ADVANCED NURSING PRACTICE IN RURAL AREAS: CONNECTEDNESS VERSUS DISCONNECTEDNESS

Margaret M. Conger, RN, MSN, EdD[1] [*]
Karen A. Plager, DNSc, RNC, FNP[2]

1 Professor Emeritus, School of Nursing, Northern Arizona University, margaret.conger@nau.edu
2 Associate Professor, School of Nursing, Northern Arizona University, karen.plager@nau.edu

* Contact author

ABSTRACT

Scarcity of health care providers leads to reduced access to health care for rural residents. Better understanding of constraints confronting nurses in rural practice is needed. Our program prepares Advanced Practice Nurses (APNs) to work in rural areas. Using interpretive phenomenology we studied program terminal outcomes as practiced by our APN graduates. Individual interviews and focus groups were conducted with graduates who had been in practice for at least one year. This paper describes one theme – rural connectedness versus disconnectedness– that was uncovered in the larger study. Elements leading to rural connectedness included development of support networks, relationships with urban health care centers, connections with local communities, and support through electronic means. Rural disconnectedness resulted from lack of relationships with other health care providers, lack of mentors and support staff, and the absence of electronic support. Implications for education for rural advanced practice are discussed.

INTRODUCTION

The development of rural nursing theory has been explicated through the work of the Montana State University Nursing Group (Lee & Winters, 2004; Lee & Winters, 2006). Unique characteristics of the rural dweller and how the rural person describes health are expanded upon from earlier reported work (Lee & Winters, 1998). They suggest that further study is needed to develop an understanding of constraints that confront nurses in rural practice. It is important to address those constraints to attract sufficient numbers of qualified nurses to work in rural areas.

In Arizona the scarcity of health care providers has reduced access to health care for rural residents (Moore-Monroy, 2005). Factors such as isolation from other health care professionals, lack of anonymity, and perhaps most important of all, the outsider status of the professional who enters the new community with little understanding of rural issues all lead to difficulties in both attracting health care professionals to rural areas and even more importantly retaining them in these practices.

To address this issue of lack of health care providers, Northern Arizona University School of Nursing provides education for Advance Practice Nurses (APNs) that prepares them to work in rural areas. The students are first prepared academically with knowledge about working in a rural area by studying concepts related to rural communities. Rural theory provides them with an understanding of critical issues related to rural practice. In addition, all students are required to have a clinical experience in a rural community. Even those who are urban based are placed in rural areas for clinical experience during the program. In this paper we report on a secondary analysis of data from an outcomes study of advanced practice nurse (APN) graduates from a university in the southwest United States. We refer to APNs as both NPs and CNSs; however, at points where we need to differentiate these roles we will use NP or CNS.

The original study aimed to answer the research question of how graduates actualized our program terminal competencies and how the two APN roles were differentiation. Our terminal competencies are based on domains of practice as established by the National Organization of Nurse Practitioner Faculties (2000), the National Association of Clinical Nurse Specialists (1998), and American Association of Colleges of Nursing (1996). One of the themes that emerged from our data analysis was rural connected versus disconnected, a theme related to the concerns of Lee and Winters (1998) about the constraints of rural practice. [Note: An earlier version of this paper was presented at Western Institute of Nursing Conference, San Francisco, CA, April, 2005]

LITERATURE REVIEW

In a review of literature of nursing practice in rural communities, a sense of isolation was identified (Shreffler, 1998) as common to rural nursing practice. Strategies to overcome this isolation are important to understand and utilize if the rural community is to retain its health professionals. Several reports from Australia have addressed the problems faced by health professionals working in rural and remote areas (Hegney, 2002; Hegney, McCarthy, Rogers-Clark & Gorman, 2002; Kenny & Duckett, 2003). They focused on development of clinical skills required for successful nursing practice in these areas. Very few studies focused on the environmental constraints important to rural practice. One study by Hegney et al. (2002) looked at reasons why nurses resigned from positions in rural areas and found that, in addition to the lack of confidence in skills needed to practice in these areas, issues such as professional isolation and culture shock were also critical. This group also identified that the first 12 months of practice in a rural area were essential to success of the nurse. During this time it was vital that the nurse have adequate resources both in peer mentoring and continuing education.

