

RURAL FAMILY NURSE PRACTITIONER LEVEL OF CONFIDENCE FOR
PROVIDING EMERGENCY CARE

by

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ABSTRACT

If emergencies present to a rural clinic, FNP's may need to provide emergency care in the interim between presentation and transport to definitive care. Therefore, all rural FNP's should have the necessary education to prepare for this possibility. However, most FNP programs do not include emergency courses in their curricula. Thus, there is a gap in the preparation of FNP graduates for rural practice.

The purpose of this research was to examine rural FNP level of confidence to provide emergency care. A descriptive design was used to address the following research questions:

1. Do rural FNP's feel confident in their emergency skills?
2. What type of training do rural FNP's report as important to their confidence to care for patients in a rural emergency?
3. Do rural FNP's with more advanced practice experience report higher confidence levels than rural FNP's with less advanced practice experience?
4. In what areas do rural FNP's feel they need more confidence for handling emergencies?

A survey tool and various letters were mailed to rural Montana FNP's to collect data. Descriptive and correlational statistics were used for data analysis.

The results indicated that rural FNP's were moderately confident with their ability to provide emergency care despite a low frequency of emergency encounters. High confidence levels, however, were not always associated with more advanced practice experience. Instead, experience with emergency care prior to becoming a FNP and frequent exposure to emergency situations were identified as important antecedents to high levels of confidence. Cardiac, airway/respiratory, and trauma emergencies were three of the most frequently identified areas for education updates.

Rural FNP's need basic emergency education, regardless of their practice setting. Furthermore, rural FNP's need opportunities to practice hands on emergency skills and continuing education in order to maintain their confidence for providing emergency care. Rural FNP's who have past emergency nursing or pre-hospital experience may be the best candidates for rural emergency department or critical access hospital (CAH) employment. However, the inclusion of emergency curricula in rural FNP programs would help to ensure that all graduates receive a minimum level of preparation for providing emergency care.

CHAPTER 1

INTRODUCTION

The concept of a rural “generalist” has been used to describe the ideal health care provider for a rural setting (Long, Scharff, & Weinert, 1998). The term generalist describes the need for health care providers who are able to care for the wide variety of patients seen in a rural setting. The term, however, fails to adequately capture another unique need in rural health care; the need for competent skills in specialized areas despite infrequent opportunity to use each skill. The “Pinch Hitter Theory of Rural Nursing” does capture the need for expert versatility in rural health care.

In rural nursing you have to be like a pinch hitter. You may perform a task or procedure or work on a very specialized case but once a year. But when you go to do it, you have to do it like you do it everyday. In baseball, a batting average of 300 is good. But the pinch hitter, well, you want them to be better than that, really, you want them to bat a thousand. That’s what it’s like for a rural nurse, when they go to work, you want them to bat a thousand (Personal conversation, Maura Fields, 1983, as cited in Scharff, 1998, p. 32).

The jobs and responsibilities of primary care providers in rural settings vary (Ryan, 1998). The provider may be responsible for inpatient visitation, ambulatory clinic services, home health visits, nursing home care, psychiatric services, surgery assistance, obstetrics, chemotherapy, or emergency room coverage. One of the greatest reported satisfactions for health care providers in rural health settings is the variety of patient care situations one sees (Steele, 1983; Rourke, Newbery, & Topps, 2000; Potter, 1994;

Wetmore, 1994; Izanec, Moggio, & Murray, 1968; Trossman, 2001a; Trossman, 2001b).

Variety in a rural practice setting can also be problematic. It requires rural providers to maintain a very large knowledge base and a wide range of procedural skills in order to be prepared for the variety of patients seen in a rural setting. A key problematic factor related to the diverse mix of patients in a rural practice, is the lack of repetition within the variety (Tolhurst, McMillan, McInerney, & Bernasconi, 1999; Somers, Maxfield, & Drinkwater, 1999). Rural providers may need specialized skills for many of their patients. However, there is a lack of repetition of these specialized treatments required to care for the variety of patients (Tolhurst et al., 1999; Somers et al., 1999; Tolhurst, Dickinson, & Ireland, 1995). The broad knowledge base and the lack of repetition with specialized knowledge and skills make it difficult for generalist providers to develop and maintain the skills needed to care for the wide variety of patients seen in a rural setting (Steele, 1983; Rourke et al., 2000; Tolhurst et al., 1999).

Rural emergencies extend the necessary knowledge base for generalist providers even further. Lack of specialist support and distance to a definitive care center can leave rural generalist providers to independently handle patient emergencies (Tolhurst et al., 1999; Tolhurst et al., 1995, Somers et al., 1999; Reid, Chabikuli, Jaques, & Fehrsen, 1999). Although rural emergencies are frequent, there is less repetition of similar cases in a rural setting than in larger areas. Just as in non-emergent situations, lack of opportunity to repeat skills needed in emergencies makes it difficult for rural providers to stay prepared to provide emergency patient care (Tolhurst et al., 1999; Tolhurst et al., 1995, Somers et al., 1999; Reid, et al., 1999).

The comparison of a rural generalist provider to a pinch hitter who must “bat a thousand”(Scharff, 1998, p. 32) is especially fitting for rural emergencies. In an emergency, rural providers must care for patients who they might refer to a specialist if these services were available. Even without specialist consultation, generalist providers are responsible to quickly and accurately assess the situation, prioritize care, and skillfully perform treatments (Steele, 1983; Potter, 1994; Wetmore, 1994; Izanec et al., 1968; Tolhurst et al., 1999; Tolhurst et al., 1995, Somers et al., 1999; Reid, et al., 1999). “Prompt recognition, stabilization, and management of these people prior to transport for definitive care is imperative for the goal of positive health outcomes” (McGuire, 2000, p. 12). Therefore, all rural providers should have the knowledge and skills to provide initial patient care and stabilization in an emergency.

Family nurse practitioners (FNP) are among the professionals providing health care in rural areas. They are faced with the unique demands to “be comfortable with uncertainty, challenged by diversity, and flexible in their skills” (Rosenblatt & Moscovice, 1982, p. 273). FNP provide health care to an unpredictable mix of patients in the rural setting (Trossman, 2001a; Long et al., 1998; McGuire, 2000). Confidence with a wide range of skills and patient treatment plans is important for success as a rural FNP (Trossman, 2001a). Critical thinking skills and the ability to make independent decisions when consultation is unavailable are also key to rural FNP success (Trossman, 2001a; Long et al., 1998; McGuire, 2000). If rural FNPs are well prepared in these foundational areas, the variations of their work can provide tremendous job satisfaction. If rural FNPs are not well prepared in these foundational areas, the need to handle many

different patient scenarios, including emergencies, can cause significant stress (Trossman, 2001a). The variety of patient scenarios experienced by rural FNPs includes patients with emergent conditions (Trossman, 2001a; McGuire, 2000; Long et al., 1998). Thus, rural FNPs must have the preparation to respond to emergency situations quickly and skillfully.

Background and Significance

General practice and family physicians are the traditional providers of rural health care. In order to prepare physician students to meet the demands for expert versatility in rural practice, rural physician programs offer a firm foundation in family medicine and primary care (Fickenscher, 1992; Gordon, Meister, & Hugher, 1992; Rourke et al., 2000). Rural physician programs also offer an emphasis on procedural skills, emergency medicine, surgery, and obstetrics. The aims of rural physician education are adequate preparation and increased rural placement of physicians after graduation (Fickenscher, 1992; Gordon et al., 1992; Rourke et al., 2000). Most rural physician programs provide students with rural clinical experiences. This exposure helps support the goal of rural placement after graduation (Fickenscher, 1992; Gordon et al., 1992; Rourke et al., 2000).

Even with incentives and efforts to encourage rural physician employment, there is a shortage of rural family physicians (Bergeron, Neuman, & Kinsey, 1999; Rourke et al., 2000, Rosenblatt & Moscovice, 1982; Krein, 1997; Gordon et al., 1992; Fickenscher, 1992). The overall shortage of rural physicians, obstacles to physician recruitment and

retention, and cost cutting efforts implemented by rural health care facilities have increased the demand for mid-level health care professionals in rural communities (Krein, 1997; Bergeron et al., 1999). FNPs are one type of mid-level health care professional who fill the need for rural providers. FNPs are prepared to care for a wide range of patients across the life span, making them good candidates for the role of rural generalist (Schmidt, Brandt, & Norris, 1995; Trossman, 2001a). In addition, FNPs are “reported to be more likely to practice in small towns than other NP specialty types” (Fowkes, Gamel, Wilson, & Garcia, 1994, p.674). Thus, FNPs have become an important part of the rural health care system.

As important future members of the rural health care team, rural FNP students should have specific education to prepare them for the special demands of rural practice. Rural FNP students need a strong background in primary care, practice performing a variety of procedures, and an understanding of rural health and the needs of rural people. The preparation for practice in a rural setting should also include preparation for emergency care (McGuire, 2000; Trossman, 2001a; Reid et al., 1999; Tolhurst et al., 1999; Tolhurst et al., 1995; Somers et al., 1999). Most FNP curricula, however, do not include preparation for emergency care (McGuire, 2000).

There is a relatively small amount of literature available related to nurse practitioner (NP) practice in emergency departments, but within that body of literature there is a consensus. NPs who are “appropriately trained” provide competent care in emergency departments (Chang et al., 1999, p.267). Some characteristics of this body of literature, however, limit its relevance to current practice situations. The term NP is often

used without clarification of type such as acute care, pediatric, women's health, geriatric, family, adult, or emergency. There is also no clear description of what constitutes appropriate training for emergency department practice or how the appropriate training is achieved. Thus, it is difficult to use the available literature to support evaluation of the current FNP curricula.

Confident health care providers are a product of time, opportunities for practice, successes, and mistakes (Rosenow, 1999; Shea & Selfridge-Thomas, 1997; Adams et al., 1997). The formal education of rural FNP students provides the foundation for confident graduate practitioners. More detailed information about FNP's who practice in emergency departments would help determine if current rural FNP curricula provide adequate preparation for rural emergencies. FNP's with expert emergency skills and a high level of confidence for providing emergency care may feel that the formal education process was sufficient preparation for rural emergencies. It is also possible that rural FNP's with a high level of confidence for providing emergency care rely on past experience in pre-hospital care, years of emergency nursing, or continuing education programs. Without more detailed information, it is impossible to know how the appropriately trained FNP's referenced in the literature arrived at an expert level of practice or how they developed confidence in their skills to provide emergency care.

Statement of Purpose and Research Questions

The purpose of this project was to examine rural FNP level of confidence to provide emergency care in rural communities. This project addressed the following questions:

1. Do rural FNPs feel confident in their emergency skills?
2. What type of training do rural FNPs report as important to their confidence to care for patients in a rural emergency?
3. Do rural FNPs with more advanced practice experience report higher confidence levels than rural FNPs with less advanced practice experience?
4. In what areas do rural FNP's feel they need more confidence for handling emergencies?

Conceptual Framework

Patricia Benner's novice to expert theory of nursing provides a foundation for the questions raised in this project. The Benner theory suggests a gradual progression of overall nurse maturation (Benner, Tanner, & Chesla, 1996). The key principles of development included in the novice to expert theory can be applied to the role of FNP.

The novice nurse sees a clinical situation "as a test of...personal knowledge and abilities" (Benner et al., 1996, p.57). Novice nurses are often so concerned about self performance that the bigger picture of a patient's changing status is obscured (Benner et

al., 1996). Rules, protocols, and preset orders are critical in the decision making processes of novice nurses as they struggle to solve clinical situations like puzzles “requiring the application of the ‘right’ knowledge and the ‘right’ procedures and techniques of care” (Benner, et al., 1996, p.55).

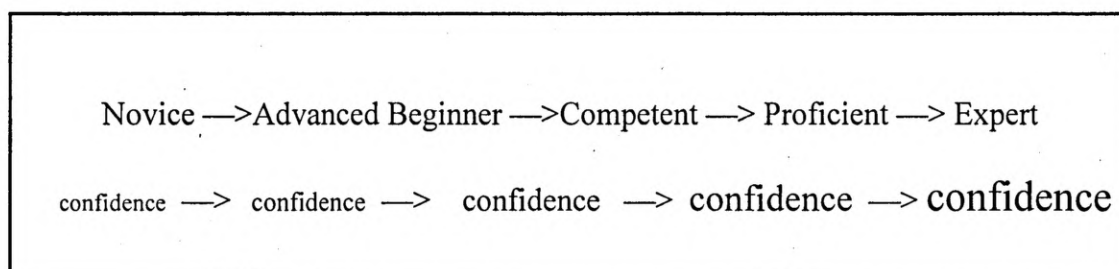
Through continued experience and exposure to a variety of situations, the novice nurse experiences professional growth. As novice nurses move into the advanced beginner stage, there is a small decrease in focus on self performance. The advanced beginner may focus more attention on technical skills, recognition of signs and symptoms, clinical understanding, and ability to anticipate future possibilities. These skills are all dramatically improved as the nurse passes through the advanced beginner stage to reach the competent stage. Competent nurses are more organized, “fluid, and coordinated” as they provide patient care (Benner et al., 1996, p.79). This maturation to the competent stage improves the nurse’s ability to provide patient care and frees the nurse from the domineering focus on self performance.

Further improvements that occur during the competent stage in recognition of signs and symptoms, technical skills, clinical understanding, and ability to anticipate future possibilities move the nurse into the proficient stage. Nurses in the proficient stage have matured tremendously since the novice stage, but they lack the polished finish of an expert nurse. Not all nurses make the full progression to the expert stage. Those who do are distinct. “Expert practice is characterized by increased intuitive links between seeing the salient issues in the situation and ways of responding to them” (Benner et al., 1996, p. 142). Experts give individualized patient care that is seamless and void of conscious

deliberation about each patient problem. Experts often focus on the actions taken in response to a clinical situation rather than simple problem recognition, which is a prominent concern in the novice and competent stages (Benner et al., 1996).

It can be hypothesized that the FNP follows a similar trajectory of maturation. Upon graduation from an educational program, FNPs function as novice providers. Experience with and exposure to a variety of clinical situations give the novice FNP opportunities for gradual professional growth through the stages of provider development. Skill performance, clinical understanding, prioritization, and general capacity to care for complex patients increase as the provider matures. It is reasonable to assume that confidence in personal ability usually increases in conjunction with the overall professional growth of providers who become familiar with a variety of patient situations. Thus expert FNPs have higher confidence levels than novice FNPs. The following model depicts the hypothesized relationship between provider confidence and overall provider maturation.

Figure 1. Hypothesized relationship of confidence to provider maturation.



As a result, self confidence levels in this project were used as an indirect way to examine

provider skill, general ability, and expertise. It is important to note the limitations of this conceptual framework and the conclusions based upon it. There may be some FNP's who have expert skills, but do not feel confident with those skills. There may also be some FNP's who feel confident in their abilities without maturation or skill development. In those cases the hypothesized model would not apply. The central assumption in this project is that a role and responsibility of rural FNP's is to provide competent emergency care.

Definitions

For the purposes of this project, the following definitions apply.

