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AGACNP FELLOWSHIP

ADULT-GERIATRIC ACUTE CARE NURSE PRACTITIONER FELLOWSHIP FOR
THE VETERANS HEALTH ADMINISTRATION

Doctor of Nursing Practice Project Presented to the
Faculty of Graduate Studies
University of Missouri – St. Louis

In Partial Fulfillment of the Requirements
for the Degree of Doctor of Nursing Practice

by

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Abstract

Problem: Nurse practitioner (NP) fellowship programs assist the novice NP in transitioning from a traditional nursing role to advanced practice. The Veteran's Health Administration (VHA) utilizes a NP primary care fellowship program. An acute care fellowship may assist with role transition, confidence and competence for acute care NPs. The purpose of this evidence-based pilot project was to develop a transition to practice acute care fellowship program at a Midwestern VHA hospital.

Methods: A prospective, descriptive design utilizing a convenience sample of senior adult-geriatric nurse practitioner (AGNP) students during a pilot study of an acute care fellowship program. Outcome measures included evaluation of skills interpreting electrocardiograms (ECG), chest x-rays (CXR), and self-reported confidence in performing these skills over the initial six-week period of the 12-month program.

Results: There were three participants ($N=3$, 100%). There was a 33% increase in self-reported confidence of readiness to practice at completion of the pilot. However, ECG scores decreased 66% and CXR interpretation scores decreased 33%. In reference to ECG, there were two ($n=2$) participants who met the expected level of correct interpretations at 50%, but one ($n=1$) did not. Regarding CXR, all participants met the expected level of correct interpretations at 50%.

Implications: Despite training and targeted clinical experiences in ECG and CXR interpretations during an acute care fellowship, competence in these skills decreased while self-reported confidence increased at the end of six-weeks. Continued education and training throughout the 12-month program is recommended to increase the novice NP's competence in these skills while transitioning to their new role.

Adult-Geriatric Acute Care Nurse Practitioner Fellowship
For the Veterans Health Administration

Provider shortages in the U.S. healthcare system have contributed to the growth of the nurse practitioner (NP) role to bridge the gap in healthcare delivery. Many patients have acute healthcare needs, including sudden injury or illness, chronic disease with episodic illness, contributing psychosocial factors, and (lack of) support systems. All of these and more, influence the complexity of care and suggests specific education and training may be needed for the care of patients with acute healthcare needs. Acute care is defined as care given to the population of patients which have immediate, critical or unstable health needs (National Organization of Nurse Practitioner Faculties [NONPF], 2016). In 2018, there were more than 248,000 NPs reported to be practicing in the U.S. (Furfari, Rosenthal, Tad-y, Wolfe, & Glasheen, 2018). Of those, 6.4% are practicing within the acute care population (Furfari et al., 2018).

Most NPs have several years of nursing experience prior to entering an advanced practice nursing program, however, they must choose one of six populations in which to train as an NP (APRN Consensus Work Group & the National Council of State Boards of Nursing APRN Advisory Committee, 2008). The adult-geriatric acute care nurse practitioner's (AGACNP) education and training prepares the NP to manage the acutely ill or injured adult patient. The adult-geriatric population track ranks fifth (of the six populations) popular for NP training (Furfari et al., 2018). Furthermore, two populations of foci, adult and pediatric, require specific training for primary or acute care patients. A NP is considered to be 'aligned' when the education and training for the population cared

for is acquired. Board certification within the population of foci assures the foundational knowledge and training for practice has been achieved (Donaworth, 2017).

A NP survey conducted by Hard and Macnee (2004) found 87% ($n=562$) of participants were interested in post-graduate training if it were available. More importantly, only 10% reported feeling well prepared for practice and 51% felt minimally prepared after completing an advanced practice nursing program. Facility-based orientation programs for the NP have been helpful, however, the programs are generalized and most often lack specific training for the NP to become confident in the NP role (Bahouth & Esposito-Herr, 2009).