Another study from Australia examined the issue of advanced practice nursing roles in rural areas. Kenny and Duckett (2003) identified the need for nurses trained at advanced levels in rural areas, but did not believe that it was possible to attract nurses with advanced education to such areas. They conclude that APNs would choose to remain in metropolitan areas where support for their practices and possibilities for advancement were greater.

In a program outcomes study done in Tennessee, the investigators found 46 % of health professional students whose clinical practicums were completed in a rural area returned to

practice in rural areas after graduation. More of the nursing graduates indicated an interest in returning to a rural practice, but were unable to find a rural position (Florence, Goodrow, Wachs, Grover & Olive, 2007). This suggests that providing clinical practicums in a rural area is a positive strategy to attract health professionals to a rural area. The investigators noted a limited opportunities for rural practice, but did not elaborate on why this occurred.

Penz et al. (2007) studied barriers to participation in continuing education courses of nurses working in rural and remote areas in Canada. Barriers found included distance from educational institutions, inadequate staffing to allow nurses attend conferences, and lack of employer support. Nurses reported that it was unrealistic to expect the nurse working in an isolated area to be responsible for covering the travel and lodging costs to attend a continuing education event.

To overcome some of these isolation factors experienced by nurses working in rural and remote areas, Australia has developed a Remote Area Nurses' Incentive Package. Nurses in remote areas can qualify for two weeks of professional development activities per year. Both travel and conference fees are fully paid. The program also provides two airfare tickets per year to a metropolitan area for the nurse and family members to reduce the sense of isolation. Funding is also provided to cover the cost of replacing the nurse during the professional development and recreational time ("Currently working", 2007).

METHODOLOGY

Methodology and Study Design

This study utilized both focus group and individual interview techniques. Focus group data collection is a qualitative data collection technique that is not tied to any theoretical perspective and thus can be used with interpretive phenomenology as used in this study (Smith, 2005). Individual interviews were also used in this study. Seal, Bogart, and Ehrhardt (1998) suggest that using both data collection techniques enhances the quality of the data. It is suggested that group anonymity enhances free disclosure that can be problematical in individual interviews (Seal, Bogart, & Ehrhardt, 1998; Vaughn, Schumm, & Sinagub, 1996).

Interpretive phenomenology was the methodology used. This qualitative research methodology aims to uncover meaning in narrative-text analogues for analysis and interpretation and leads to increased understanding of phenomena. In this study, the aim was to uncover the meaning in APN practice based on their lived experience.

The study was partially supported by an intramural grant from Northern Arizona University. Approval by the University institutional review board occurred before data collection commenced.

Recruitment and Sample

All nursing master's graduates who had been in practice for at least one year since graduation were invited to participate in the study. Informed consent and demographic data from each participant was obtained before the interview process began. Semi-structured, open-ended questions based on the program terminal competencies that elicited the lived experience of the graduate APNs' practice were used. The terminal competencies were based on the work of Benner, Tanner, & Chesla (1996), Brykcyznski (1998), Fenton (1985), and Fenton & Brykcyznski (1993). Participants were interviewed either in a focus group or an individual interview depending whether they lived more locally or more distant from the university. The same set of questions was used with both. See Appendix for the Interview Schedule used for the study.

Data Collection

Five focus groups (16 participants) and 14 individual interviews (mostly by conference call) were conducted. Of 40 eligible graduates, 30 participated (75% response rate), including 7 of 9 rural health specialists (RHS) (clinical specialist with a rural focus) and 23 of 31 FNP's. Focus groups or phone interviews lasted about 1 to 2 hours each. All interviews and focus groups were audiotaped and transcribed verbatim. Each transcript of the narrative-text analogue was reviewed for accuracy by one of the researchers.

Analysis and Interpretation

Two researchers independently read the narrative-text analogues to uncover themes. Themes were then discussed between the researchers for consensual validation. Three strategies were used for analysis and interpretation, including thematic analysis and identification of exemplars and paradigm cases (Benner, 1994). Analysis for themes occurred independently by each researcher and then consensual validation was achieved through interpretive dialogue.