Competence- capable; adequate; having sufficient skill for some purpose (Flexner & Hauck, 1987, p. 417)

Confidence- trust or belief in one's abilities; self assurance; self reliance (Flexner & Hauck, 1987, p.427)

Family Nurse Practitioner- a nurse practitioner with a focus on primary family health care. Education and training for certification cover patients of all ages (AANP, 2001).

Nurse practitioner- a registered nurse who has advanced education and clinical training in a health care specialty area (AANP, 2002). The nurse practitioner should have a master's degree and be certified (AACN, 1999).

Rural- a place with a population of fewer than 2500 persons (U.S. Census Bureau, 1995a).

CHAPTER 2

LITERATURE REVIEW

Chapter 2 contains an overview of the literature on the subjects integral to this project. The term rural is explored. Selected facts and current knowledge about rural health care, family nurse practitioners, rural emergencies, and nurse practitioner education are presented. Finally, the literature on confidence related to health care providers and FNPs is reviewed. This literature review provided the foundation for the need to examine rural FNP level of confidence when providing emergency care in rural communities.

Defining Rural

The term rural is elusive at best. There are as many definitions for rural as there are variables to consider when describing the phenomenon. Some definitions include lifestyle, state of mind, or other subjective qualifiers. Certainly, rural includes more than population statistics and proximity to larger areas. Yet, even when these elements are measured there is no consensus or standard to identify rural areas. Despite the lack of consistency in definitions of rural, there is general agreement that rural people, rural health care, and rural emergencies are different in many ways than their urban equivalents. Understanding the special needs of each rural community is important for matching health care providers, who are prepared for the challenges of rural practice, to

rural communities (Hassinger & Hobbs, 1992).

Two commonly accepted ways to differentiate between rural and urban areas are given by the United States Office of Management and Budget (OMB) and the U. S. Census Bureau. The OMB divides places into metropolitan and non-metropolitan areas based on total population. The U.S. Census Bureau uses urbanized, urban, and rural designations to make similar differentiations based on population.

The OMB defines non-metropolitan areas as cities with fewer than 50,000 persons or counties with fewer than 100,000 persons (Rural Information Center, 2000). Large population centers are defined by the OMB as metropolitan statistical areas (MSA). MSAs consist of a population center and other closely integrated, adjacent communities (U.S. Census Bureau, 2000a). A city with at least 50,000 residents, or a county with at least 100,000 residents meets MSA qualifications (Rural Information Center, 2000). All areas not included in the web of MSA integration are considered to be non-metropolitan (Rural Information Center, 2000).

The U. S. Census Bureau criteria for defining places are slightly different from the OMB criteria. An urbanized area, a U.S. Census Bureau term, is very similar to MSA, an OMB term. Urbanized areas must contain a central place and surrounding communities which are closely connected to the center through location, social, and economic ties. Urbanized areas have a minimum of 50,000 persons and a population density of at least 1000 persons per square mile (U.S. Census Bureau, 1995a). The U.S. Census Bureau divides all places not included in an urbanized area into urban and rural categories. Urban areas are defined as areas with 2500 or more persons. By default, rural areas are

defined as areas with fewer than 2500 persons.

There is controversy when definitions and terminology create an ambiguous picture of a specific place: non-metropolitan but urban or rural within metropolitan (Ciarlo, Wackwitz, Wagenfeld, Mohatt, & Zelarney, 1996). Even if the communities surrounding a large population center have small populations, the close proximity and economic integration with the population center excludes the surrounding areas from rural or non-metropolitan designation. An example of the misleading terminology is a community of 600 persons located only 35 miles from a city of 80,000 persons. The small population of the community would make it a rural or non-metropolitan area by definition. Yet, the close proximity of the small community to the population center includes it in a MSA or urbanized area. For the purposes of this study, however, the term rural was used for any place with fewer than 2500 persons. Proximity to a larger population center was not addressed.

Census data for 2000 show that 19.7% of the total U.S. population live in non-metropolitan areas (U.S. Census Bureau, 2000b). The sample of rural FNPs for this study was drawn from Montana, where the rural percentage of total population is even higher at 47.5 % (Montana Office of Rural Health, 1999). Montana has 56 counties; only 3 are MSAs (U.S. Census Bureau, 2000c). Even with these MSAs included, the population density of the state in 2000 was 6.2 persons per square mile (U.S. Census Bureau, 2000c). These statistics demonstrate that Montana is a very sparsely populated state. Since Montana had many areas that met the rural criteria for this project, it was a good location to begin investigation of the confidence level of rural FNPs for providing emergency care.

Rural Health Care

The health care systems of sparsely populated areas are often under significant strain to provide the necessary health care services in a way that maximizes access and utilization while keeping cost to a minimum (Hicks, 1992; Berry & Seavey, 1994; Davis, McAdams, & Tilden, 1994). Individual rural communities may have residents who struggle with poverty, underemployment, injuries, chronic illnesses, aging, or distrust of local facilities. Additional strain to the national rural health care system comes from the need to tailor services to meet the diverse needs of each unique rural community (Hicks, 1992; Hewitt, 1992; Rosenblatt & Moscovice, 1982). Despite variety in the individual characteristics of rural communities, there are some issues common to most rural places.

A specific problem, associated with almost all sparsely populated areas, is an inadequate supply of health care providers (Rosenblatt & Moscovice, 1982; Connors, 1998; Rourke et al., 2000; Krein, 1997; Bergeron et al., 1999; Davis et al., 1994). The shortage of rural physicians is not new. For several decades, rural areas have struggled to find and keep enough general physicians to meet the demands for rural health care services (Gordon et al., 1992; Fickenscher, 1992; Davis et al., 1994). Factors contributing to the shortage of physicians include: aging/retirement of current providers, lower salaries, fewer opportunities for spouse employment, lack of exposure to the rural setting while in school, closure of rural hospitals, provider isolation, long hours, and limited back-up coverage (Gordon et al., 1992; Fickenscher, 1992; Davis et al., 1994).

The physician shortage has left many rural residents with decreased access to

basic primary care services. Some under-served rural areas have the designation of health professional shortage area (HPSA), a federal designation for areas determined to have a shortage of health professionals (Health Resources and Services Administration, 1993).

HPSA designation identifies areas with special health care access issues and qualifies them for federal programs which decrease inequalities in under served areas (Gesler, Hartwell, Ricketts, & Rosenberg, 1992). Communities apply for HPSA designation based on availability of services, availability of providers, population, or community problems. Areas may also have this federal designation based on other specific community barriers to health care access (Gesler et al., 1992). In Montana, 35 of the 56 counties are designated HPSAs (Montana Office of Rural Health, 1999). This number may not fully represent Montana's shortage of health professionals since some communities that would qualify for HPSA designation lack the resources or motivation to apply. Residents in under-served communities that do not apply for HPSA designation miss out on the benefits of many federal programs. Access to federal funding and support, through HPSA designation, may be crucial to keep local primary health care services available to rural residents.

Time, distance, isolation, and definition of health are other important variables to consider in rural health care. Factors affecting how and when rural patients seek care can have an affect on the types of patients practitioners see in a rural clinic (Davis et al., 1994; Veitch, 1995a; Veitch, 1995b; Veriheij, 1996). Small isolated communities often have rural clinics, small hospitals, or critical access hospitals (CAH) to provide basic local services. Yet, even with these rural health care access points available, rural

patients may delay seeking care for a variety of reasons such as ignoring health problems, appointment interference with work, or inability to afford services (Veitch, 1995a; Veitch, 1995b; Veriheij, 1996; McGuire, 2000; Buehler, Malone, & Majerus, 1998). Distance to local services may also contribute to when rural residents seek care (Henson, Sadler, & Walton, 1998; McGuire, 2000; Veitch, 1995a; Veitch, 1995b; Veriheij, 1996). Increased distance and travel times to tertiary medical centers where specialists are found can impact rural practitioners (Hicks, 1992; Rosenblatt & Moscovice, 1982; Connors, 1998). Rural providers must be prepared for patients who present to a local primary care site with emergent health care problems because of delays in seeking care or travel times to tertiary care that are prohibitive (Davis et al., 1994; Veitch, 1995a; Veitch, 1995b; Veriheij, 1996).

Family Nurse Practitioners

The shortage of general practice and primary care physicians has contributed to an increase in the demand for mid-level providers in rural areas (Bergeron et al., 1999; Krein, 1997). Family nurse practitioners are one type of mid-level provider who fill the gap between the supply and demand for rural physicians (Schmidt et al., 1995; Anderson & Hampton, 1999; Bergeron et al., 1999; Krein, 1997). There are many benefits to patients and the health care system associated with employment of FNP's in a rural setting. Rural hospitals which employ advanced practice nurses experience reduced recruitment costs, increased revenues, reduced operating costs, increased patient volume,

reduced staffing needs, and improved physician recruitment and retention (Bergeron et al., 1999; Anderson & Hampton, 1999).

The financial benefits of employing FNPs are complimented by the extension and enhancement of health care services provided by FNPs, especially in sparsely populated regions (Bergeron et al., 1999; Anderson & Hampton, 1999; Krein, 1997; Fowkes et al., 1994). FNPs offer an emphasis on health promotion, patient education, and illness prevention (Green, 1996) which compliments the existing medical models in many rural settings. Most patients greatly appreciate the extra time, attention, and education that nurse practitioners provide (Byrne, Richardson, Brunsdon, & Patel, 2000; Green, 1996). Overall, patient satisfaction with FNP care is equal to or greater than physician care (Bergeron et al., 1999; Chang et al., 1999; Mundinger et al., 2000; Graham & Dellinger, 2001).

High patient satisfaction is important to maintain the client population base for which services are provided (Berry & Seavey, 1994; Davis et al., 1994; Rosenblat & Moscovice, 1982; Hicks, 1992). FNP employment in a rural setting has a positive effect on patient satisfaction and therefore may help encourage rural patients to seek care within their community (Schmidt et al., 1995; Krein, 1997; Bergeron et al., 1999). The retention of patients within the local health care system could help to ease the financial burdens of rural health care systems by maximizing utilization. Thus, both the patient and the organization benefit from rural FNP employment.

The benefits of FNP employment in rural areas offer incentive for rural employers to continue and to expand their utilization of FNPs. If more FNPs enter rural practice

settings, the need for FNP emergency preparation will also increase.

Rural Emergencies

Emergency services are an integral part of the rural health care system. The possibility of accidents, injuries, or sudden illnesses require rural health care providers to be prepared for whomever may walk through the door (Somers et al., 1999; Tolhurst et al, 1995; Tolhurst, et al., 1999; Reid et al., 1999). Rural areas are not spared from the mercurial demands for health care services described by Moscovice and Rosenblatt in 1982. "The need for health care is largely unpredictable and often occurs suddenly and catastrophically"(p. 15). In fact, emergent situations are often more dramatic in rural areas where there are limited numbers of health care providers and services to handle them.

Rural health care providers often need to handle emergent care for patients without the help of back up or specialist consultation typically available in larger tertiary centers (Steele, 1983; Rourke et al., 2000; Tolhurst et al., 1999; Tolhurst et al., 1995; Reid et al., 1999; Schmidt et al., 1995). Thus, the broad knowledge base and wide variety of skills needed by a rural provider are stretched even farther in an emergent situation (Steele, 1983; Rourke et al., 2000; Tolhurst et al., 1999; Tolhurst et al., 1995; Reid et al., 1999). Even though there are many rural emergencies, there is less repetition with each type of emergency scenario than in larger areas (Tolhurst et al., 1999; Tolhurst et al., 1995; Reid et al., 1999). Despite lack of opportunity for repetition in rural emergencies,

all rural providers must be prepared to handle patient care during initial assessment and stabilization, and prior to transport to more definitive care (Dacey, 1999; Somers et al., 1999; Tolhurst et al, 1995; Tolhurst, et al., 1999; Reid et al., 1999).

The initial management of patients with emergency conditions is very important. “A well-organized approach in the first 10 minutes of emergency care often dictates the outcome” (Dacey, 1999, p. 69). In trauma situations, the first hour after patient injury is often called the golden hour to emphasize the value of the time (Sheehy & Jimmerson, 1994). Within the window of the first hour after injury, expert care can significantly reduce morbidity and mortality rates. In a rural setting, long response times, extrication difficulties, and long transport times can take up a significant portion of the golden hour. Therefore, the ability of all rural providers to deliver skilled, knowledgeable, and timely care in an emergency is essential in order to maximize each patient’s opportunity for favorable outcomes.

The procedures needed in an emergency may also be complicated by difficult circumstances associated with other concurrent patient injuries and problems. Multiple critical injuries, intravenous starts on a severely hypovolemic patient, or intubation with facial and oral injuries are a few examples. A lack of opportunity for skill maintenance, pressure to act quickly, and lack of available specialist consultation can decrease provider confidence levels and performance (Tolhurst et al., 1999; Reid et al., 1999). Yet, rural emergencies are a time when prioritization, assessment, and care need to be both timely and expert in order to optimize outcomes (McGuire, 2000; Dacey, 1999). Consequently, the potential for emergencies requires all rural health care providers to obtain the

necessary preparation for care of patients with emergent problems and opportunities to maintain those skills.

Rural FNPs may work in primary care settings, clinics, urgent care centers, or even rural emergency rooms (Green, 1996). The use of NPs, including FNPs, in rural emergency departments is common (Bergeron et al., 1999; Krein, 1997). Bergeron et al (1999) found 45% of the rural hospitals surveyed used some type of mid-level provider, such as an FNP, for emergency room coverage. NPs, such as FNPs, in rural emergency departments offer a cost effective way to handle the primary care, non-urgent, and low acuity patients who visit emergency departments daily (Graham & Dellinger, 2001; Bryne et al., 2000; Strange & McEwin, 1994; Krein, 1997). The addition of providers like FNPs to the staff in emergency departments can free physicians to handle the more complex and higher acuity patients while still providing care to lower acuity patients quickly (Graham & Dellinger, 2001; Bryne et al., 2000; Strange & McEwin, 1994; Mills, McSweeney, & Lavin, 1998).

The team approach works well in large settings where multiple providers are needed to cover a large volume of emergency visits. However, in a rural setting, patient traffic through the emergency department may not support more than one provider on duty at a time. Since FNPs work in rural settings and assist in coverage of the local emergency rooms or CAHs, the lone provider in a rural setting could be a FNP (Schmidt et al., 1995; Anderson & Hampton, 1999; Bergeron et al., 1999; Krein, 1997).

Some rural facilities may attempt to decrease the isolation of a lone provider. There may be physician or specialist back up available by phone or telemedicine

connections (Lambrecht, 1997; Connors, 1998; Pollock & Sportsman, 1999). This support would be beneficial; however, during the time between patient presentation and connection to additional support, the provider must work without backup. The rural provider would need to independently provide initial stabilization care until the additional support could be accessed or transport to a tertiary center takes place (Somers et al., 1999; Tolhurst et al., 1995; Tolhurst, et al., 1999; Reid et al., 1999). If the lone provider in a rural setting is a FNP, he or she must be prepared to provide quick, skilled, and knowledgeable care during all emergencies until additional support is available.