The concept of a mentorship allows the new NP to have peer support as they transition into practice, however, mentors are usually limited on time and are focused on one specialty. Thus, the new NP may not fully transition into practice (Harrington, 2011). Furthermore, many NPs may feel decreased role satisfaction when they are overwhelmed with the transition to practice. Bahouth and Esposito-Herr (2009) studied 445 novice NPs of whom 6% resigned their NP position in the first year of practice and 38% decided not to continue practice in the NP role. Unsuccessful transition to practice can produce negative effects such as anxiety, role dissatisfaction, and feelings of failure (Bahouth & Esposito-Herr, 2009). Most NPs reported a need for additional support and education as they transitioned from student to a practicing NP role (Harrington, 2011).

Fellowship and residency programs for the NP have become increasingly popular in the last decade. The first primary care residency was founded in 2007 by Dr. Margaret Flinter (Firth & Marsan, 2016). The basic design of the NP residency program has been replicated across the U.S. with more than 70 programs, mostly for primary care (Firth &

Marsan, 2016). Novice NP interest and some qualitative evidence provided support for the transition to practice programs and may have assisted the new NP to become more confident and competent while transitioning into practice (Donaworth, 2017).

Furthermore, the Institute of Medicine (IOM) report: *The Future of Nursing: Leading Change, Advancing Health* (2010), recommended nurses to complete a residency or fellowship program after completing an advanced practice nursing degree, or when transitioning into new clinical practice area. The IOM recommendations have highlighted such a program may be a possible resolution to stress caused by NP role transition.

The Veterans Health Administration (VHA) health care system considers the NP as a valuable member of the team. There are at least 5,769 NP's working within the VHA system across the U.S. (U.S. Department of Veteran's Affairs, 2016). The VHA provides healthcare for a variety of complex health conditions addressed within the education and training for the primary care adult-geriatric nurse practitioner (AGNP) or the AGACNP. The VHA seeks adequately trained individuals to care for the adult population in the primary and acute care areas as the U.S. struggles with a physician shortage; hence, the AGACNP may supplement this gap for hospitalized veterans (Huang, Yano, Lee, Chang, & Rubenstein, 2004). Currently, the VHA employs a NP primary care fellowship program for its outpatient services, but an acute care fellowship may be needed to assist with role transition, including satisfaction, confidence and competence for hospitalized veterans.

The purpose of this evidence-based pilot project was to develop a transition to practice AGACNP fellowship program at a Midwestern VHA hospital. The aim was to improve senior NP student confidence and competence when caring for hospitalized

veterans as they begin to transition to practice. The study questions of interest were: For the NP students enrolled in the AGACNP fellowship pilot program at the VHA,

- 1) What was the rate of accurate electrocardiogram (EKG) interpretation after six-weeks in the fellowship program compared to prior enrollment in the program?
- 2) What was the rate of accurate chest x-ray (CXR) interpretation after six-weeks in the fellowship program compared to prior enrollment in the program?
- 3) What was the confidence level for readiness to practice for the AGNP student after six-weeks in a fellowship program compared to prior enrollment in the program?

Review of Literature

The literature review utilized the following databases: Medscape, Medline, PubMed, CINAHL, and Cochrane Library. Key words for the search were: *nurse practitioner, registered nurse to nurse practitioner transition, transition to practice, job satisfaction, nurse practitioner preparedness, competencies, fellowships, residencies, orientation, AGACNP, Veteran's Healthcare Administration*. The initial search results yielded 57 articles. The focus was narrowed to include transition to practice for an NP, theoretical frameworks, NP scope alignment, and NP role satisfaction. Inclusion criteria for the search were publications in English, published in the last 15 years, and peer-reviewed scholarly journals and works from national organizations, such as, the American Academy of Nurse Practitioners (AANP), American College of Nurse Practitioners (ACNP), American Association of Colleges of Nursing (AACN), and National Organization of Nurse Practitioner Faculties and IOM reports. Excluded

publications were those related to registered nurse (RN) and non-NP residencies or fellowships. Ultimately, 10 publications were selected for this literature review.

Diagnostic and therapeutic interventions are recommended competencies for the acute care NP (NONPF, 2016). Competencies include the interpretation of EKG's, imaging studies, serum and urine diagnostics, hemodynamic monitoring, airway management, central venous catheter insertion, and more. Advanced airway management or hemodynamic interventions and monitoring are not recommended competencies for the primary care AGNP or family nurse practitioner (FNP). Working with hospitalized populations, especially those who may be in critical care areas such as the intensive care unit (ICU), requires education and training not included in the primary care AGNP and FNP curriculums (NONPF, 2016).