STUDY FINDINGS AND DISCUSSION

Rural Practice

Demographic data derived from this study indicate that the majority of graduates were employed in rural practices. Data from 30 graduates indicate 87% of the APN graduates are serving in rural areas. Eight (27%) are serving in communities with populations between 50,000 to 99,999 residents, 18 (60%) are working in rural/frontier areas, and only 4 (13%) returned to large metropolitan areas to work. These data suggest that an educational program in which students are assigned to rural communities for clinical practice has a positive impact in providing rural areas with health care providers.

Theme: Rural Connectedness vs Disconnectedness.

One theme that was revealed in the participants' stories was rural connectedness versus disconnectedness. Aspects of the environment were identified that led to a sense of feeling connected. The absence of these led to a sense of being disconnected.

Rural Connected APNs

A sense of connectedness was revealed in four ways by the participants: development of support networks, relationships with large urban medical centers, availability of electronic communications, and connections with the rural community. Each influence that led to a sense of connectedness for APN graduates working in rural and remote areas is discussed. Figure 1 demonstrates each of these.
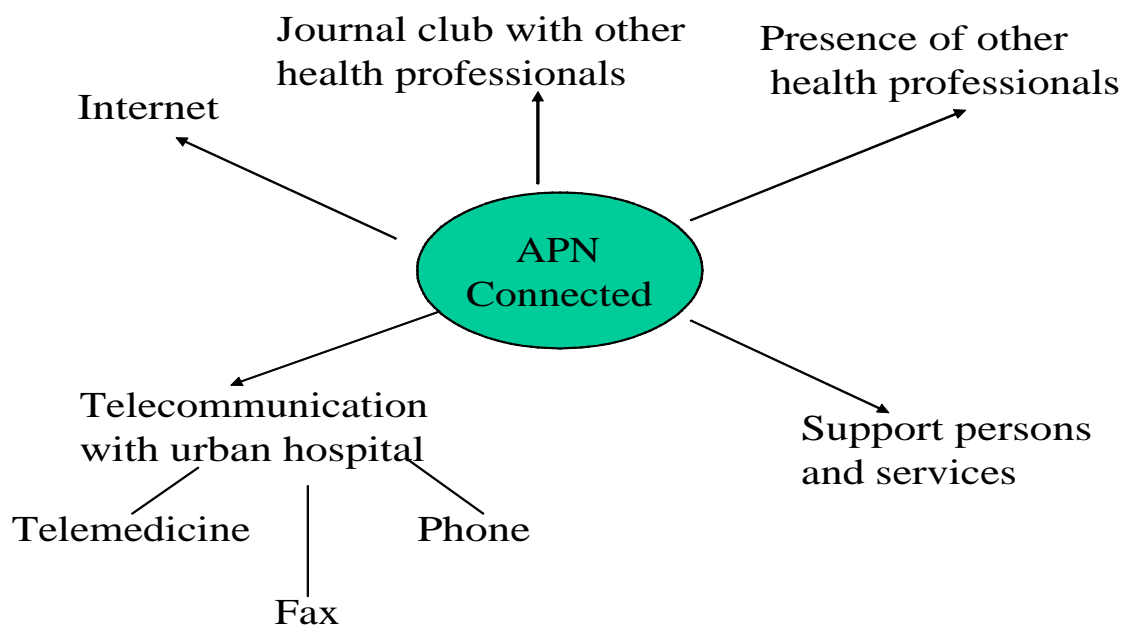

Figure 1. Rural Connected APN

Develop support networks. Many of the graduates discussed the importance of developing support networks. Some of this support came from former classmates and was based on relationships formed during graduate study. The graduates found that communicating with former classmates was important to their practice. One RHS graduate talked about the ease of getting patient discharge information from the regional hospital back to her rural community health setting because of the program that another RHS graduate had established at that hospital:

> You know what I've got to say that I went to school with [another student] and that was something she was really interested [in] was communication with outside facilities. So when she started working on that, sometimes we would get two fax's of discharge information.

Two FNP graduates discussed this connectedness when they first began their practices:

> P1: There were times I called P2.
> P2: Oh yes
> P1: We collaborated. Its like, dear God!
> P2: She's in Kingman and I'm in Phoenix and she [called and] said, "How high can an INR be before you worry?"