Nurse Practitioner Education

The curricula and clinical topics included in NP educational programs must evolve and change with the needs of the health care delivery systems where graduates work (Bellack, Graber, O'Neil, Musham, & Lancaster, 1999; Wilson, 1995). There is a foundational connection between education of health care providers and the way a health care system functions. Improvements in health care delivery depend in part on education and preparation of the people who will provide care (Berwick, 1994; Sugars, O'Neil, & Bader, 1991; Fickenscher, 1992; Gesler et al., 1992; Gordon et al., 1992; Hassinger & Hobbs, 1992; Hicks, 1992; Rosenblatt, & Moscovice, 1992; Rouke et al., 2000; Ryan, 1998). Rural health care providers may be responsible for handling patients with emergent health care needs in a clinic or emergency room (Reid et al., 1999; Tolhurst et al., 1999; Tolhurst et al., 1995; Somers et al., 1999). It follows that all students who will

work in a rural setting should have preparation to provide emergency care, either in their initial educational program or before assuming a position in a rural area.

Some of the providers in rural areas are FNPs (Krein, 1997; Bergeron et al., 1999; Fowkes et al., 1994). Even though current literature concerning NPs in emergency rooms does not clarify what type of NPs are referenced, it can be assumed that some are FNPs. A key theme in literature supporting NP roles in emergency rooms is adequate training, preparation, education, and skills (Chang et al., 1999; Schmidt et al., 1995; Sakr et al., 1999; Mundinger et al., 2000; Bryne et al., 2000; Graham & Dellinger, 2001; Cole & Ramirez, 1997). Thus FNPs, especially those who work in rural areas, need to have adequate preparation to provide emergency care.

There are many ways for FNPs to access the knowledge and training needed to deliver emergency care (McGuire, 2000). Continuing education, conferences, and certification classes that provide some preparation in the area of emergency care are available. Another possible way for FNPs to access the necessary preparation to provide emergency care is through the formal education process. However, most FNP curricula do not offer specific courses that emphasize emergency care (McGuire, 2000).

There are national requirements for the content in nurse practitioner education programs (Dumas, 2000). These guidelines, developed by the National Organization of Nurse Practitioner Faculty (NONPF), lay the foundation for NP educational program development and provide direction for NP program faculty regarding the NP role, preceptor characteristics and responsibilities, faculty characteristics and responsibilities, and student responsibilities. There is no specific guideline with respect to curricula in

emergency care (Dumas, 2000). However, the NONPF guidelines do state that programs utilize innovative strategies to ensure current, evolving, quality education that actually prepares the student for the NP role (Dumas, 2000).

FNP program directors should consider the environment in which their graduates will work while planning curricula. In addition to the national requirements for all NP educational programs, programs with emphasis on one type of practice must ensure their graduates' readiness to meet the special demands they will face as providers in that specific area (Bellack et al., 1999). FNPs are more likely than other NP types to work in rural areas (Fowkes et al., 1994). Therefore it is important for all FNP educational programs to embrace the responsibility of preparing graduates to provide emergency care. The designation of a FNP program as rural increases the responsibility of the program to prepare graduates for providing emergency care (Bellack et al., 1999; Fowkes et al., 1994).

The Montana State University-Bozeman (MSU) FNP program is designated a rural program (Long et al., 1998; Montana State University, 2001). It does not offer an emergency care course (Montana State University, 2001). Instead, emergency situations are included as possible differential diagnosis within the main primary care courses. From this author's perspective, there is an insufficient amount of time spent on emergent conditions or patient care in the subsequent situations. The constraints of full primary care courses do not allow for enough time to also thoroughly cover emergency topics. There is also no requirement for MSU-Bozeman rural FNP students to dedicate clinical hours to emergency care. Some students may choose to arrange this type of clinical

experience, but there is no requirement for each student to participate in clinical hours where knowledge and skills unique to emergency situations are used (Montana State University, 2001). Therefore, a large variability in the clinical experiences of students exists.

The background practice experience of students entering a rural FNP program varies. There may be some students who enter with substantial emergency experience and some who enter with very little exposure to emergency situations. The large variation in student backgrounds coupled with the large variation in student clinical experiences, results in a considerable variety in new graduate preparedness for handling emergency situations (Morgan & Trollinger, 1994).

The preparation to provide emergency care is a key part of enabling rural FNPs to function well and with independence in isolated areas (Fowkes et al., 1994). Therefore, the formal education process of rural FNPs should offer curricula to prepare all graduates, including those with little previous emergency experience, to meet all aspects of rural practice, including emergent situations. The specific designation of a FNP program as rural increases the responsibility of the program to equip each graduate with adequate preparation to provide emergency care (Bellack et al., 1999; Fowkes et al., 1994).

Confidence and Health Care Providers

In this project the relationship assumed between confidence and rural FNP expertise is hypothetical. However, the literature suggests that confidence is an important

part of preparation to provide skilled patient care (Reid et al., 1999; Somers et al., 1999; Tolhurst et al., 1999; Tolhurst et al., 1995; Fowkes et al., 1994). The development of confidence in one's ability to provide patient care does not happen magically. It is connected in part to the repeated opportunities to perform tasks and use knowledge (Reid et al., 1999; Tolhurst et al., 1999; Somers et al., 1999). Each success offers support for future confidence in the same area.

Lack of confidence in one's ability to provide certain types of patient care is connected to lack of familiarity with the situation (Reid et al., 1999; Somers et al., 1999; Tolhurst et al., 1999; Tolhurst et al., 1995; Fowkes et al., 1994). Lack of confidence is common in areas where the provider has no knowledge or skills related to the type of treatment needed by the patient. Lack of confidence is also common when providers have not had sufficient opportunity to practice skills (Reid et al., 1999; Tolhurst et al., 1999; Somers et al., 1999). The lack of confidence for an isolated generalist provider can have serious consequences. "Without confidence, the isolated doctor becomes progressively restricted to a narrow repertoire of clinical interventions and unnecessary referrals increase" (Reid et al., 1999, p. 773).

Decreased confidence in skills or areas of practice where providers were confident in the past is sometimes termed deskilling (Reid et al., 1999; Tolhurst et al., 1999; Somers et al., 1999). Specialist practitioners of all kinds may encourage referrals and potentiate the deskilling of generalist providers (Reid et al., 1999). This deskilling of generalist providers in rural areas can undermine the benefits of having providers in rural areas, especially in emergency situations (Reid et al., 1999). Therefore, in order to avoid

a lack of confidence or deskilling in emergency situations, it is very important for rural generalists to have the opportunity to learn and maintain emergency skills (Tolhurst et al., 1999, Tolhurst et al., 1995; Somers et al., 1999). The need for confidence in providing emergency care is also important to the education of rural FNP students.

Some procedures and treatments preformed by health care providers are invasive. For some highly invasive procedures such as cricothyroidotomy, pericardiocentesis, or interosseous infusions, provider confidence may be low despite competence with same procedure (Somers et al., 1999). Providers may perform the procedure expertly, but feel little confidence in their abilities. In these cases the hypothesized relationship between experience and confidence does not apply; frequent exposure and repeated opportunities to perform the invasive treatments may not be enough to increase provider confidence levels.

Preparation of Confident Rural FNPs

FNPs must progress through several stages of development as a health care provider. They begin as novice providers with the potential to reach an expert level of practice. Expertise is characterized by confidence in procedural skills, overall ability to assess the patient situation, ability to critically analyze the data gathered, and ability to make decisions. This progression naturally takes time and requires opportunities for the FNP to gain hands on experience and thus increase confidence in personal ability (Rosenow, 1999; Shea & Selfridge-Thomas, 1997; Adams et al., 1997).

The progression from novice to expert practice also applies to FNP preparation for emergent patient situations. Novice FNPs may lack the confidence to act independently in clinical settings despite a wealth of textbook knowledge and past experiences. Shea and Selfridge-Thomas (1997) state, “ We found that our confidence in previously mastered knowledge and skills [as RN’s] did not guarantee an easy transition to the role of NP” (p. 236). They follow with, “In our third year as ED NP’s we feel very confident functioning at the proficient to expert level, depending on the situation” (p. 237). Clinical practice abilities progress and develop to an expert level through a combination of knowledge and experience (Adams et al., 1997; Rosenow, 1999; Shea & Selfridge-Thomas, 1997). This combination of theoretical knowledge and hands-on experience with emergency care can begin with the formal classroom education of rural FNPs and in student clinical practice sites.

Early exposure to emergency training would allow rural FNP students more opportunities to progress through the developmental stages in this area of practice. Thus, graduate rural FNPs would exit the formal education process with a higher level of functioning and higher level of confidence in emergent situations. In a discussion on the nature and scope of rural nursing Scharff eloquently summarized the issue of preparing providers for safe rural practice.

The demarcation between danger and safety is the difference between *having* knowledge and *using* knowledge....dangerous nurses are not those who know they do not know what they are doing - although there is certainly an element of danger in that scenario, which ultimately must be addressed. The greater danger, however, emerges with those nurses who think they do know but actually do not know what they are doing (Scharff, 1998, p.22).

To increase the potential for safe practice rural FNP students need specific preparation for emergent situations and opportunities to use their emergency knowledge in a clinical setting. The combination of theory and practice in the area of emergency care, beginning as a student, will help to prepare rural FNPs for safe confident practice.

CHAPTER 3

METHODOLOGY

Chapter 3 includes information about the methods used to complete this project. The development of the idea for the project is described. The project design is described and rationale for the selection of the design is provided. The process used to conduct the literature review and instrument selection is described. Specific details about sample selection and protection of human subjects are also included. Lastly, the procedures for conducting the survey and the process of data analysis are described.

Origin of Project Idea

The original concern for this subject area originated from personal interest. As a FNP student who was interested in rural practice after graduation, this author began to look at the typical positions available in rural areas. Some of the rural FNP positions required emergency room coverage. This author had questions about personal confidence to provide emergency care and how that confidence would change through the formal advanced practice education process. This author's uncertainty about personal abilities raised questions about FNPs already practicing in rural areas. Are they confident in their ability to provide emergency care? If so, how did they develop this confidence?

A method to explore confidence was identified while reading a research article

from the Callaghan and Hunter Rural Division of General Practice at the University of Newcastle in New South Wales, Australia (Tolhurst et al., 1999). The research examined the confidence of rural general practice physicians in Australia for providing emergency care. The article described a tool that was used to collect confidence level data used in the research. The idea for a similar project with FNPs in rural Montana occurred, and the vision for this project began.

Design

A descriptive design was used for this project. The purpose of descriptive research is “to provide a picture of situations as they naturally happen” (Burns & Grove, 2001, p. 248). In a descriptive design, there is no manipulation of the variable and no attempt to determine causality. Instead, descriptive designs are used to gain more information about a specific area of interest. Descriptive designs can be used in health care research to justify current practice or identify problems in current practice. Descriptive designs can also be used to evaluate the way other providers in the same situation handle patient care (Burns & Grove, 2001). Thus, a descriptive design was deemed an appropriate choice for this project and allowed for an exploratory examination of the characteristics of FNP level of confidence for providing emergency care in a rural setting.

Instruments

After reading the article on the confidence level of rural Australian general practice physicians to provide emergency care, attempts were made to contact the lead researcher of the study (Tolhurst et al., 1999). An email connection to Dr. Helen Tolhurst, the lead researcher, was made through the University of New Castle in Callaghan, Australia. She agreed to share the tool used to measure confidence and to any alterations to the tool needed in order to make it applicable to FNPs.

Minor revisions to the tool were made for this project. British English was changed to United States English. The tool instructions were revised to make the references to the researcher singular rather than plural. Some of the questions included in the tool were altered to be consistent with FNP scope of practice. For example, the question related to confidence with reduction of fractures was removed because reduction of fractures is not considered to be within the FNP scope of practice. A few questions in the demographic section were also altered to make the tool applicable to FNPs rather than physicians. Additional demographic questions were added to gather more details about the practice setting and background experience of each rural FNP.

The tool, as it was used by Tolhurst (1999) (Appendix A) was “vigorously pilot-tested on three occasions” (Tolhurst et al., 1999, p. 91). Additional pilot testing was not conducted prior to use in this project since only minor revisions were made. The faculty committee for this project reviewed the revised tool (Appendix B) for content validity.

Sample

A list of 163 FNPs currently recognized in the state of Montana was obtained from the Montana State Board of Nursing. The list included a mailing address for each FNP. Population statistics from 2000 (U.S. Census Bureau, 2000d) were used to determine the population of the city, town, or census designated place (location) for each FNP mailing address. The population associated with each mailing address was then used to separate FNPs with a rural address from FNPs with a non-rural address. Each FNP with a mailing address for a location with fewer than 2500 persons was placed on list A, rural address. Each FNP with a mailing address for a location with 2500 or more persons was placed on list B, non-rural address.

After the Montana FNPs were separated into rural and non-rural addresses, faculty members within the MSU- Bozeman College of Nursing provided personal knowledge about the practice setting of many of the FNPs. The practice sites identified by faculty members were recorded. Population statistics from 2000 (U.S. Census Bureau, 2000d) were used to determine the population of the location of the identified FNP practice sites. The population associated with each practice site was then used to separate FNPs who practice in a rural setting and FNPs who do not practice in a rural setting. Each FNP with a practice setting in a location with fewer than 2500 persons was placed on list C, rural practice. Each FNP with a practice setting in a location with 2500 or more persons was placed on list D, non-rural practice.

The four lists: A, B, C, and D, were then used to determine which FNPs would be

potential subjects. All FNPs on list D, non-rural practice, were excluded as potential subjects. All FNPs on list C, rural practice, were included as potential subjects. When the practice setting of a FNP was unknown, the FNP's mailing address was used as the basis for inclusion or exclusion of potential subjects. All FNPs with an unknown practice setting and a non-rural address were excluded as potential subjects. All FNPs with a unknown practice setting and a rural address were included as potential subjects. Once the list was reduced to include only potential subjects, 44 FNPs remained. All 44 FNPs were identified as potential subjects.

Protection of Human Subjects

A letter (Appendix C) and survey were sent to each potential subject. The letter included a description of the purpose of the project, the benefits, and the potential risks of participation. Potential participants were informed that there was no obligation to participate and no compensation would be offered for participation. The letter also indicated that participation involved answering the survey and returning it to the researcher. Subjects who were not interested in participation and did not wish to be contacted again were instructed to return the blank survey or contact the graduate student by phone. Completion of the survey and return to the graduate student constituted informed consent.

The name and address of the graduate student and the chairperson of the committee for this project were included in the letter as a resource for further information

or questions related to the project. The name and phone number for the chairperson of the College of Nursing Human Subjects Committee was also included as a contact for questions about rights of participants.

Confidentiality was insured by including two envelopes for survey return; one blank envelope and one mailing envelope addressed to the graduate student. Subjects were instructed not to sign or write their name on the survey. Subjects were asked to place the completed survey in the blank envelope and seal it without writing their name or other identifying information on the blank envelope. Lastly, subjects were instructed to return the survey by placing the sealed blank envelope into the mailing envelope addressed to the graduate student.