The VHA in Connecticut developed a NP primary care fellowship program in response to the IOM recommendations to provide residency or fellowship programs in support of transitioning to practice (Zapatka, Conelius, Edwards, Meyer, & Brienza, 2014). Zapatka et al. (2014) performed a qualitative study to evaluate a primary care fellowship. At the completion of the two-year fellowship, participants were interviewed. They found NPs were unanimous in reporting the fellowship not only improved their competence, confidence, and role satisfaction, but also provided a supportive transition into practice (Zapatka et al., 2014). Likewise, Wirtz-Rugen, Dolansky, Dulay, King, and Harada (2018) studied a cohort of NPs in a 12-month fellowship program. The NPs were evaluated on seven varied competency areas at various intervals in the program. The results indicated improvements in most areas including feelings of being prepared for practice at the end of the fellowship (Wirtz-Rugen et al., 2018).

Previous nursing experience may not influence a successful transition to advanced nursing practice. A descriptive, cross-sectional study conducted by Barnes (2015) examined the relationships between NP role transition, prior nursing experience, and an official workplace orientation. Previous nursing experience and receiving a formal workplace orientation in their first NP position were measured with single-item questions. Preceding RN experience ranged from 0 to 38 years ($M = 13.8$ years). Preceding experience was not statistically significant in influencing NP role transition ($p = .12$). Thirty-three percent of the participants received a formal orientation in their first NP position. Receiving a formal orientation was positively correlated ($p < .001$) with successful NP role transition (Barnes, 2015).

Academic preparation may not be enough for a successful transition to practice. Hart and Bowen (2016) surveyed 698 NPs regarding their feelings of preparedness to practice after graduation. Only 3.3% of the participants described feeling “very well prepared;” 38.9% “generally prepared;” 43.0% “somewhat prepared;” 11.1% “minimally prepared;” and 3.7% felt “very unprepared. Moreover, participants reported feeling least prepared for chronic conditions, complex patients, and ordering or interpreting diagnostic tests (EKGs, radiographs, and serum or urine diagnostics). When inquiring about interest in a post-graduate NP residency or fellowship, 58% were extremely interested; 32% were somewhat interested; 6% were neither interested nor disinterested; 2% somewhat disinterested; and 2% not interested at all. Furthermore, almost half (49%) of the participants reported feeling as if they practiced outside of their education and training during their first year of practice. Mentoring and a formal workplace orientation were

also important to the participants and thought to be important in a successful transition for the novice NP (Hart & Bowen, 2016).

Post-graduate education and training may be important to the new NP. Parkhill (2018) conducted a survey analyzing both quantitative and qualitative data from 97 NPs who attended a national conference. Only 12 (12%) of the participants had attended a residency program post-graduation. The NPs who had completed a residency reported having benefited from additional support post-graduation, experienced increased feelings of confidence, and felt they had a better transition to practice during their first year of practice. Of the NPs that had not completed residency program after graduation, 62% were extremely interested in residency; 29% were somewhat interested in a residency; and 2% of NPs were not interested in a residency at all. The results of this study presumed benefits of a residency program because the residency allowed the NP to experience more experiential practice; feelings of increased confidence; additional opportunities for learning and support; and additional education and leadership during the first year of transition into practice (Parkhill, 2018).

Transitioning from expert registered nurse to novice NP may be difficult. Brown and Olshansky (1997) described this adjustment period as problematic. Reportedly, nurses felt ill prepared for their new role and often felt like imposters or they felt that they were “faking it” (Brown & Olshansky, 1997). The NPs also reported not feeling like “real NPs” since they did not feel confident and understand their role (Brown & Olshansky, 1997). During the post-graduate period, numerous NPs conveyed difficulty with the transition from being an experienced RN to a novice NP. Self-confidence and independence were identified as consistent factors to assist in role transition. Failed

adjustment might impact self-confidence, thus impairing growth of a new role (Brown & Olshansky, 1997). Despite the evidence to support the NP transition to practice, many studies focused on the primary care NP. Further research is needed regarding the novice NP in acute care to better understand the workforce transition and aid in providing adequate support during this critical period (Faraz, 2017).

