. Ofc of RisK
    Compliance, Social&Behav Exempt
    Continuing Nursing Education for
    Registered Nurse Re-licensure in
    Hawaii 1
FROM: None
PROTOCOL TITLE: 2021-00817
FUNDING SOURCE: None
PROTOCOL NUMBER: None
APPROVAL DATE: November 29, 2021

NOTICE OF APPROVAL FOR HUMAN RESEARCH

This letter is your record of the Human Studies Program approval of this study as exempt.
On November 29, 2021, the University of Hawaii (UH) Human Studies Program approved this study as exempt from federal regulations pertaining to the protection of human research participants. The authority for the exemption applicable to your study is documented in the Code of Federal Regulations at 45 CFR 46.104(d)(1).
Exempt studies are subject to the ethical principles articulated in The Belmont Report, found at the CHRP Website www.hhs.gov/ohrp/humansubjects/guidance/belmont.html.
Exempt studies do not require regular continuing review by the Human Studies Program. However, if you propose to modify your study, you must receive approval from the Human Studies Program prior to implementing any changes. You can submit your proposed changes via the UH eProtocol application. The Human Studies Program may review the exempt status at that time and request an application for approval as non-exempt research.

In order to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so. Signed consent forms, as applicable to your study, should be maintained for at least the duration of your project.
This approval does not expire. However, please notify the Human Studies Program when your study is complete. Upon notification, we will close our files pertaining to your study.

If you have any questions relating to the protection of human research participants, please contact the Human Studies Program by phone at 900-5027 or email uhrs@hawaii.edu. We wish you success in carrying out your research project.
Appendix H. Consent to Participate

Nurse Planner Consent to Participate in Research
Hawaii State Center for Nursing with Sharon Jensen, MN, RN, DNP Student UH Hilo

You are being asked to participate in a research study.

The purpose of the study is to evaluate the effectiveness of two learning modules about becoming a Nurse Planner. There will be a pre-test to measure your understanding before completing the modules, and a post-test at the end to measure knowledge gained. There is also an evaluation of the module design, with questions about the online format, educational materials used, and organization. It will take approximately one hour of your time. None of the procedures are experimental.

The possible benefits of participating are that you will gain knowledge and skill in educational design. Your decision is completely voluntary. The alternative is to complete the Nurse Planner modules and not participate in the study, or you can also skip any questions that you wish, with no penalty. The risks are the time that it takes and associated fatigue when completing the modules, pre-test, post-test and module evaluation.

The completed data analysis and knowledge dissemination will not have any personal identifying information on it. People reading and reviewing will not be able to know who provided the data. The final survey results will be kept on password protected computers locked at the Hawai‘i State Center for Nursing. Confidentiality will be protected. If you agree to participate, you must be given a signed copy of this document and a written summary of the research.

Contact Sharon Jensen at sjensen2@hawaii.edu or cell 808-554-0641 any time you have questions about the research.

You may contact the UH Human Studies Program at 808-956-5007 or uhirb@hawaii.edu, to discuss problems, concerns and questions; obtain information; or offer input with an informed individual who is unaffiliated with the specific research protocol. Please visit https://www.hawaii.edu/researchcompliance/information-research-participants for more information on your rights as a research participant.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop.

Signing this document means that the research study, including the above information, has been described to you orally, and that you voluntarily agree to participate.

___________________________  __________
Signature of participant                        Date

02.03.2022
Appendix I. Raw Data with Narrative Responses from Module Evaluations*

Future Learning Activities
Working through the process as a Nurse Planner
Identifying gaps for improvement of practice outcomes for the nurse and the patient.
Case scenarios/application to practice activities
GAP Analysis & Needs Assessments
Actual application of the three criteria in providing CNE
teaching content to others on the planning committee: "see one, do one, teach one"
Specific application activity
I look forward to participating in the active learning and course development

Strengths
Simplicity of the presentation. The content was clear and concise.
Clearly delineates learning expectations, repeats and delivers.
Logical order of presentation (makes sense to me), not confusing; having written information on
slides so I could reference back instead of having to take a lot of notes
Ability to replay slides as needed, enabled me to comfortably jot notes knowing that I could
replay the slide if I missed content during my notetaking.
pre and post test defines the learning that occurred in the module.
breaking down the modules in sections, instead of presenting one, large module. Splitting the
sections into different modules assist with attention and digesting the information
Clear, easy to listen to
Organized, good knowledge

Improvements
None
I was confused by the answers in the post-test that scored incorrect and then did not provide the
correct answers.
None at this time
A slide listing all three criteria and subtopics or a slide with criterion 2 subtopics listed.
add "international equivalents" to answer for requirements for nurse planners.
audio fluctuated, which made it difficult to hear and concentrate on presentation
None
Make it easier to communicate on email so that the modules don't get lost

Additional Comments
Fun to do!
Thank you for this learning!
the youtube links did not work in your presentation

*Note: Yellow highlighting indicates word repetition.
Appendix J. Raw Data from Pre and Post-Test

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<th>Test Number</th>
<th>Pre-Test Raw Score</th>
<th>Percentage of 12 items</th>
<th>Post-Test Raw Score</th>
<th>Percentage of 12 items</th>
<th>Percentage Difference</th>
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