When surveys were returned, the mailing envelope and the inner blank envelope were separated to keep all identifying information separate from the survey data. Use of a blank inner envelope insured the confidentiality of the survey data. Return addresses on the survey return mailing envelope allowed for identification of FNPs who participated. A table of all potential subjects and all potential mailings was used to identify subjects who participated. This information was necessary to determine which subjects should receive a thank you note, which subjects should receive a reminder note, and which subjects should receive a second survey. All envelopes and the table were destroyed once the time allowed for participants to respond had passed. At the end of the study, a letter with an overview of the results was mailed to each rural FNP who indicated an interest in the results of this project (Appendix G).

Procedure

Two weeks after the initial mailing of surveys, a reminder postcard (Appendix D) was mailed to all subjects who had not returned the survey. Four weeks after the initial mailing, a second survey and letter (Appendix E) were mailed to all subjects who still had not returned the survey. No other reminders were sent. Two weeks after the second mailing, the decision was made to proceed with the number of surveys already returned. Thank you notes (Appendix F) were mailed to each rural FNP who completed and returned the survey.

As surveys were returned, they were numbered for the purposes of data analysis. There was no way to connect the subject number to a specific subject. Completed surveys were stored in a locked file on the Missoula Campus of the MSU - Bozeman College of Nursing. The surveys were accessible only to the graduate student and the committee members. At the end of one year, the surveys will be destroyed.

Process of Analysis

Data from the surveys were cleaned, checked, coded, and then entered into Statistical Package for the Social Sciences (SPSS) for analysis. Descriptive and correlational statistics were used to describe the data and address the project questions. The results were recorded and described. Conclusions were made based on the results, research limitations, and assumptions of the investigation.

CHAPTER 4

RESULTS

The purpose of this study was to examine rural FNP level of confidence to provide emergency care in rural communities. A survey of rural FNPs in Montana regarding their confidence level with emergency care was conducted during January and February 2002. In Chapter 4, the results of this project are summarized and discussed. Implications for rural FNP practice and rural FNP educational programs are also included. The final portion of this chapter deals with areas for continued exploration and further research regarding FNPs and rural emergency care.

Response

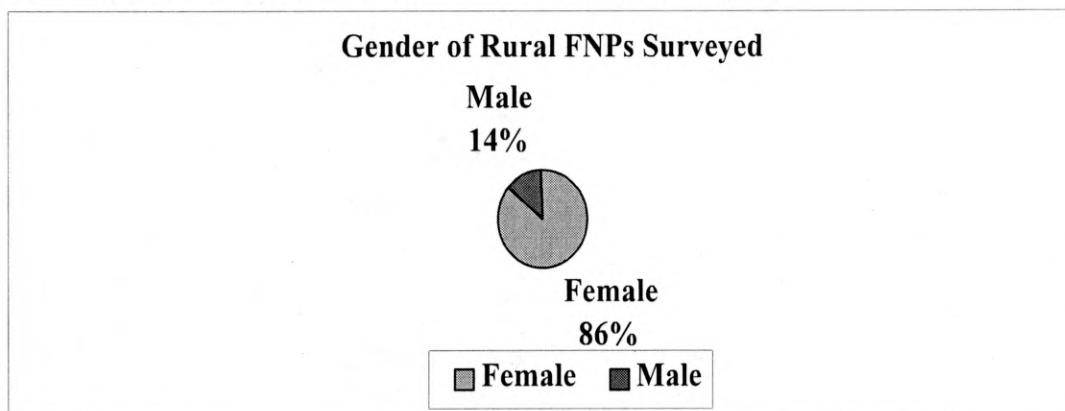
Thirty-three surveys, out of the 44 surveys sent, were returned by rural FNPs. The overall response rate was 75%. Four of the 33 returned surveys were excluded from the analysis. Two of the excluded surveys were from FNPs with a rural mailing address but a non-rural practice setting. One of the excluded surveys was from a rural FNP who had retired. The last excluded survey was returned blank indicating the wish not to participate. The 11 subjects who did not return the survey, were not significantly different from the subjects who did return the surveys in the areas of gender, geographic location, or total population associated with their address. The final number of completed

surveys used for analysis was 29.

Demographics

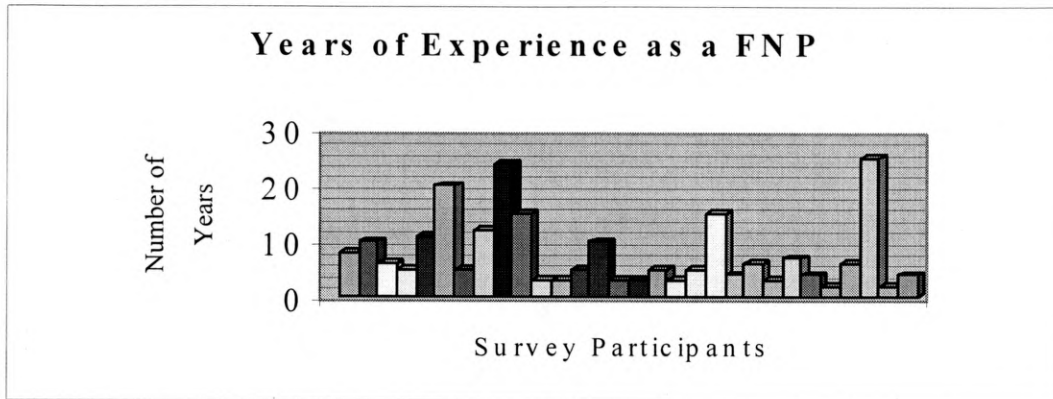
There were 25 (86.2%) female participants and 4 (13.8%) male participants. The pie chart below is a visual demonstration of the distribution of gender among the rural FNP's surveyed.

Figure 2. Distribution of gender among rural FNP's surveyed.



Years of experience as a FNP, among the participants, were widely distributed. A few of the rural FNP's had very little experience and a few had more than 15 years experience. The majority of FNP's in this sample had between 2 and 10 years of FNP experience. Figure 3 shows each survey participant's number of years of experience.

Figure 3. Years of experience as a FNP



The range for years of experience as a FNP was less than 1 year to 25 years. The mean number of years of experience as a FNP was 8.

Practice Setting

The majority of the rural FNPs surveyed practiced in a group setting (79.3%, N=23) located in a town with a local hospital, CAH, or urgent care center (62.1%, N=18). There were 4 (13.8%) solo FNPs in areas where there was no local hospital, CAH, or urgent care center. The distance from each rural FNP practice site to a tertiary care center ranged from 5 miles to more than 120 miles one way. Most (69%, N=20) of the rural FNPs practiced over 30 minutes away, one way, from a tertiary care center.

Emergency Education and Background

Many of the FNP's who were surveyed (69%, N=20) had no emergency education in their FNP curricula. Prior to becoming a FNP, 82.8% (N=24) of the rural FNP's had at least some emergency department nursing or pre-hospital care experience. Pre-hospital roles were determined to be emergency medical technician, paramedic, or life flight training. Only 1 of the 5 rural FNP's who did not have emergency nursing or pre-hospital experience prior to becoming a FNP, practiced in an emergency room, CAH, or urgent care setting.

The nursing background of the rural FNP's surveyed varied. The majority of respondents had acute care experience (62.1%, N=18) such as critical care, emergency, or medical-surgical nursing. Primary care experience (10.3%, N=3), and other specialty areas (17.2%, N=5) such as reproductive care and home health nursing made up the next largest areas of nursing experience. The remainder of rural FNP's (10.3%, N=3) had a nursing background in a mix of both acute care and primary care settings.

Confidence Level

Rural FNP's demonstrated a wide range of confidence levels to provide emergency management and to perform emergency procedures. For the purposes of this study low confidence level was defined as a 3 or less on a 6 point likert scale. In general, rural FNP's who practiced in an emergency department, CAH, or urgent care setting reported

higher confidence levels than rural FNP's who did not. For all emergency management and procedure areas, the percent of rural FNP's with low confidence levels was higher in the group of rural FNP's who did not practice in an emergency setting. Tables 1- 14 display numbers and percentages of rural FNP's who reported low confidence levels in areas of emergency care.

Table 1. Number and percentage of rural FNP's with low confidence levels in airway emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Croup	9(31%)	1(6%)	8(67%)
Epiglottitis	14(48%)	6(35%)	8(67%)
Airway trauma	15(52%)	7(41%)	8(67%)
Airway burns	19(66%)	10(59%)	9(75%)
Obstructed airway (adult)	6(21%)	0(0%)	6(50%)
Obstructed airway (child)	8(28%)	2(12%)	6(50%)

Legend for Tables 1-14:

Total-all survey participants, this group contained 29 rural FNP's

ER/CAH-survey participants who worked in an emergency setting, this group contained 17 rural FNP's

No ER-survey participants who did not work in an emergency setting, this group contained 12 rural FNP's

N-number of rural FNP's from the designated group who reported a confidence level of 3 or less

%-proportion of N in each respective group

Table 2. Number and percentage of rural FNP's with low confidence levels in respiratory emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Severe asthma	6(21%)	1(6%)	5(42%)
Pneumothorax	15(52%)	7(41%)	8(67%)
Pulmonary edema	10(35%)	4(24%)	6(50%)
Chest trauma	16(55%)	9(53%)	7(58%)
Ventilated patient	15(54%)	6(35%)	9(75%)

Table 3. Number and percentage of rural FNP's with low confidence levels in cardiac emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Myocardial infarction	6(17%)	1(6%)	4(33%)
Cardiac arrest	5(17%)	1(6%)	4(33%)
Cardiogenic shock	13(45%)	4(24%)	9(75%)
Septic shock	15(52%)	6(35%)	9(75%)
Dissecting aneurysm	20(69%)	9(53%)	11(92%)
Hypovolemic shock	8(28%)	3(18%)	5(42%)
Cardiac tamponade	22(76%)	10(59%)	12(100%)
Pulmonary embolism	13(45%)	3(13%)	10(83%)

Table 4. Number and percentage of rural FNP's with low confidence levels in neurologic emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Head trauma	9(31%)	3(13%)	6(50%)
Seizures	6(21%)	1(6%)	5(42%)
Stroke	4(14%)	1(6%)	3(25%)
Coma	11(38%)	4(24%)	7(58%)
Sub-arachnoid hemorrhage	17(59%)	7(41%)	10(83%)

Table 5. Number and percent of rural FNP's with low confidence levels in orthopedic emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Fracture	3(10%)	1(6%)	2(17%)
Dislocation	7(24%)	3(13%)	4(33%)
Spinal cord injury	10(36%)	4(24%)	6(50%)

Table 6. Number and percent of rural FNP's with low confidence levels in obstetric emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Unplanned vaginal delivery	15(54%)	7(41%)	8(67%)
Abruption	21(75%)	10(59%)	11(92%)
Prolapsed cord	23(82%)	12(71%)	11(92%)
Breech delivery	22(79%)	12(71%)	10(83%)
Fetal distress	21(75%)	10(59%)	11(92%)
Maternal hemorrhage	19(68%)	9(53%)	10(83%)

Table 7. Number and percent of rural FNP's with low confidence levels in pediatric emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Neonatal resuscitation	17(59%)	6(35%)	11(92%)
Meningitis	15(52%)	5(29%)	10(83%)
Upper airway obstruction	12(42%)	5(29%)	7(58%)
Sepsis	14(48%)	5(29%)	9(75%)

Table 8. Number and percent of rural FNP's with low confidence levels in diabetic emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Hypoglycemia	5(17%)	0(0%)	5(42%)
Keto acidosis	9(17%)	2(12%)	7(58%)
HHNKC	11(38%)	5(29%)	6(50%)

Table 9. Number and percent of rural FNP's with low confidence levels in toxicologic emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Envenomation	17(61%)	8(47%)	9(75%)
Drug overdose	9(31%)	2(12%)	7(58%)
Hazardous material exposure	17(59%)	7(41%)	10(83%)

Table 10. Number and percent of rural FNP's with low confidence levels in other emergency management areas.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Multiple trauma	14(48%)	5(29%)	9(75%)
Drowning	16(55%)	6(35%)	10(83%)
Acute psychosis	16(55%)	8(47%)	8(67%)
Suicide attempt	10(35%)	2(12%)	8(67%)
Knife Injury	13(45%)	4(24%)	9(75%)
Gun shot	14(48%)	5(29%)	9(75%)
Carbon Monoxide Poisoning	12(41%)	4(24%)	8(67%)

Table 11. Number and percent of rural FNP's with low confidence levels for airway/respiratory emergency procedures.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Airway opening maneuvers	4(14%)	2(12%)	2(17%)
Endotracheal intubation	8(28%)	4(24%)	4(33%)
Cricothyroidotomy	15(52%)	6(35%)	9(75%)
Bag/Mask ventilation	0(0%)	0(0%)	0(0%)
Oxygen therapy	0(0%)	0(0%)	0(0%)
Chest tube insertion	14(48%)	5(29%)	9(75%)
Chest X-ray interpretation	8(28%)	3(18%)	5(42%)
Ventilator management	14(48%)	6(35%)	8(67%)
CPAP	14(48%)	6(35%)	8(67%)

Table 12. Number and percent of rural FNP's with low confidence levels for cardiac emergency procedures.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
CPR	0(0%)	0(0%)	0(0%)
Central IV (adult)	18(62%)	10(59%)	8(67%)
Central IV (child)	21(72%)	12(71%)	9(75%)
Central IV (neonate)	27(93%)	15(88%)	12(100%)
EKG interpretation	3(10%)	1(6%)	2(17%)
Thrombolytic therapy	12(41%)	6(35%)	6(50%)

Table 13. Number and percent of rural FNP's with low confidence levels for neurologic emergency procedures.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
LP (adult)	25(89%)	14(82%)	11(92%)
LP (child)	26(93%)	14(82%)	12(100%)
LP (infant)	26(93%)	14(82%)	12(100%)
Glasgow coma scale	3(11%)	2(12%)	1(8%)

Table 14. Number and percent of rural FNP's with low confidence levels for orthopedic emergency procedures.

Emergency Procedure or Management Area	Total N(%)	ER/CAH N(%)	No ER N(%)
Assessment for fracture	5(17%)	1(6%)	4(33%)
Reduction of dislocation	13(50%)	4(24%)	9(75%)
Regional anesthesia	8(28%)	3(18%)	5(42%)
Splinting	2(7%)	1(6%)	1(8%)
Casting	4(14%)	1(6%)	3(25%)
Interp of C-spine X-rays	13(45%)	6(35%)	7(58%)
Interp of extremity X-rays	5(17%)	1(6%)	4(33%)

Seventy-five percent or more of all of the rural FNPs, regardless of where they practiced, reported low confidence levels (3 or less) in the following areas: cardiac tamponade, abruption, prolapsed cord, breech delivery, fetal distress, central IV access on children and neonates, lumbar puncture on adults, lumbar puncture on children, and lumbar puncture on neonates.

Fifty percent or more of all of the rural FNPs, regardless of where they practiced, also reported low confidence levels (3 or less) with: airway burns, pneumothorax, chest trauma, ventilated patients, septic shock, sub-arachnoid hemorrhage, unplanned vaginal delivery, maternal hemorrhage, neonatal resuscitation, meningitis, sepsis, envenomation, hazardous material exposure, drowning, acute psychosis, cricothyroidotomy, and central IV access on adults.