The Transition Stages Model (TSM) may provide a framework for developing an AGACNP fellowship. The TSM incorporates a process in which the individual experiences stages of doing, being and knowing (Duchscher, 2008). The first several months, the individual is adjusting and adapting to the realities of their new work. The individual is in survival mode and a state of “shock” with a hyper-focus on a new role. The second stage is about 4-5 months in duration and includes a post-orientation stage. The individual is gaining some confidence with knowledge and critical thinking yet has some feeling of inadequacies. In this stage, the individual attempts to discover where they “fit” regarding their professional community, peers and organization (Duchscher, 2008). The last stage of the TSM consists of the individual distancing themselves as an individual professional, separate from their peers. The individual becomes more comfortable with their role and professional responsibilities (Duchscher, 2008). The TSM provides a congruent framework from which to base an AGACNP fellowship program.

Method

Design

A prospective, descriptive design. An AGACNP fellowship program was designed based on the NONPF (2016) competencies for acute care. The pilot for testing change occurred between April 1 through May 15, 2019.

Setting

The main hospital of the VHA system in a large Midwestern, urban area. The VHA hospital system consisted of two hospitals and seven sub-clinics servicing approximately 65,000 veterans within the metropolitan area. There was a primary care NP fellowship already in place, but an acute care NP fellowship program was lacking.

Sample

A convenience sample of NP students from a public university. Inclusion criteria were AGNP students in their last semester of residency. Exclusion criteria were NP students in other populations of foci, or they were not in their last semester of residency.

Procedures

A planning team was formed to include the chief nurse officer (CNO) of the VHA main hospital, a DNP student interested in studying cultural competency for the NP, and the primary investigator (PI). Bi-weekly meetings began in September 2019 to plan the AGACNP fellowship program for the VHA. Additional stakeholders were invited as needed: medical director, multi-disciplinary team members (radiologist, pulmonologist, cardiologist, etc.), and technology innovation support. A Likert scale survey had been developed and was distributed internally at the VHA main hospital through a web based Qualtrics program for evaluation of the need for an AGACNP transition to practice fellowship program. The original plan was for the fellows to be selected by the CNO after completion of an application through a competitive internal process at the VHA hospital to participate in the program; however, there were no new NP hires for the facility. An alternate plan to invite senior AGNP students was developed.

The AGACNP 12-month fellowship curriculum was developed based on the NONPF (2016) competencies for the acute care NP. The curriculum integrated didactic and online learning, simulation, clinical, and leadership experiences. Clinical rotations included the intensive care unit (ICU), pulmonology, cardiology, gastroenterology, surgical services, endocrinology, orthopedics, neurology, obstetrics/gynecology, mental health, trauma services, and raced-based trauma training. Core competencies also included patient and family centered care, implementation of evidenced-based practice, management of patient care delivery and the complex acutely ill patient, professional role and leadership, ethical decision making, stress management, performance improvement, safety and quality, and the business aspect of healthcare.

Approval Process

Approval from the VA hospital was obtained. Additional approvals were obtained from the doctoral committee, university institutional review board (IRB), the VHA IRB, and finally the university graduate school. Informed consent from the fellowship participants was acquired. There were minimal risks to the subjects associated with this study as their ability to interpret an ECG or CXR was evaluated without consequence, and their subjective feelings of confidence was assessed. All data was de-identified to avoid identification of the subject. The benefits of this study were the additional education, skill training and support for transition into a new role.

Data Collection/Analysis

Demographic data included age, gender, race/ethnicity, and years of nursing experience. A self-assessment survey of confidence prior to the beginning of the pilot program and again after six-weeks in the program. Competence was assessed by the

participants ability to accurately interpret EKGs and CXRs prior to the beginning of the program and again after six-weeks in the program. All data was de-identified using a number to identify subjects recorded data. The data was stored on a password-protected computer and portable jump-drive. The data analysis method was performed using descriptive statistics with excel.