For a new graduate working in an isolated practice with a not very accessible physician colleague, this connection with a former fellow graduate student provided a sense of reassurance that other resources were available to support her clinical decision making.

Many times graduates working in remote Indian Health Service (IHS) facilities described that the presence of other health professionals in the same health center led to a sense of being connected. They often had the availability of well developed public health nursing centers and could collaborate with the public health nurses to seek out patients who needed to come into the clinic for checkups. Others working in community health centers found the importance of a collaborative practice and a mentor to be invaluable to their success in their early years in practice. The presence of a resource such as a pharmacist to assist with calculating complicated drug dosages for pediatric patients or patients with renal disease provided tremendous support to the new APN. Other support persons cited by participants included nutritionists, community health nurses, and mental health workers. The presence of a mentor to discuss complex patient problems also provided a sense of connectedness. An FNP graduate working at an IHS health center explained that:

> When you're in a multiple provider practice ...you get this incredibly complicated patient and you say, do I really have to go back to ground zero and start all over again? You get together and just talk. Bring me up to date on what's going on here

and then. Pass on what everybody's learned to help the next person move forward with that patient.

Relationships with urban health care centers. Another way to develop a sense of connectedness was to establish a strong relationship with an urban health center. This was done in several ways. One graduate talked of planning a lunch time in-service when a specialist from the urban setting would come to the rural clinic for patient consultations. This gave the staff at the rural clinic time to become updated on new management strategies as well as develop a sense of collegiality with the urban specialist Opportunities for face-to-face times with urban specialists were found to be especially helpful. This person could then be called to get advice when needed for a complex patient care situation. One FNP graduate explained:

> Try to get that name relationship with the physicians and surgeons... that takes work because they are this voice at the other end of the phone and it helps when you see them and they come down and pay you a visit.

Another noted that:

> We have certain physicians with specialties, who are contracted with IHS, and so, for example, a kid comes in with a fracture and there's quite a bit of angulation to it, we will refer him to ortho and that is a contracted service and we'll set them up for a conference.

Another strategy that helped the APN feel connected was through telephone contact with urban providers. One graduate who worked in a rural clinic fairly close to a large urban area was able to have daily communication with the urban hospital. Several other graduates mentioned the programs provided by large university medical centers who had a "one call' system to connect the rural provider with a specialist. This service could be accessed even when they were geographically very far distant. As one FNP graduate describes:

> Hospital "one call system"... system is wonderful. Gets needed advice... they have all these residents and they all, you know, chip in to be available and take calls and so you have somebody you can fax an EKG to.

Another FNP graduate who worked in her own nurse-run family primary care clinic noted:

> And I had already discussed with [the patient] we had to get her off that Armour (thyroid), but I really wanted to talk to a specialist to see how to do it...we can call any specialist...and they come to our aid immediately...most of the time we try not to ask stupid questions, but we have a reason to call them... and they will see our patients in consult with an appointment... if necessary.

This graduate felt connected by her ability to contact specialists at a university hospital at a moment's notice, resulting in needed reassurance to provide point of care service to her patients.

Support through electronic means. The importance of communication through electronic means cannot be overemphasized. When telecommunication equipment was functioning, it was invaluable. One graduate said "Makes us feel less alone out here" when the telemedicine equipment was functioning. However, it was not always functional. One graduate reported:

> We have telemedicine, you know and we're able to do that kind of thing... But you know when you're in the clinic and its four o'clock in the afternoon and you have this problem come up and you need to solve it right then because it's a possible serious nature, it just became a nightmare...

An FNP graduate working in a school whose student body was from around the world depended on the availability of email connections to keep in contact with students' parents: "I did a lot of communication by e-mail. That was the way that a lot of this could happen because the time differences were so incredible." The internet was also used to obtain information to manage clients and to follow up with distant health care providers. As well the internet provided a means to obtain continuing education classes when travel to a distant site was prohibitive.

Connections with local communities. A final factor found to be important to success in rural practice is community connections. This was achieved in several ways. One graduate emphasized the importance of participating in community activities to get to know the people and their culture. This helped in gaining community acceptance. One graduate provided health related talks to various groups as a means to become as a trusted community member. An FNP graduate reported that a home visit to an elderly resident living out on a country road helped to establish him in the community. Soon he noted hearing from a community member: "You came out and saw so and so....he's a relative." This began a trusting relationship in the community.