There were areas of emergency management and emergency procedures where few rural FNPs reported low confidence levels. Twenty percent or less of the rural FNPs surveyed reported low confidence (3 or less) in the following areas: myocardial infarction, cardiac arrest, stroke, fracture, hypoglycemia, keto-acidosis, airway opening maneuvers, bag/mask ventilation, oxygen therapy, CPR, EKG interpretation, Glasgow coma scale determination, splinting, casting, and interpretation of extremity x-rays.

Mean confidence levels were calculated for each FNP in system specific areas such as cardiac or neurologic. Mean scores were generated by averaging all of the confidence levels in each emergency management or emergency procedure area reported by one rural FNP. The individual mean confidence levels were then graphed to visually examine confidence level trends in relationship to type of emergency.

The range of mean confidence levels in each area of emergency care varied widely, yet the variation of confidence levels was similar for all areas of emergency care. The mean confidence levels of rural FNP's with obstetrical emergencies had the lowest range (1.00 to 5.67). The mean confidence level of rural FNP's with neurologic emergencies had the highest range (2.40 to 6.00). Some survey participants did not answer all questions on the survey. Figures 4-12 display an overall view of the mean confidence levels of rural FNP's with each area of emergency care. Breaks in the lines of the line graphs indicate missing data.

Figure 4. Mean confidence levels of rural FNP's for management of airway and respiratory emergencies.

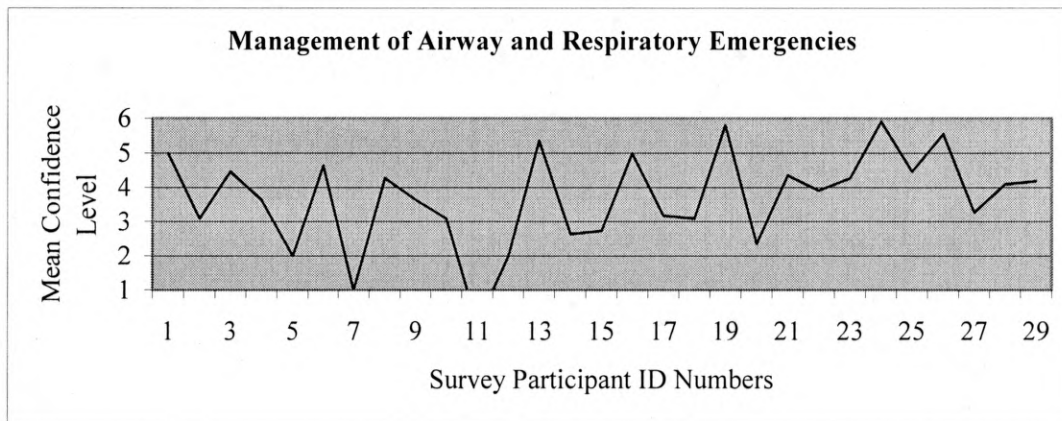


Figure 5. Mean confidence level of rural FNP's for management of cardiac emergencies.

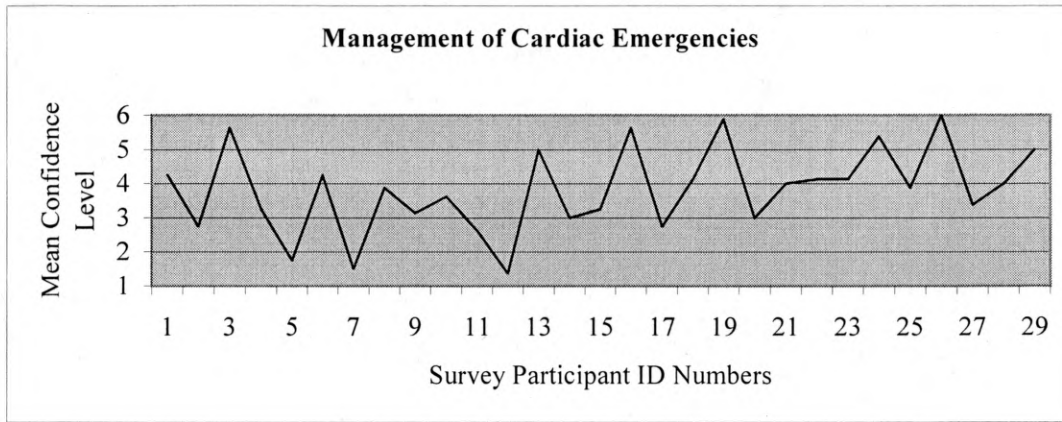


Figure 6. Mean confidence level of rural FNP's for management of neurologic emergencies.

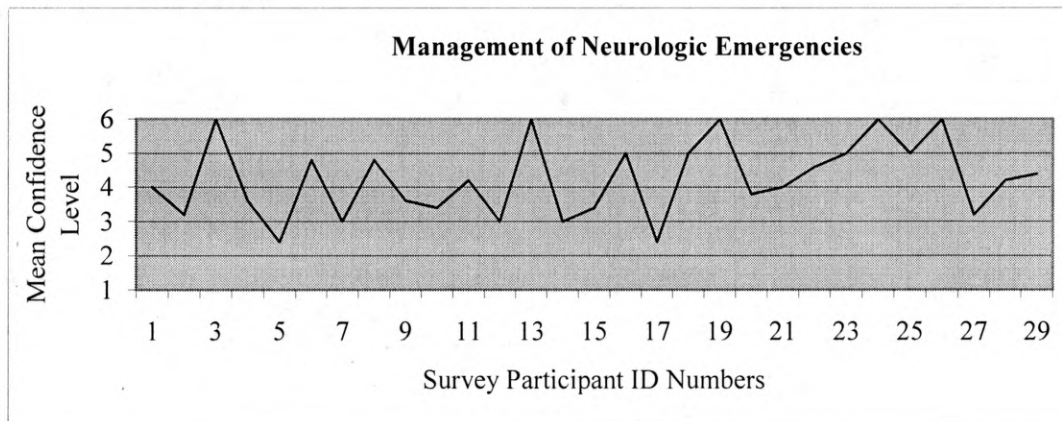


Figure 7. Mean level of confidence of rural FNPs for management of orthopedic emergencies.

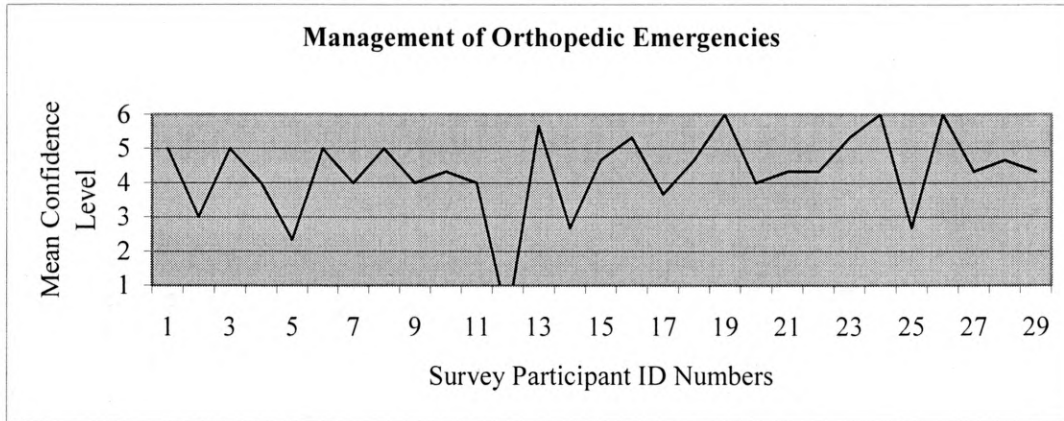


Figure 8. Mean confidence level of rural FNPs for management of obstetric emergencies.

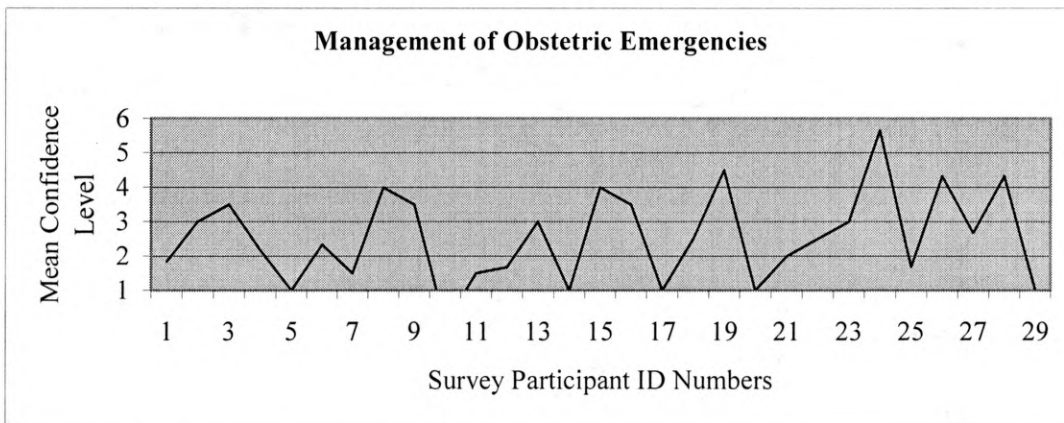


Figure 9. Mean confidence level of rural FNPs for management of pediatric emergencies.

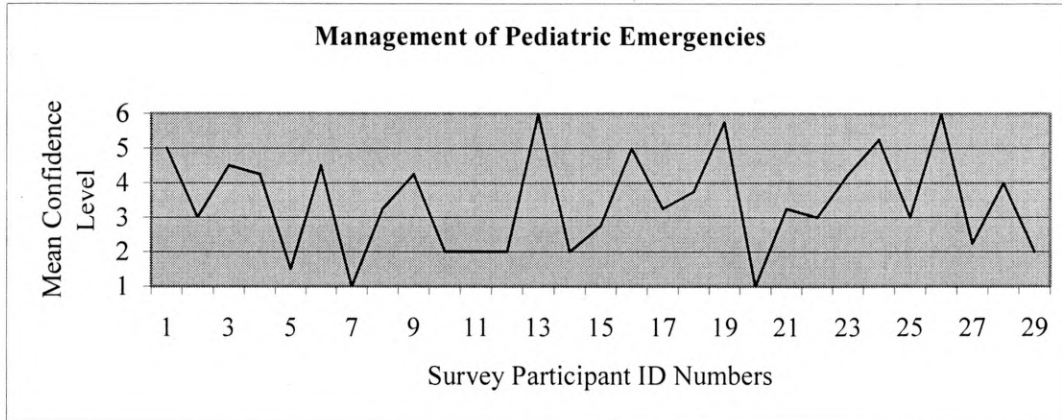


Figure 10. Mean confidence of rural FNPs for management of diabetic emergencies.

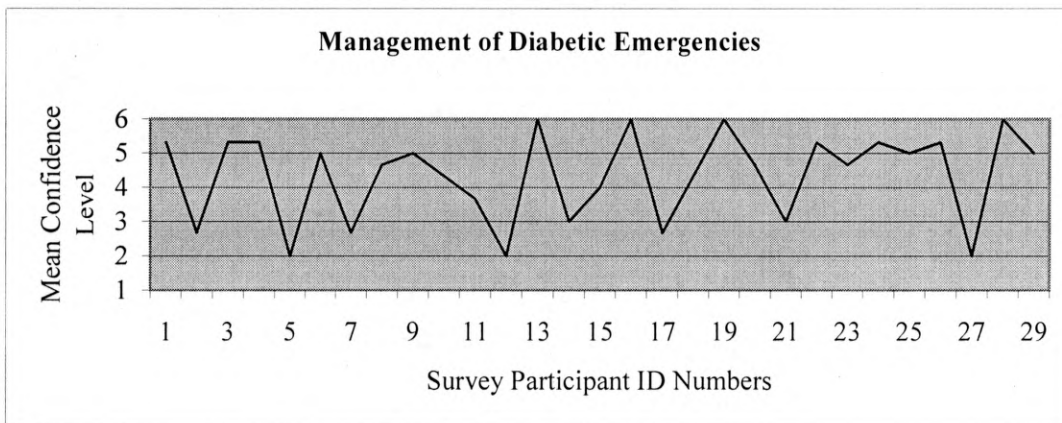


Figure 11. Mean confidence level of rural FNP's for management of toxicological emergencies.

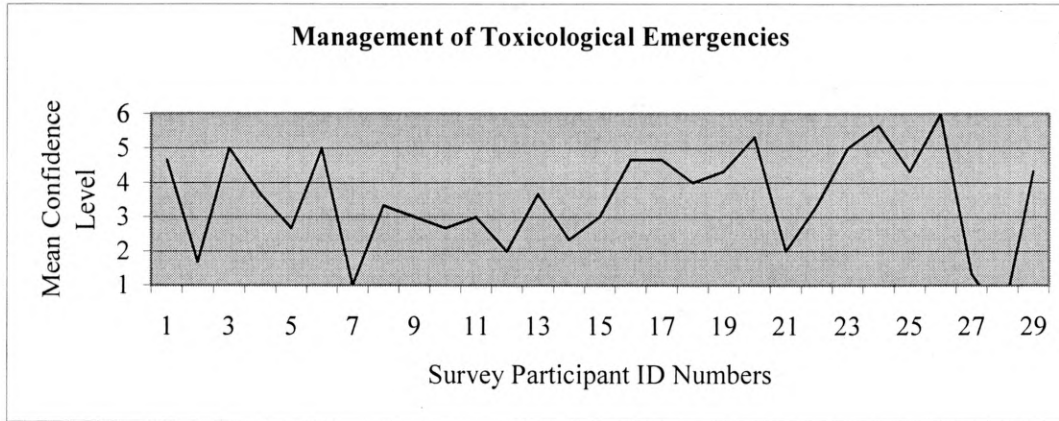
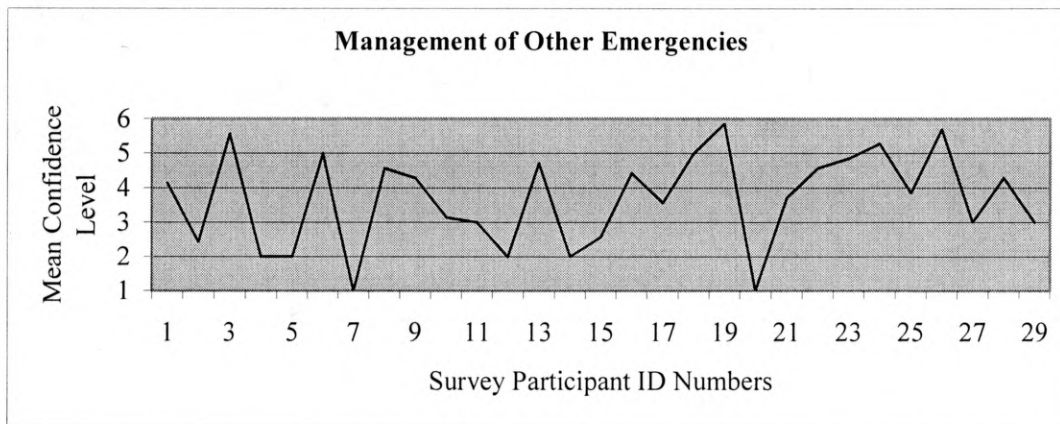


Figure 12. Mean confidence level of rural FNP's for management of other emergencies.