Results

Demographics

A total of three AGNP students ($N=3$, 100%) consented to participation. The age of participants ranged from 30-59 years. All participants were female ($N=3$, 100%). Two participants were Caucasian ($n=2$, 66.6%) and one was African American ($n=1$, 33.3%) Participant nursing experience ranged from 10-25 years (See Appendix A).

Based on a 4-point Likert scale, results of the pre- and post-confidence survey revealed participants had no change in confidence based on their years of experience as a nurse when entering the pilot (Pre=2.67, Post=2.67; 0%). Likewise, their feelings on how their academic program prepared them to apply principles and practices of quality improvement was unchanged (Pre=2.00, Post=2.00; 0%). The participants believed their academic program had a strong impact on preparing them for their role as an APRN (Pre=2.33, Post=2.00; -.33%), believed their academic program prepared them to order and interpret lab data and scans (Pre=3.00, Post=2.33; -.67%), would have applied to a fellowship program to help with transition to practice as an APRN (Pre=3.33, Post=3.00; -.33%) and believed their academic program helped them learn the procedures required for their role as an APRN (Pre=2.67, Post=2.00; -.67%). However, perspectives about

their ability to interpret diagnostics and perform procedures required for their role, decreased by .67 (22.33%) after they entered the pilot.

Positive changes occurred following participation in the study regarding academic preparation, caring for a medically vulnerable population (Pre=1.67, Post=2.00 +.33%) and feeling prepared for transition to practice as an APRN (Pre=2.33, Post=2.67; +.34%). However, after participation in the study, confidence managing a patient's acute disease processes decreased (Pre=2.67, Post=2.00; -.67%. Overall, there was an increase of .33% in confidence level of the AGNP students at completion of the pilot (See Appendix B).

All of the participants ($N=3$, 100) indicated not feeling confident in ability to interpret ECGs and CXRs on the pre and post-test. All subjects had not read or interpreted many ECGs prior to the fellowship program (Pre=1.33, Post=1.00; -.33%). Regarding the ECG pre and post-test: Subject one improved their test score from 60% to 80%. Subjects two and three had no change in their pre and post test scores (See Appendix C). Interestingly, confidence in reading and interpreting an ECG actually decreased given the latter scores (Pre=1.66, Post=1.00); -.66%) (See Appendix D).

Likewise, all subjects had not read or interpreted many CXRs prior to the fellowship program (Pre=1.00, Post=1.00; 0%). Consequently, all subjects reported having somewhat to no confidence with reading and interpreting CXRs (Pre=1.00, Post=.67; -.33%) (See Appendix E).

Regarding CXR interpretation, subject one gained x-ray experience during the period of the pilot. Subject One test score remained consistent (80%). Subject two improved test score from 0 to 60%. Subject Three improved test score from 80 to 100% (See Appendix F).

For the ECG and CXR assessments, the competence level was 50% correct interpretations. Two of the three reached the ECG goal of 50% or greater. All three reached the 50% or greater goal for competence with CXR interpretations.

Discussion

A six-week pilot study of an AGACNP fellowship program for senior AGNP students in their last semester of residency at the VHA revealed a neutrality in practice competence but a slight improvement in confidence. The participants lacked the ability to accurately interpret ECG and CXR images prior to the pilot program. The education for interpreting ECGs and CXRs, along with a targeted clinical experience to practice these skills minimally improved when measured after a six-week period. Ongoing education and experiences for ECG and CXR interpretation is needed for the novice acute care NP throughout the entire 12-month fellowship program. In contrast, there was evidence of improvement in NP confidence during the pilot.

The AGACNP fellowship program pilot was originally planned for the novice AGACNP, however, there were no new hires. Instead, AGNP students who were in the last six-weeks of their NP residency experience and program completion were recruited from a local, public university for participation. Before participating in the pilot program, students reported their academic program had a strong impact on preparing them for their role as a NP. They reported their academic program prepared them to order and interpret diagnostics, however, the demonstrated skill when interpreting an ECG or CXR was low. Focused education and training may impact confidence levels sooner than competence is actually achieved

The second stage of the TSM consisted of the individual gaining some confidence with knowledge and critical thinking yet, having some feeling of inadequacies and is consistent with the findings of this study. Rapid advancement in critical thinking, knowledge level and skill competency reflect doubt regarding professional identity. While the AGNP student reported improved confidence, their competence in ECG and CXR interpretations did not change within six-weeks. A transition to practice occurs throughout the first year in practice (Duchscher, 2008).