Another way in which APN graduates were able to connect to community agencies was in providing inservices on wound care or other procedures needed to care for a client who would be transferred to a skilled nursing facility. By teaching the staff how to do complex care, the patient could be safely transferred from the acute care hospital thus providing quality care at a lower level of intensity and cost. This contact with other health care agencies helps to make transitions of patients from one agency to another go more smoothly:

> We interact a lot with the home health agencies,... the agencies in outlying areas... we bring them in to see how we can work better with them.... helps make the transitions go smoothly.

Rural Disconnected APNs

Graduates who reported a sense of disconnectedness when working in a rural community were less likely to remain in that community. It is important to understand what environmental

factors lead to a sense of disconnectedness and then prepare students with strategies to prevent them once they are out in practice. The situations leading to a sense of disconnectedness are depicted in Figure 2 and discussed below.

Lack of relationships with other health care centers. If the rural clinic does not have a well established relationship with the urban medical center, APNs may have a very difficult time in securing the needed services for their patients. It may also be difficult to get the urban hospital to send information back to the rural clinic. One graduate told of an experience trying to get a needed radiological test for a client. She called the radiology department at the urban hospital and made arrangements for the test. However, the clinic did not have an established relationship with the admitting department. When the client arrived at the urban hospital, she was turned away because she did not have cash to pay for the test. The admitting personnel claimed they had no knowledge of arrangements with the clinic and would not accept the payment authorization letter the clinic had sent with the patient. The radiology staff was upset because they thought the patient was a "no show". The APN was upset because she did not get the test report needed to determine a plan of care for the patient. It took several weeks to get this whole situation resolved. What the APN learned was that it is not sufficient to make test arrangements with the radiology department alone. The admitting department also had to be consulted. To keep such unfortunate experiences from happening again, the clinic arranged for a face to face meeting with hospital staff to work through how best to communicate with each other.
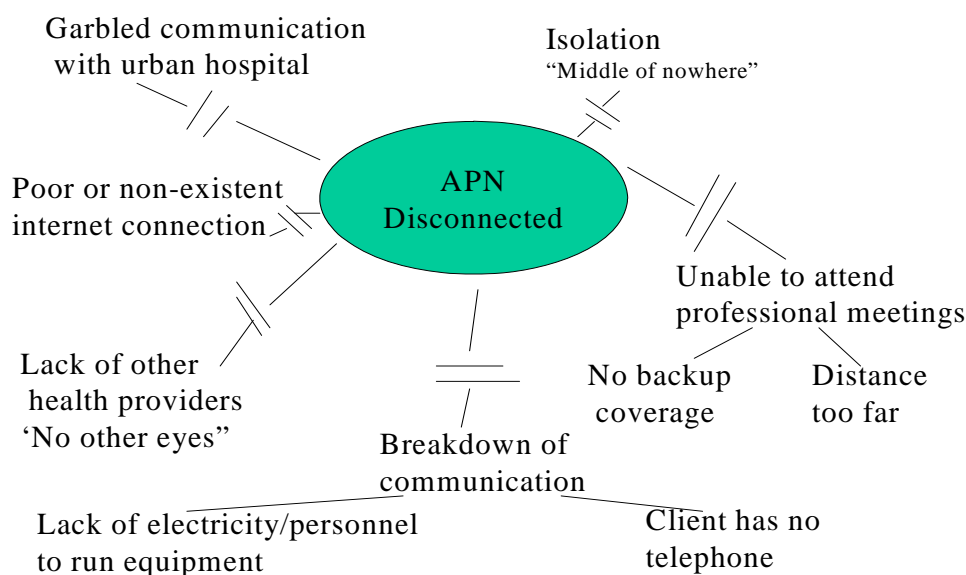
Figure 2. APN Disconnected

The importance of developing working relationships with the urban hospital was emphasized by several of the graduates. One said:

> When we need help, we need help. We don't need to be told that there's no room in the inn because the patients we're sending actually do need to be cared for in the facility.