The mean confidence levels of rural FNP's in emergency procedures were also calculated. The highest mean confidence levels with emergency procedures were in the area of orthopedic procedures. Only 4 (13.8%) of the rural FNP's had a mean confidence level of 3 or less in the area of orthopedic procedures. Cardiac procedures had the second highest mean confidence levels. Only 8 (27.6%) of the rural FNP's had a mean confidence level of 3 or less with cardiac procedures. Airway/respiratory procedures had

mean confidence levels very similar to cardiac procedures. Nine (31%) of the rural FNPs, had a mean confidence level of 3 or less for airway/respiratory procedures. Neurologic emergency procedures had the lowest mean level of confidence. Most of the rural FNPs, (N= 23, 79.3%) had a mean confidence level for neurologic procedures of 3 or less.

Survey participants were also asked to identify their top five emergency care education needs for the next 24 months. Some of the survey participants did not answer this portion of the survey and others listed multiple areas of emergency care education for each of their 5 priorities. Since the responses to education priorities were not uniform, detailed analysis was not possible. Instead, a list of all the emergency care areas identified by survey participants was compiled. Emergency care areas on the list were separated into body system categories and then counted to examine which emergency care areas were most frequently identified as an education priority.

Cardiac emergencies were the most frequently identified area for education needs in the next 2 years. Pediatric emergencies were the second most frequently identified area for education updates. Airway/Respiratory emergencies and trauma were listed with equal frequency and were the third most commonly identified area for education updates. The fifth most frequently identified area for emergency education updates was orthopedics. Obstetric, neurologic, toxicologic, and diabetic emergencies were also identified as important areas for emergency education updates. Table 15 compares emergency management area with the total mean confidence level of all survey participants, frequency of encounter with the emergency, and frequency of identification for education update.

Table 15. Frequency of encounter, total mean confidence, and frequency of identification for education update.

Frequency of Emergency		Emergency Management Area	Total Mean Confidence Level of All Participants	Order of Frequency of Identification for Education Update
weekly **	never to rarely*			
5.5%	56%	Airway/Respiratory	3.82	3rd
3.7%	59.3%	Cardiac	3.81	1st
0%	55.6%	Neurologic	4.24	7th
33%	22%	Orthopedic	4.44	5th
0%	92.6%	Obstetric	2.63	6th
0%	72%	Pediatric	3.43	2nd
3.7%	63%	Diabetic	4.37	9th
3.7%	55.6%	Toxicologic	3.63	8th
3.7%	66.7%	Trauma/Other	3.67	3rd

** % of rural FNP's who see the type of emergency weekly

* % of rural FNP's who see the type of emergency fewer than 2 times per year

Rural FNP's with a greater number of years of experience did not always report higher confidence levels than rural FNP's with less experience. A Pearson correlation was used to examine the relationship between the number of years of experience as a FNP and the number of emergency management and procedure items where confidence level was low (3 or less). There was no significant correlation ($r = .079$, $p = .683$). The positive r value, however, may suggest a relationship between more experience as a FNP and lower confidence to provide emergency care in a rural area. A possible explanation for this weak association is that rural FNP's with many years of experience in areas unrelated to emergency care may not have had emergency education since their FNP program. Under those circumstances, many years could have elapsed since the rural FNP

had emergency education resulting in lower confidence levels.

Research Questions and Discussion

The purpose of this research was to examine rural FNP level of confidence to provide emergency care in rural communities. A survey tool was used to collect data related to the questions. In some areas there was large scale agreement among the rural FNPs. In other areas the data gathered contained conflicting information about the confidence, roles, and responsibilities of rural FNPs. The quantitative data from the surveys was combined with survey comments to address each research question.

1. Do Rural FNPs feel confident with their emergency skills?

There was a wide range of confidence levels reported by rural FNPs. In general, rural FNPs who had the opportunity to practice and perform emergency care were more confident with their skills than rural FNPs who did not use emergency skills frequently. Tables 1-14 provide the percentages of rural FNPs with low confidence levels for each emergency management or procedure area. In all emergency management and emergency procedure areas, the percent of rural FNPs who reported a low confidence level (3 or less on the 6 point likert scale) was higher in the group who did not work in an emergency room, CAH, or urgent care setting. Rural FNPs who did not practice in an emergency setting reported low confidence levels at a higher percentage rate than rural FNPs who did work in an emergency setting.

Overall, rural FNPs were moderately confident with emergency management

(Table 15). Management of obstetric emergencies alone fell into the low confidence range (confidence level of 3 or less) when total mean confidence levels were calculated. For all other emergency management areas the total mean confidence level of all survey participants was between 3 and 5 indicating a moderate level of confidence for providing emergency care. However, much of the detail about level of confidence was lost through calculation of mean.

More detailed information about the confidence levels of rural FNP's to provide emergency care was evident through examination of Tables 1-14. Seventy-five percent or more of the rural FNP's surveyed reported low confidence levels in 10 of the emergency management or procedure areas. Fifty percent of the rural FNP's surveyed reported low confidence levels in an additional 15 areas. The only emergency management or procedure areas where no rural FNP's reported low confidence levels were bag/mask ventilation and cardio-pulmonary resuscitation (CPR). Higher confidence levels with basic skills and urgent care type skills (bag/mask ventilation, CPR, splinting, casting, hypoglycemia, oxygen therapy, fractures, interpretation of extremity X-rays) tempered lower confidence level reports in the more advanced emergency management and procedure areas (central IV access, pneumothorax, chest trauma, cardiac tamponade, sepsis, septic shock, neonatal resuscitation, drowning, obstetric emergencies, lumbar puncture, airway burns, acute psychosis, and cricothyroidotomy).

2. What type of training do rural FNP's report as important to their confidence to care for patients in a rural emergency?

This research question was not directly asked on the survey tool. Written

comments made by participants on the survey were used to address this research question. The majority of rural FNP's surveyed reported little emergency education in their FNP curricula. One participant stated, "I never received training in emergency management. My program trained FNP's for the traditional role of NPs, well care, monitoring chronic stable illness, and treatment of self limiting episodic problems." Another participant commented, "My FNP program taught me almost nothing about emergency education." Yet another FNP commented on the clinical effects of little emergency training, "My program did not prepare me at all clinically."

Twenty-four percent (N=7) of survey participants mentioned that emergency nursing, emergency medical technician (EMT), paramedic, life flight, or other pre-hospital experience was the foundation for their current confidence to provide emergency care. "My paramedic training taught me the most," stated one participant. Some rural FNP's (10.3%, N=3) reported that their nursing background was their most important training: "Twenty years as a trauma nurse," "emergency experience before becoming a FNP," and "seven years as flight nurse." Other rural FNP's (59%, N=17) indicated that they had emergency nursing or pre-hospital care experience without a direct comment that this experience was foundational to their confidence to provide emergency care. Only 5 of those 17 rural FNP's also indicated that they had some emergency care curricula in their FNP program. It can be hypothesized, that those rural FNP's with emergency nursing or pre-hospital care experience and no emergency care curricula in their FNP program also view their past experience before becoming a FNP as important to their confidence level for providing emergency care.

Adequate opportunity to practice and maintain emergency skills was a concern mentioned by some of the rural FNP's. One FNP stated, "Even with training, keeping current and maintaining skill levels is not really possible without practice." Another FNP stated, "I could never perform these enough here to maintain a skill level." Over half of the rural FNP's surveyed reported fewer than 2 encounters each year with each type of emergency except orthopedic emergencies (Table 15).

It is difficult to establish and maintain a high level of confidence with any skills used infrequently. "There may be a year between occurrences" commented one rural FNP. This is one of the hallmark problems in rural health care. The results reported in Table 15 regarding the frequency of emergencies confirm that FNP's may need specialized emergency skills while practicing in a rural setting but there is a lack of repetition with the type of specialized emergency skills needed.

3. Do rural FNP's with more advanced practice experience report higher confidence levels than rural FNP's with less advanced practice experience?

More advanced practice experience did not guarantee higher confidence levels. Instead, higher confidence levels were reported more often by rural FNP's who routinely provided emergency care than rural FNP's who did not, regardless of years of experience. This finding agreed with the findings from a study of rural physicians in Australia (Tolhurst et al., 1999). There was no statistically significant relationship between number of years experience as FNP and confidence level. The differences in the confidence levels of rural FNP's who worked in emergency settings and rural FNP's who did not raises a question for future research. Further investigation might reveal an

association between the number of years of experience as FNP in an emergency setting and confidence level for providing emergency care.

4. In what areas do rural FNP's feel they need more confidence for handling emergencies?

The areas identified for educational updates did not match the areas with the lowest total mean confidence level or the most frequent type of emergency encountered. Management of obstetric emergencies had the lowest total mean confidence rating, but were identified sixth out of nine areas for education updates. Obstetrical emergencies, may have had the lowest total mean confidence level, but many rural FNP's indicated that they do not provide care for OB patients at all. One participant stated, "I do not do OB. I call for back up." Another stated, "No OB ever!" Therefore, it is not surprising that obstetric emergencies were not identified more frequently for education update.

The most frequently identified area for education updates, cardiac emergencies, was seen less than two times per year by more than half of the rural FNP's. Interest in education updates for cardiac emergencies, airway/respiratory emergencies, and trauma may reflect a combination of factors, including a high possibility of encounter despite low frequency of occurrence. Another factor in the identification of cardiac, airway/respiratory, and traumatic emergencies as an area for education updates may be the related to the ABC's of basic life support. A-airway must be assessed, established, and managed first. B-breathing is the second area to be assessed and managed. C-circulation is the third main area to assess, and manage. Before progressing to the management of other emergent health needs, the ABC's must be assessed and managed.

Rural FNP's might have identified the need for education with airway/respiratory and cardiac emergencies because of the possibility that airway/respiratory and cardiac skills are often also needed as a part of patient care in other emergencies.

Mean levels of confidence with airway/respiratory, cardiac, and orthopedic procedures were higher than the total mean levels of confidence with emergency management in the corresponding area (Tables 1-15). One explanation for greater confidence with procedures than with overall management of emergencies may be related to stage of development along the professional continuum of novice to expert described in the conceptual framework for this project. In the stages of novice and advanced beginner the FNP may still see patient care in small segments which fit known rules and protocols. They may be able to perform skills and procedures very well, but lack the ability to integrate the procedures into holistic patient care management that is fluid and seamless. Rural FNP's may have identified these areas for update where confidence with skills and procedures provide a foundation of preparation to advance toward expert management.

Total mean confidence level for management of neurological emergencies ($M=4.24$) was much higher than the mean confidence levels for neurological procedures ($M=2.31$). The neurologic procedures referred to in the survey questions were lumbar punctures on adults, children, and neonates. Almost all of the rural FNP's commented that this was a procedure that they did not view as within their scope of practice. Low confidence level with a procedure outside of the provider's scope of practice is not an unexpected result.

Many of the rural FNPs surveyed did not view emergency care as a priority for education updates. This conclusion is based on the fact that these rural FNPs identified primary care issues such as hypertension, thyroid management, and management of difficult diabetics for education updates instead of emergency care. FNPs in small rural areas with only an office based practice do not always have the appropriate equipment or support personnel to handle any type of emergency. One rural FNP stated, "Rural MT has no chest tubes, no ventilator, and little equipment." Another rural FNP indicated the need for more than one qualified person, "How can one person in a rural clinic even do ACLS without other qualified support personnel?" Thus, some rural FNPs identified education in primary care areas unrelated to emergencies as more important to improvement of their ability to provide patient care in a rural setting.

Implications

A fundamental question underlying this research was "should rural FNP education include emergency curricula?" It is apparent from the research done prior to this survey and the survey results presented here that some rural FNPs are responsible for emergency care in local hospitals, CAHs, or urgent care centers. There are also many rural FNPs who do not work in a setting where emergency care is a part of their daily responsibilities. Yet, both groups have the possibility of needing emergency care skills. It is also apparent from the survey results presented here that rural FNPs are only moderately confident with their emergency skills, and that in several areas of emergency care over

fifty percent of rural FNPs have low confidence levels.

This survey revealed a small area of controversy centered around whether or not emergency care is an important role of rural FNP practice. A theme noted in the survey comments of 10.3% (N=3) of the rural FNPs was that most emergency care is outside the scope of practice of a FNP, especially in view of lack of emergency curricula in FNP programs and lack of opportunity to practice skills. Another theme noted in the survey comments of 10.3% (N=3) of the rural FNPs surveyed was that emergency care by rural FNPs should be only stabilization for transport. The remaining 79.3% (N=23) of the rural FNPs surveyed viewed emergency preparation as an important area for FNPs regardless of the frequency of emergency encounters. This theme was far more supportive of the role and benefits of rural FNPs providing emergency care, but it also emphasized the need for quality education, preparation, and opportunity for practice to ensure excellent patient care and credibility as a profession.

It is the conclusion of this author that rural FNP education should include emergency curricula because of the possibility of an emergency in any rural practice setting, the many areas of low confidence level identified by participants, and the indication by 79.3% of rural FNPs surveyed that emergency care is a priority for educational updates despite an overall low frequency of emergency encounters. There are several methods available for rural FNP educational programs to address the need for emergency education as a part of the preparation of their graduates. Two general methods are presented here.

One method is to rely on the past nursing and pre-hospital experience of FNP

students as the basic foundation to provide emergency care. From the survey results, this appeared to be the method used by most of the FNP programs from which the survey participants graduated. One of the surveyed rural FNPs commented that relying on past nursing experience for emergency skills is dangerous and detrimental to the credibility of FNPs. “We have as a group relied on past nursing experience....I think as a group we are poorly prepared....This takes away from our credibility as a profession.” If rural FNP programs continue to utilize this method, it would be important to include emergency nursing or pre-hospital care experience as an admission criteria.

Another method to ensure that rural FNP graduates have adequate emergency preparation is to include emergency curricula in the formal education process. This method would avoid excluding the admission of students who do not have emergency nursing or pre-hospital experience, and would allow for a standardized minimum level of competency and training in the area of rural emergency care provided by FNPs. The inclusion of emergency education in rural FNP programs would help to ensure that graduates have preparation for an important aspect of rural practice and the ability to practice with relative independence in isolated areas.

The research for this project clearly showed that rural FNPs who do not practice in an emergency setting have needs for skills to handle emergency situations that are somewhat sporadic. Even in a rural hospital, CAH, or urgent care center, there may be little repetition with each type of emergency encountered by rural FNPs. Thus, it is very difficult to maintain competence and confidence in all types of emergency care. It may be most appropriate to tailor the added emergency curricula to address skills and procedures

needed for urgent care patients who can be cared for without transport to a larger facility and to basic emergency stabilization prior to transport that is applicable to all types of emergencies.