A limitation of this study was the small sample size. Statistical analysis of the outcome measures was unable to be used due to the small sample size. Furthermore, measurement of ECG and CXR interpretation skills after six-weeks of intensive education and training may not be enough time for the novice NP to demonstrate improvement in these skills. The fellowship program was designed for a 12-month experience with regular evaluation of participant progress. Since this was the first evaluation period, ongoing evaluation of participants until completion of the program is recommended.

Conclusion

An AGACNP fellowship curriculum was developed for the VHA. The program was based on the NONPF (2016) recommended competencies for the AGACNP specializing in acute care. Participant confidence levels may increase more rapidly than demonstrated competence after six-weeks in the program. Ongoing education and focused clinical training on ECG and CXR interpretations may continue to enhance these skills over a 12-month period. The novice NP may benefit from a NP fellowship program

after completion of an academic program to ease the transition to advanced nursing practice.

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Appendix A

Table 1

Demographics of participants

	Participant 1	Participant 2	Participant 3
Years as RN	>20 years	10-20 years	>20 years
Race	Caucasian	African American	Caucasian
Age Range	45-59 years	30-39 years	45-59 years

Appendix B

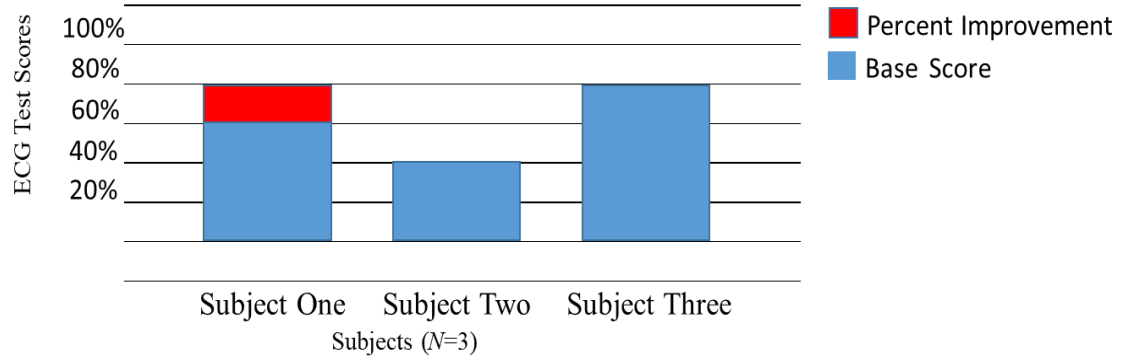
Table 2

Questions Regarding Preparation Pre- and Post-Survey

	Q1	Q2	Q3	Q4	Q6	Q7	Q8	Q9	Q15
Pre	2.67	2.33	2.00	1.67	3.00	2.33	3.33	2.67	2.67
Post	2.67	2.00	2.00	2.00	2.33	2.67	3.00	2.00	2.00
Change	0	-.33	0	+.33	-.67	+.34	-.33	-.67	-.67

Appendix C

Figure 1
Pre- and Post-Study Subject ECG Test Scores



Appendix D

Table 3

EKG Experience and Confidence by Subject Pre- and Post-Survey

	Q18		Q19	
	Pre	Post	Pre	Post
Participant One	10-20 EKGs	10-20 EKGs	Not Confident	Somewhat Confident
Participant Two	0-10 EKGs	0-10 EKGs	Confident	Confident
Participant Three	0-10 EKGs	0-10 EKGs	Not Confident	Not Confident

Appendix E

Table 4

X-ray Experience and Confidence by Subject Pre- and Post-Study

	Q20		Q21	
	Pre	Post	Pre	Post
Participant One	0-10 X-rays	11-20 X-rays	Not Confident	Not Confident
Participant Two	0-10 X-rays	0-10 X-rays	Not Confident	Not Confident
Participant Three	0-10 X-rays	0-10 X-rays	Not Confident	Not Confident

Appendix F

Figure 2