Another graduate told of an experience sending a patient to the urban hospital for testing for a possible brain tumor. Several weeks went by without receiving the test results. She found that the urban hospital had sent the test results to another facility where they were "lost" because this facility had no record of the patient. The urban hospital was not aware that the patient had been sent from a satellite clinic rather than the larger facility.

The need for better communication among nurses from the urban hospital and the rural clinic were also described. One RHS graduate said "I'm alone... there is no one out here but me and the agency wants all this paper work." When working in an isolated setting with no support staff, it is hard to meet the same standards for paper work as found in larger facilities. Discharge planners often lack of understanding of the rural setting. One graduate told of an encounter with a discharge planner at an urban hospital when trying to obtain equipment for a paraplegic patient about to return to an American Indian reservation. She had to argue to have a hospital bed with a trapeze attached sent with the patient because there were no possibilities to get such equipment in the rural area.

Another interesting problem reported by an FNP graduate working in a community health center near the Mexican border was the difficulty in establishing viable communications with health care facilities "across the border". She asked:

> How do we coordinate care across the border so tests aren't needlessly repeated? How do we share information on positive things? How do we get people back and forth across the border to get care appropriately and learn to work with the healthcare system down there?

These were issues that this graduate at a border clinic struggled with frequently in working with "across the border" patient care situations.

Lack of mentors/support staff. As noted by Hegney et al. (2002), the need for mentors and other support staff are vital to successful early experience as an APN. Graduates who accepted positions in isolated areas reported a great deal of frustration in learning this new role. One graduate described it as:

> One of the most frustrating things for me was that I was the only person there and there was nobody to turn to and learn from….to say 'this is what I hear, this is what I see. Do you agree with me? This is what I want to do. Am I on the right track?'...

> I had phone calls, which isn't nearly the same as another pair of eyes looking at the same person you are.

While phone connections to the urban hospital were helpful, they were not the same as having "another pair of eyes" to see the situation and help in making a judgment. This lack of an on site mentor to collaborate with led to a sense of loneliness and isolation. It often challenged the APN to be creative in ways to access clinical support and mentoring from afar.

Other graduates talked about the need for back up staff such as a case manager to help with the tremendous amount of follow up needed to make sure connections between the urban hospital and the clinic were working smoothly. Those working at an IHS facility found that having the support of public health nurses to track down patients often satisfied this need. But those working without this support soon realized that they were carrying two roles - the APN during the regular clinic hours and the case manager role after the clinic was closed. One graduate stated case managers were needed but "will it ever happen?" In the case of the FNP graduates, they were learning to be case managers on the job because their formal education did not include course work to prepare them for this role yet they often found that case management was essential in providing quality care.

Electronic supports lacking. While the availability of telemedicine equipment was noted by many of the graduates working in rural clinics, problems with this equipment were often experienced. In one clinic a problem identified was lack of sufficient power to run the equipment.

> I think one of the hardest things is the delay in radiology reports, but they do have the equipment for tele-radiology. But its just that there is a problem with the mechanical problems so they didn't have the proper transformer that could carry the power load and things like that, so once those things are in place then it would be really helpful.

It took several years for adequate electrical power to be provided in the community before the equipment could be used. Some clinics were so isolated that such equipment was unavailable causing problems during emergency situations when precise information was urgently needed.

> You know you really need some experience with those urgent care issues when there really is no one there. Now hopefully maybe tele-medicine will help.

IMPLICATIONS FOR EDUCATION AND PRACTICE

Several implications for education and practice can be derived from these findings. This study provides further insight into both the ability of an educational program to prepare APNs to work successfully in a rural or remote setting and to identify what constitutes success in their practice. Students who are prepared in rural theory and have clinical practicums in rural and remote areas can be successful in moving in rural practices following graduation.