Rural FNP graduates who have past emergency nursing experience or pre-hospital experience may continue to be the best candidates for work in a rural emergency room or CAH where emergency care is a major responsibility of the rural FNP. With the added emergency curricula aimed at stabilization and urgent care, all rural FNP graduates would have a minimum preparation for the possibility of rural emergencies which might present to a rural primary care setting.

This research also indicated and supported the need for continuing education in the area of emergency training. Rural FNPs need to have access to opportunities to update emergency skills with hands on practice with emergency procedures such as intubation and central IV access. Rural FNPs also need the opportunity to update their knowledge for overall management of emergencies.

The conceptual framework used for this research worked well as a guide for revisions of the survey tool and for development of the research questions. Since the conceptual framework was based on the well known novice to expert theory of nursing (Benner, et al., 1996), there may be added support for the conclusions of this research which are based on the conceptual framework.

The lack of correlation between the number of years of experience as a FNP and the number of emergency management areas or emergency procedure skills where rural FNPs reported low confidence levels does not support the hypothesized relationship

described in the conceptual framework. The differences in confidence levels of rural FNP's who work in an emergency setting and rural FNP's who do not work in an emergency setting that were presented earlier suggest an important addendum to the hypothesized relationship between experience and confidence. A larger quantity of relevant experience may result in higher confidence levels while a larger quantity of irrelevant experience would not improve confidence levels.

Limitations

There were limitations to this research. The sample size was small with only 29 participants, and all were taken from one western state. Another limitation of this research is related to the difference between confidence and competence. Self-report of confidence level may not really reflect actual competence. Some rural FNP's may have low levels of confidence even though they have competent skills. Other rural FNP's may have reported high levels of confidence when they do have competent skills. Even though the results of this research were similar to the results of Tolhurst et al.(1999) with rural general physicians in Australia, further research is needed to support the results with rural FNP's.

Research with rural FNP's in other states would help to determine if the findings presented here are specific to the rural FNP's in Montana or if the findings could be generalized to rural FNP's in other geographic areas as well. This work agrees with the findings of both Bergeron et al. (1999) and Krein (1997) that FNP's are often employed in

rural emergency departments. This research, however, did not definitively answer what constitutes appropriate training of NPs for practice in an emergency department (Chang et al., 1999) due to the variety of past experience and a wide range of years in practice as a FNP reported by survey participants. A more thorough examination of the skills and competencies of FNP's who practice in both rural and urban emergency departments might help to establish guidelines for appropriate training of FNP's who wish to provide emergency care to patients.

Additional research focused on the relationship of relevant experience such as emergency setting practice, past emergency nursing, or pre-hospital care experience and confidence to provide emergency care are also needed. Lastly, the relationship between confidence and competence should have closer examination to provide support for level of confidence reports as a proxy for evaluation of competence.

Conclusion

The roles and responsibilities of FNP's in rural areas develop and change over time. As a result, FNP educational programs must also evolve and change in order to prepare graduates for practice. Theoretical knowledge, time, and opportunities to practice skills are all important parts in the development of high confidence levels for any area of practice. Rural FNP educational programs are not a substitute for years of experience in emergency nursing or pre-hospital care. They can however, offer students a theoretical knowledge base for emergency care and some opportunities to practice the

clinical skills needed in an emergency situation. In doing so, rural FNP programs can ensure that all graduates have a minimum level of preparation to provide urgent care and stabilization of emergencies prior to transport. Thus, rural FNP graduates will have the necessary foundation that will allow them to progress along the continuum of professional development from novice to expert.

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APPENDICES

Format of Items in the Appendices Altered to Meet the College of Graduate Studies
Requirements for Professional Papers.

APPENDIX A

Confidence Tool As It Was Used By Tolhurst et al., 1999

We would like some idea of how confident you feel with your clinical skills to manage some specific medical emergencies. We define management as basic diagnosis and non-procedural treatment only. An emergency is any condition that could be reasonably seen as an emergency, and it includes serious, potentially fatal, or urgent conditions. **Please answer every question and circle only one number in each row.**

Q1. How confident do you feel with your clinical skills to manage the following airway emergencies?

	Not confident at all					Extremely confident
Croup	1	2	3	4	5	6
Epiglottitis	1	2	3	4	5	6
Airway trauma	1	2	3	4	5	6
Airway burns	1	2	3	4	5	6
Obstructed airway- <i>adult</i>	1	2	3	4	5	6
Obstructed airway- <i>child</i>	1	2	3	4	5	6
Comments?						

Q2. How confident do you feel with your clinical skills to manage the following respiratory emergencies?

	Not confident at all					Extremely confident
Severe asthma	1	2	3	4	5	6
Pneumothorax	1	2	3	4	5	6
Pulmonary oedema	1	2	3	4	5	6
Chest trauma	1	2	3	4	5	6
Ventilated patient	1	2	3	4	5	6
Comments?						

Q3. How confident do you feel with your clinical skills to manage the following circulatory emergencies?

	Not confident at all					Extremely confident
Myocardial infarct	1	2	3	4	5	6
Cardiac arrest	1	2	3	4	5	6
Cardiogenic shock	1	2	3	4	5	6
Septic Shock	1	2	3	4	5	6
Hypovolaemic Shock	1	2	3	4	5	6
Dissecting aneurysm	1	2	3	4	5	6
Cardiac tamponade	1	2	3	4	5	6
Pulmonary embolism	1	2	3	4	5	6
Comments?						

Q4. How confident do you feel with your clinical skills to initially manage (ie. before transfer) the following neurological emergencies?

	Not confident at all					Extremely confident
Head trauma	1	2	3	4	5	6
Seizures	1	2	3	4	5	6
Coma	1	2	3	4	5	6
Sub-arachnoid haemorrhage	1	2	3	4	5	6

Comments? _____

Q5. How confident do you feel with your clinical skills to initially manage the following orthopaedic emergencies?

	Not confident at all					Extremely confident
Fractures	1	2	3	4	5	6
Dislocation	1	2	3	4	5	6
Spinal injury-unstable or spinal cord injury	1	2	3	4	5	6

Comments? _____

Q6. How confident do you feel with your clinical skills to manage the following obstetric emergencies?

	Not confident at all					Extremely confident
Unplanned vaginal delivery	1	2	3	4	5	6
Other obstetric emergencies	1	2	3	4	5	6

Comments? _____

Q7. How confident do you feel with your clinical skills to manage the following paediatric emergencies?

	Not confident at all					Extremely confident
Neo-natal resuscitation	1	2	3	4	5	6
Meningitis	1	2	3	4	5	6
Upper airway obstruction	1	2	3	4	5	6
Septicaemia	1	2	3	4	5	6

Comments? _____

Q8. How confident do you feel with your clinical skills to manage the following diabetic emergencies?

	Not confident at all					Extremely confident
Hypoglycaemia	1	2	3	4	5	6
Keto-acidosis	1	2	3	4	5	6
<i>Hyperglycaemic hyperosmolar non ketotic coma</i>	1	2	3	4	5	6

Comments? _____

Q9. How confident do you feel with your clinical skills to manage the following toxicological emergencies?

	Not confident at all					Extremely confident
Envenomation	1	2	3	4	5	6
Drug overdose	1	2	3	4	5	6

Comments? _____

Q10. How confident do you feel with your clinical skills to manage the following emergencies?

	Not confident at all					Extremely confident
Multiple trauma	1	2	3	4	5	6
Drowning	1	2	3	4	5	6
Acute psychosis	1	2	3	4	5	6
Suicide attempt	1	2	3	4	5	6
Knife injury	1	2	3	4	5	6
Gun shot	1	2	3	4	5	6
Carbon monoxide poisoning	1	2	3	4	5	6

Comments? _____

We would now like some idea of how confident you feel with your clinical skills to perform specific emergency procedures. Please answer every question and circle only one number in each row.

Q11. How confident do you feel with your clinical skills to perform the following airway emergency procedures?

	Not confident at all					Extremely confident
Airway opening manoeuvres	1	2	3	4	5	6
Endotracheal intubation	1	2	3	4	5	6
Cricothyroidotomy	1	2	3	4	5	6

Comments? _____

Q12. How confident do you feel with your clinical skills to perform the following respiratory emergency procedures?

	Not confident at all					Extremely confident
Bag/mask, ventilate	1	2	3	4	5	6
Oxygen therapy	1	2	3	4	5	6
Intercostal catheter	1	2	3	4	5	6
Pulse oximetry	1	2	3	4	5	6
Continuous Positive Airway Pressure	1	2	3	4	5	6

Comments? _____

Q13. How confident do you feel with your clinical skills to perform the following circulation emergency procedures?

	Not confident at all					Extremely confident
C.P.R.	1	2	3	4	5	6
I.V access on <i>adults</i>	1	2	3	4	5	6
I.V access on <i>children</i>	1	2	3	4	5	6
I.V access on <i>neonates</i>	1	2	3	4	5	6
E.C.G. interpretation	1	2	3	4	5	6
Thrombolytic therapy	1	2	3	4	5	6

Comments? _____

Q14. How confident do you feel with your clinical skills to perform the following neurological emergency procedures?

	Not confident at all					Extremely confident
Lumbar puncture on <i>adults</i>	1	2	3	4	5	6
Lumbar puncture on <i>children</i>	1	2	3	4	5	6
Lumbar puncture on <i>neonates</i>	1	2	3	4	5	6
Glasgow Coma Scale	1	2	3	4	5	6

Comments? _____

Q15. How confident do you feel with your clinical skills to perform the following orthopaedic emergency procedures?

	Not confident at all					Extremely confident
Reduction of fractures	1	2	3	4	5	6
Reduction of dislocations	1	2	3	4	5	6
Splinting	1	2	3	4	5	6
Plastering	1	2	3	4	5	6
Regional anaesthesia	1	2	3	4	5	6
Use of X-ray machine	1	2	3	4	5	6
<i>Interpretation of cervical spine X-rays</i>	1	2	3	4	5	6

We now ask you to specify what you regard as your *top five* emergency medicine up-skilling needs within the next 24 months. You should specify those areas that you feel that you would gain the most benefit in up dating.

- You may refer to the items in the previous sections for examples of possible up-skilling areas, although you are not restricted to these.
- You may specify a broad area such as “orthopaedic” emergencies but if you do so, please clarify this with examples of particular orthopaedic conditions or procedures. By doing so, you will help us tailor up coming workshops to your needs.

EXAMPLE ONLY

My #1 priority emergency medicine up-skilling need is Paediatric resuscitation: especially drug dosages, use of IVI fluids & intraosseous needles.

My #2 priority emergency medicine up-skilling need is Management of drowning and near drowning

My #3 priority emergency medicine up-skilling need is Difficult endotracheal intubation

Q16. Please specify *your top five* emergency medicine up-skilling needs for the next 24 months in the spaces below.

My #1 priority emergency medicine up-skilling need is _____

My #2 priority emergency medicine up-skilling need is _____

My #3 priority emergency medicine up-skilling need is _____

My #4 priority emergency medicine up-skilling need is _____

My #5 priority emergency medicine up-skilling need is _____

We seek your opinion on how well you see the following courses meeting your continuing education (CE) needs in specific areas of critical care within the next 24 months. *For details of each course please refer to the attached sheet.* Please answer every question and tick ☒ only one box in each question.

Q17. To what extent would a future Emergency Life Support Course meet your CE needs in emergency life support within the next 24 months?

- ☐ I would not benefit from attending as it is irrelevant to my CE needs
- ☐ I will not require up-skilling in the areas covered by the course
- ☐ May meet some of my CE needs in this area over the next 2 years
- ☐ May meet the majority of my CE needs in this area over the next 2 years
- ☐ Don't know

Q18. To what extent would a future Advanced Paediatric Life Support Course meet your CE needs in paediatric life support within the next 24 months?

- ☐ I would not benefit from attending as it is irrelevant to my CE needs
- ☐ I will not require up-skilling in the areas covered by the course
- ☐ May meet some of my CE needs in this area over the next 2 years
- ☐ May meet the majority of my CE needs in this area over the next 2 years
- ☐ Don't know

Q19. To what extent would a future Early Trauma Management Course meet your CE needs in early trauma management within the next 24 months?

- ☐ I would not benefit from attending as it is irrelevant to my CE needs
☐ I will not require up-skilling in the areas covered by the course
☐ May meet some of my CE needs in this area over the next 2 years
☐ May meet the majority of my CE needs in this area over the next 2 years
☐ Don't know

We wish to update our information on the number of GPs in each network who have completed the Early Management of Severe Trauma (EMST) course. Please tick only one box ☒ in each question and write clearly where required.

Q20a Have you completed the EMST course?

- ☐ No ► *please go to Q21 overleaf.*
☐ No, although I am currently booked to attend ► *please go to Q21 overleaf.*
☐ Yes

Q20b In what year did you last complete this course?

19 _____

In this last section we ask you to provide some details about you. The information that you provide will help us develop a programme of activities to best address the particular up-skilling needs of groups of GPs within the catchment. Please write clearly and tick only one box ☒ for each question.

Q21. Your gender: ☐ Male
☐ Female

Q22. What year did you graduate from medical school? 19 _____

Q23. From which medical school did you graduate? _____
[Please specify country if outside of Australia, & State if outside of NSW]

Q24. Is your practice a group or solo practice?

- ☐ Solo ► *please go to Q26.*
☐ Group

Q25. How many GPs, including yourself, are in the practice? _____ FTE (s)
[Please estimate number of full time equivalents (FTE)]

Q26. What proportion of an FTE do you contribute to the practice? _____ FTE (s)

Q27. Do you have visiting rights at your local hospital?

- ☐ No ► *please go to Q30.*
☐ Yes

Q28. At which hospital do you have visiting rights? _____

Q29. Are you on call for hospital emergency cases?

- ☐ No
☐ Yes

Q30. Are you on call after hours ?

- ☐ No ► *Thank you, you have now completed this questionnaire.*
☐ Yes

Q31. About how many week day nights in the last 12 months were you on call?

_____ Nights, Monday to Friday, in the last 12 months

Q32. About how many weekends in the last 12 months were you on call?

_____ Weekends in the last 12 months

APPENDIX B

Confidence Tool As It Was Used For Rural FNP's

I would like some idea of how confident you feel with your clinical skills to manage some specific medical emergencies. Management is defined as basic assessment, diagnosis, medications, and non-procedural treatment only. An emergency is any condition that could be reasonably seen as an emergency, and it includes serious, potentially fatal, or urgent conditions. Please answer every question and circle only one number in each row.

Q1. How confident do you feel with your clinical skills to manage the following airway emergencies?

	Not confident at all					Extremely confident
Croup	1	2	3	4	5	6
Epiglottitis	1	2	3	4	5	6
Airway trauma	1	2	3	4	5	6
Airway burns	1	2	3	4	5	6
Obstructed airway- <i>adult</i>	1	2	3	4	5	6
Obstructed airway- <i>child</i>	1	2	3	4	5	6

How often do you handle airway emergencies?

Q2. How confident do you feel with your clinical skills to manage the following respiratory emergencies?

	Not confident at all					Extremely confident
Severe asthma	1	2	3	4	5	6
Pneumothorax	1	2	3	4	5	6
Pulmonary edema	1	2	3	4	5	6
Chest trauma	1	2	3	4	5	6
Ventilated patient	1	2	3	4	5	6

How often do you handle respiratory emergencies?

Q3. How confident do you feel with your clinical skills to manage the following circulatory emergencies?

	Not confident at all					Extremely confident
Myocardial infarct	1	2	3	4	5	6
Cardiac arrest	1	2	3	4	5	6
Cardiogenic shock	1	2	3	4	5	6
Septic Shock	1	2	3	4	5	6
Hypovolemic Shock	1	2	3	4	5	6
Dissecting aneurysm	1	2	3	4	5	6
Cardiac tamponade	1	2	3	4	5	6
Pulmonary embolism	1	2	3	4	5	6

How often do you handle circulatory emergencies?

Q4. How confident do you feel with your clinical skills to initially manage (ie. before transfer) the following neurological emergencies?

	Not confident at all					Extremely confident
Head trauma	1	2	3	4	5	6
Seizures	1	2	3	4	5	6
Stroke	1	2	3	4	5	6
Coma	1	2	3	4	5	6
Sub-arachnoid hemorrhage	1	2	3	4	5	6

How often do you handle neurological emergencies?

Q5. How confident do you feel with your clinical skills to initially manage the following orthopedic emergencies?

	Not confident at all					Extremely confident
Fractures	1	2	3	4	5	6
Dislocation	1	2	3	4	5	6
Spinal cord injury-unstable or stable	1	2	3	4	5	6

How often do you handle orthopedic emergencies?

Q6. How confident do you feel with your clinical skills to manage the following obstetric emergencies?

	Not confident at all					Extremely confident
Unplanned vaginal delivery	1	2	3	4	5	6
Abruption	1	2	3	4	5	6
Prolapsed cord	1	2	3	4	5	6
Breech delivery	1	2	3	4	5	6
Fetal distress	1	2	3	4	5	6
Maternal hemorrhage	1	2	3	4	5	6

How often do you handle obstetric emergencies?

Q7. How confident do you feel with your clinical skills to manage the following pediatric emergencies?

	Not confident at all					Extremely confident
Neo-natal resuscitation	1	2	3	4	5	6
Meningitis	1	2	3	4	5	6
Upper airway obstruction	1	2	3	4	5	6
Sepsis	1	2	3	4	5	6

How often do you handle pediatric emergencies?

Q8. How confident do you feel with your clinical skills to manage the following diabetic emergencies?

	Not confident at all					Extremely confident
Hypoglycaemia	1	2	3	4	5	6
Keto-acidosis	1	2	3	4	5	6
Hyperglycemic hyperosmolar non ketotic coma	1	2	3	4	5	6

How often do you handle diabetic emergencies?

Q9. How confident do you feel with your clinical skills to manage the following toxicological emergencies?

	Not confident at all					Extremely confident
Envenomation	1	2	3	4	5	6
Drug overdose	1	2	3	4	5	6
Hazardous material exposure	1	2	3	4	5	6

How often do you handle toxicological emergencies?

Q10. How confident do you feel with your clinical skills to manage the following emergencies?

	Not confident at all					Extremely confident
Multiple trauma	1	2	3	4	5	6
Drowning	1	2	3	4	5	6
Acute psychosis	1	2	3	4	5	6
Suicide attempt	1	2	3	4	5	6
Knife injury	1	2	3	4	5	6
Gun shot	1	2	3	4	5	6
Carbon monoxide poisoning	1	2	3	4	5	6

How often do you handle this type of emergencies?

I would now like some idea of how confident you feel with your clinical skills to perform specific emergency procedures. Please answer every question and circle only one number in each row.

Q11. How confident do you feel with your clinical skills to perform the following airway emergency procedures?

	Not confident at all					Extremely confident
Airway opening manoeuvres	1	2	3	4	5	6
Endotracheal intubation	1	2	3	4	5	6
Cricothyroidotomy	1	2	3	4	5	6

Comments?

Q12. How confident do you feel with your clinical skills to perform the following respiratory emergency procedures?

	Not confident at all					Extremely confident
Bag/mask, ventilation	1	2	3	4	5	6
Oxygen therapy	1	2	3	4	5	6
Chest tube insertion	1	2	3	4	5	6
Chest X ray interpretation	1	2	3	4	5	6
Ventilator management	1	2	3	4	5	6
Continuous Positive Airway Pressure	1	2	3	4	5	6

Comments? _____

Q13. How confident do you feel with your clinical skills to perform the following circulatory emergency procedures?

	Not confident at all					Extremely confident
C.P.R.	1	2	3	4	5	6
Central I.V. access on <i>adults</i>	1	2	3	4	5	6
Central I.V. access on <i>children</i>	1	2	3	4	5	6
Central I.V. access on <i>neonates</i>	1	2	3	4	5	6
E.C.G. interpretation	1	2	3	4	5	6
Thrombolytic therapy	1	2	3	4	5	6

Comments? _____

Q14. How confident do you feel with your clinical skills to perform the following neurological emergency procedures?

	Not confident at all					Extremely confident
Lumbar puncture on <i>adults</i>	1	2	3	4	5	6
Lumbar puncture on <i>children</i>	1	2	3	4	5	6
Lumbar puncture on <i>neonates</i>	1	2	3	4	5	6
Glasgow Coma Scale	1	2	3	4	5	6

Comments? _____

Q15. How confident do you feel with your clinical skills to perform the following orthopaedic emergency procedures?

	Not confident at all					Extremely confident
Assessment for fractures	1	2	3	4	5	6
Reduction of dislocations	1	2	3	4	5	6
Splinting	1	2	3	4	5	6
Casting	1	2	3	4	5	6
Regional anesthesia	1	2	3	4	5	6
Interpretation of extremity X- rays	1	2	3	4	5	6
Interpretation of c-spine X-rays	1	2	3	4	5	6

Comments? _____

Please specify what you regard as your *top five* emergency care education needs within the next 24 months. You should specify areas where you feel additional education would increase your level of confidence for providing emergency care the most.

You may refer to the items in the previous sections for examples of possible training areas, although you are not restricted to these.

- You may specify a broad area such as “orthopedic” emergencies but if you do so, please clarify this with examples of particular orthopedic conditions or procedures.

EXAMPLE ONLY

My #1 priority emergency care education need is Pediatric resuscitation: especially drug dosages, use of IV fluids & intraosseous needles.

My #2 priority emergency care education need is Management of drowning and near drowning

My #3 priority emergency care education need is Difficult endotracheal intubation

Q16. Please specify *your top five* emergency care education needs for the next 24 months in the spaces below.

My #1 priority emergency care education need is _____

My #2 priority emergency care education need is _____

My #3 priority emergency care education need is _____

My #4 priority emergency care education need is _____

My #5 priority emergency care education need is _____

In this section please provide some details about you. The information will help to connect your responses and confidence levels to your years of experience and your practice setting.

Q17. Your gender: ☐ Male
☐ Female

- Q18. What was your practice area before becoming a FNP? _____
- Q19. Did you have emergency nursing or pre-hospital care experience before becoming a FNP? _____
- Q20. How many total years experience do you have as a FNP? _____
- Q21. From which FNP program did you graduate? _____
- Q22. Did your FNP program provide emergency care curricula? _____
- Q23. Is your practice a group or solo practice?
- ☐ Solo ► please go to 25
- ☐ Group
- Q24. How many providers including yourself, are in the practice? _____ FTE (s)
[Please estimate number of full time equivalents (FTE)]
- Q25. What proportion of an FTE do you contribute to the practice? _____ FTE (s)
- Q26. Is there a local hospital or critical access hospital (CAH) in your town?
- ☐ No please go to 28
- ☐ Yes
- Q27. Do you have admission privileges at the local hospital or CAH?
- ☐ No
- ☐ Yes
- Q28. Do you work in the emergency room, CAH, or urgent care facility?
- ☐ No
- ☐ Yes
- Q29. If no hospital, CAH, or urgent care facility is available in your town, how far is it to the nearest one?
- _____ miles one way _____ minutes one way
- Q30. How far is it from your practice site to a tertiary or definitive care center?
- _____ miles one way _____ minutes one way

APPENDIX C

First Survey Letter

Dear Rural FNP,

January 3, 2002

I am conducting a survey. The purpose of the survey is to examine how confident rural family nurse practitioners (FNPs) feel to provide emergency care. A list of FNPs licensed to practice in Montana was narrowed to include only those practicing in a rural area. Your name was randomly selected from that list of rural FNPs.

I am a graduate nursing student at Montana State University - Bozeman in the FNP program. This survey is a part of the work required for my master's degree. The survey enclosed is a modified version of a survey used in Australia to assess the confidence level of rural general physicians to provide emergency care.

Your participation is entirely voluntary. There is no obligation to participate and certainly no penalty if you choose not to participate. You are free to stop at any time, and you are free not to answer any questions you do not wish to answer. No risk is involved with participation in this project and no compensation can be offered outside of a hearty thank you! The potential benefit to you is the knowledge that you would be making an important contribution to a project that may lead to better preparation of rural FNP students for the challenges of rural practice.

If you decide to participate, it will take approximately 30 minutes of your time to complete the survey. Completion of the survey and returning it to me will indicate your informed consent to take part in this project and will fulfill all the requirements for participation. All completed surveys will be kept in a locked file accessible only to me and my committee members. Please follow the steps listed below to ensure that there is no connection between you and your answers.

1. Fill out the survey and do not write your name on it.
2. Place the completed survey in the blank envelope and seal it.
3. Place the blank envelope in the mailing envelope addressed to me.

Thank you for your time. I would greatly appreciate your participation. If you have questions about the project you may contact me or you may contact Dr. Shreffler-Grant at the addresses listed below. Questions about the rights of participants can be answered by Dr. Winters using the address below. If you decide not to participate, and do not wish to be contacted further, you may return the blank survey or call me. Thank you again for your help with this project.

Sincerely,

Judy Neal, FNP student, MSU - Bozeman

Judy Neal
MSU-Bozeman
College of Nursing
32 Campus Drive
Missoula, MT 59812
406-243-6518
Student

Dr. Jean Shreffler-Grant
MSU-Bozeman
College of Nursing
32 Campus Drive
Missoula, MT 59812
406-243-2540
Project Chairman

Dr. Charlene Winters
MSU-Bozeman
College of Nursing
32 Campus Drive
Missoula, MT 59812
406-243-4608
Human Subjects Committee
Chairman

APPENDIX D

Reminder Post Card

January 17, 2002

Dear rural FNP,

This note is just a reminder to ask you to complete the survey on rural FNP level of confidence sent to you two weeks ago. I hope that you have completed the survey and that it is in the mail to me. If you have forgotten to complete the survey, but are willing to do so, please take a few minutes to complete it now and send it to me.

Your answers are important to this project. If you have questions or need another survey, please contact me at the address below. Your participation is important to this project. Thank you for your time and your help with this project.

Sincerely,
Judy Neal, FNP student
MSU-Bozeman College of Nursing
32 Campus Drive
Missoula, MT 59812
406-243-6518

APPENDIX E

Second Survey Letter

January 31, 2002

Dear rural FNP,

I am asking you for your help again with my research. The purpose of this survey is to examine how confident rural FNPs feel to provide emergency care. This survey is a modified version of a survey used in Australia to assess the confidence level of rural general physicians to provide emergency care. The data collected from the survey will address the research questions below.

1. Do rural FNPs feel confident in their emergency skills?
2. What type of training do rural FNPs report as important to their confidence to care for patients in rural emergencies?
3. Do rural FNPs with more advanced practice experience report higher confidence levels than rural FNPs with less advanced practice experience?
4. In what areas do rural FNP's feel they need more confidence for handling emergencies?

If you are willing to participate, please complete the survey on rural FNP level of confidence and return it to me. A second copy of the survey is enclosed for your convenience. Completion of the survey and returning it to me will indicate your informed consent to take part in this project and will fulfill all the requirements for participation.

Your answers are important to the project and to continued improvements in rural FNP educational programs. All survey responses will be confidential. I would very much appreciate your help. Thank you for your time.

Sincerely,

Judy Neal, FNP student MSU-Bozeman

If you have questions or need further information, you may contact:

Judy Neal
MSU-Bozeman
College of Nursing
32 Campus Drive
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406-243-6518
Student

Dr. Jean Shreffler-Grant
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Human Subjects Committee
Chairman

APPENDIX F

Thank You Letter

Dear rural FNP,

Thank you so much for your participation in the rural FNP confidence survey. Your help was greatly appreciated. The information you provided will add to the accuracy of the project and may lead to better preparation of rural FNP students. Thank you again for your time.

Sincerely,

Judy Neal, FNP student
MSU - Bozeman College of Nursing
32 Campus Drive
Missoula, MT 59812
406-243-6518

APPENDIX G

Results Letter

March 25, 2002

Dear rural FNP,

Several months ago you participated in a survey about the confidence level of rural FNPs for providing emergency care. I thought you might be interested in what I found.

This research indicated that overall rural FNPs were moderately confident with their ability to provide emergency care despite a low frequency of emergency encounters. The rural FNPs who practiced in an emergency setting had higher confidence levels than rural FNPs who did not practice in an emergency setting. Higher confidence levels with basic skills and urgent type skills tempered lower confidence levels with the more advanced emergency management and procedure areas. Experience with emergency nursing or pre-hospital care prior to becoming a FNP and frequent exposure to emergency situations were identified as important antecedents to high levels of confidence.

The areas identified for education updates were not the areas where confidence levels were the lowest or the areas most frequently encountered by rural FNPs. Table 1 provides a comparison of emergency management area with total mean confidence level of all survey participants, frequency of encounter with emergency, and frequency of identification for education update.

Table 1.

Frequency of Emergency		Emergency Management Area	Total Mean Confidence Level of All Participants	Order of Frequency of Identification for Education Update
weekly **	never to rarely*			
5.5%	56%	Airway/Respiratory	3.91	3rd
3.7%	59.3%	Cardiac	3.88	1st
0%	55.6%	Neurologic	4.10	7th
33%	22%	Orthopedic	4.20	5th
0%	92.6%	Obstetric	2.45	6th
0%	72%	Pediatric	3.15	2nd
3.7%	63%	Diabetic	4.12	9th
3.7%	55.6%	Toxicologic	3.50	8th
3.7%	66.7%	Trauma/Other	3.80	3rd

** % of rural FNPs who see the type of emergency weekly

* % of rural FNPs who see the type of emergency fewer than 2 times per year

The need for basic emergency education for rural FNPs regardless of practice setting was identified. Furthermore, rural FNPs need access to opportunities to practice hands on emergency

skills and continuing education in order to maintain their confidence for providing emergency care. Rural FNP's who have past emergency nursing or pre-hospital experience may be the best candidates for rural emergency room or critical access hospital (CAH) employment. However, the inclusion of emergency curricula in rural FNP programs would help to ensure that all graduates receive a minimum level of preparation for possible emergency situations that might present to a rural clinic.

Thank you again for your help with this project.

Judy Neal, FNP student
MSU-Bozeman College of Nursing
32 Campus Drive
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