Rural Theory and Practice

Long and Weinert (2006) state that the provision of health care to clients living in rural communities differs from those living in urban areas. One cannot apply the same theories to both populations. Thus educational programs preparing students to work in rural communities must put an emphasis on teaching rural health theory. The faculty at the School of Nursing at Montana State University has been actively working on and publishing about rural theory development and has defined a number of concepts to consider (Lee, 1998; Lee & Winters, 2006). Of these, several are pertinent to this discussion of connectedness versus disconnectedness. These include isolation and distance, lack of anonymity of the health care provider, the issues of insider-outsider status, and the health beliefs of rural residents. Students need to be introduced to these concepts first in the classroom setting prior to moving out into clinical practice in a rural area. In our program at NAU-SON, all students are required to take a course in rural nursing theory during their first year of graduate work. As part of this course, the students conduct a small assessment of a rural community to begin to understand the health issues facing that community

As part of the student's education, clinical practice in rural settings has been demonstrated to be vital to future success in this area. Kenny and Duckett (2003) advocate for such practice. They state "if they (nursing students) understand what rural practice is like and get a taste of it when they are studying, they come here with their eyes wide open" (p. 12). Florence et al. (2007) found that graduates of their program who utilized rural settings for clinical education were providing care to rural undeserved populations at a significantly higher percentage than were graduates who had not participated in the rural clinical experiences. In another study, Neill and Taylor (2002) found that placing students in rural clinical practicums increased graduates choosing rural or remote employment. Thus an important part of preparation for rural practice is to be placed in rural settings for their clinical practicums.

Preparation for Negotiation

Another aspect of education for future rural nurses is to help develop the negotiation skills needed for the first job interview. Knowing the issues that lead to a sense of disconnectedness is important in defining the conditions for employment. The presence of a mentor during the first year in practice is vital to the graduate's success and needs to be investigated during the pre-employment interview. Graduates need to know how to negotiate for continuing education opportunities including support for travel and expenses as well as for a replacement coverage while away from the job. They need to investigate what connections the rural health center has with other health centers either by tele-medicine or other contractual arrangements. Knowing what support systems are in place prior to accepting a new position will reduce frustration with the job and hopefully lead to long term commitment to rural practice.

In the NAU SON Graduate program, all students take a capstone course in their last semester of the program. This course focuses on transitions into advanced practice. Included in the course is preparation for marketing oneself to find an advanced practice position. In addition,

they explore skills needed for management and negotiation related to patient care once out in practice. The students also were required to interview an advanced practice nurse to learn the realities of advanced practice. Since this research a unit on ways to establish and maintain connectedness in rural practice was added to the course curriculum.

CONCLUSION

While practice in a rural area presents many challenges to APNs, education to prepare for this role helps to make a smoother transition. The environmental factors that lead to a sense of connectedness must be stressed during the educational program. The development of strong support systems are necessary for survival in rural working environments. The students must understand the importance of these support systems and learn how to negotiate for such support when making decisions about their first job. If their initial experience leads to a sense of disconnected ness, it will discourage them from remaining in rural practice. The goal of our program is to prepare graduates to remain in rural areas to provide desperately needed health care providers for rural residents. Hegney (2002) has summed this need up well: "The work facing rural and remote area nurses...is to make rural and remote area nursing a place where nurses not only wish to gain employment but also wish to continue to work within" .

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APPENDIX
Focus Group/Individual Interview Questions

When answering the following questions, please address your nursing practice since graduating with your master's degree in nursing from NAU. Please note whether you graduated from the FNP or RHS track.

1. What is your role in managing the health-illness continuum of clients that you work with in your nursing practice?
- Please tell us some specific examples from your practice.

2. What activities that monitor and ensure quality health care are you involved with in your nursing practice?
- Please tell us some specific examples from your practice.

3. What types of activities are you responsible for in managing and negotiating health care delivery systems in your nursing practice?
- Please tell us some specific examples from your practice.

4. Tell us about the professional activities that you are involved in.
- Please tell us some specific examples from your practice.

5. Tells us about the teaching and coaching activities you are involved with in your nursing practice.
- Please tell us some specific examples from your practice.

6. Please describe how you collaborate with other health care professionals in your nursing practice.
- Please tell us some specific examples from your practice.

7. Tell us how you are involved in consulting with or for other health care professionals in your nursing practice.
- Please tell us some specific examples from your practice.

8. Tell us how you promote the nurse-client relationship in your nursing practice.
- Please tell us some specific examples from your practice.

9. Tell us how well you feel that your educational program prepared you for the role that you assumed as a new graduate after receiving your master's degree from NAU.
- What learning strategies were most/least helpful for you?
- What additional learning would have helped you better assume your role as a master's degree prepared nurse?