COMPARISON of NURSE PRACTITIONER AND PHYSICIAN ASSISTANT PRACTICE IN OREGON

By

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ABSTRACT

TITLE: Comparison of Nurse Practitioner and Physician Assistant Practice in Oregon

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This study is a nonexperimental, descriptive, secondary analysis of data gathered from two similar NP and PA surveys collected in Oregon in 1992. The purpose was to describe and compare Oregon's nurse practitioner (NP) and physician assistant (PA) roles. The sample for the NP survey included all NPs in Oregon listed with the Board of Nursing. Of 810 Oregon NPs surveyed, 77.8% responded. The PA sample included all PAs in Oregon listed with the Board of Medical Examiners. Of 122 Oregon PAs surveyed, 79% responded.

Several characteristics were studied using descriptive and statistical analysis, including demographics, income, education, practice patterns, rural versus urban practice and satisfaction using Sarbin and Allens theory of role enactment. When evaluated as groups,- NPs and PAs appear to be more different than similar. They may have different role expectations, occupy different role locations, draw from different pools of applicants and experience, and possess different role skills. There may be some limitations in generalizing results to NPs and PAs in other states. A careful comparison of population characteristics would be necessary before attempting to generalize results. Comparing NPs and PAs and their practice characteristics helps to define a place for NPs and PAs in health planning for the future.

Chapter 1

This study will compare relevant literature and the data collected in two similar Oregon surveys, one sampling nurse practitioners (NPs) and one sampling physician assistants (PAs). The purpose of this study is the description and comparison of Oregon's NP/PA roles and practice. This information can further define a place for Oregon's NPs and PAs in the health care personnel structure.

Role differentiation between these non-physician primary care roles is not clear and a need for further research has been identified (Huch, 1992;Cawley, 1993; Osterweis & Garfinkel, 1993). Using Sarbin and Allen's theory of role enactment (1968) as a basis, the idea that quality of role enactment is facilitated by clearer role definition is used to justify a closer look at NP and PA roles.

Historical Perspective

In 1965, a Pediatric Nurse Practitioner Program was begun at the University of Colorado, developed jointly by the School of Medicine and the School of Nursing. That same year, at Duke University Medical Center, the first training program for Physician Assistants began (Fasser, 1992).

These programs were started in response to concern over a shortage of primary care providers (Carter, 1992; Koch, Passaki, & Campbell, 1992). This shortage was due to many factors: changing demographics, which included a population that tripled from 1900 to 1965 with a growing percentage of young and old requiring increased health care; a changing social climate in which health care came to be viewed as a basic human right; and increasing technology, which more and more drew the physician into the hospital and specialization and away from primary care (Carter, 1992; Estes, 1992).

Between 1966 and 1970, both NP and PA roles were developing. Training programs opened across the country, however, the new roles were not consistently supported. The physician assistant role was developed

by physicians; yet many physicians within the medical community opposed development of both the NP and PA roles. The AMA president in 1973 stated that "human life was too important to relegate to a health professional who was not as well trained as a physician." (Stanhope, 1992). NPs met resistance not only from the medical community, but also from within nursing itself. Many nursing leaders felt that NPs were no longer nurses but had left nursing to join the medical community (Rogers, 1975).

In 1971, both professions received favorable recognition when the Department of Health and Human Services issued a paper strongly supporting the widespread training and use of NPs and PAs (Cawley, 1992; Stanhope, 1988). NP and PA training programs proliferated, benefitting from increased federal funding (Cawley, 1992).

In the late 1970's the Graduate Medical Education National Advisory Committee (GMENAC) predicted a substantial excess of physicians by 1990. The future of both NPs and PAs was called into question. At the same time, both groups were fighting for enabling legislation and increased acceptance of the respective roles (Koch, et. al, 1992). In spite of GMENAC's prediction, the need for primary care practitioners in underserved and rural areas continues. This has been due to a maldistribution of physicians into urban and specialty areas (American Association of Physician Assistants (AAPA) Council on Profession Practice, 1990). Increasing economic pressure which demanded cost effective health care developed through the 80's and into the 90's. These factors have supported increased establishment, development, and recognition of both NP and PA roles (Fasser, 1992; Carter, 1992; Koch, et al, 1992; Estes, 1992).

Scope of Practice

Physician assistants are responsible for diagnosis and treatment of patients with supervision by a physician. The physician must be available for consultation throughout the day (Hooker and Freeborn,

1991). Functions of PAs include: "gathering data, seeing common problems and diseases, conducting laboratory and diagnostic studies, performing management activities, performing surgical procedures, managing emergency situations, conducting health promotion and disease prevention activities, prescribing medication, (and) using interpersonal skills" (Schafft & Cawley, 1987, p. 4).

Nurse practitioner scope of practice is described by the Oregon Nurses Association (1987): "In addition to the responsibilities of a Registered Nurse, the Nurse Practitioner is independently responsible and accountable for the continuous and comprehensive management of a broad range of personal health services which may include: (1) promotion and maintenance of health; (2) prevention of illness and disability; (3) management of health care during acute and chronic phases of illness; (4) guidance and counseling for both individuals and families, and; (5) referral to physicians and/or other health care providers."

Although similar in many ways, the most significant and often noted difference in "defined" scope of practice is that the PA practices under the supervision of a physician, while the NP practices independently, referring to physicians and other professionals as necessary. This distinction becomes less definitive when differences in state-to-state enabling legislation are examined. In many states NPs practice independently by statute. In other states, NP practice is authorized only with physician supervision (Pearson, 1993). PA practice is authorized only with physician supervision nationwide, yet in many rural areas, PA practice is essentially independent. In some rural PA practices, physician contact is made by telephone with the requirement that access to a physician must be available within 24 hours. This access may be in the form of direct contact or by telephone (American Academy of Physician Assistants Position Paper, 1990).

NPs in Oregon are licensed by the State Board of Nursing and are

not required to have a written referral plan with a physician on file. In order for PAs to obtain licensure in Oregon the PA's supervising physician must interview with the Board of Medical Examiners (Oregon State Board of Nursing, 1993).

Nurse practitioner and physician assistant practices also differ in the theoretical model for practice assumed for both professions. The nursing model tends to view the patient more centrally, more holistically and focuses less on disease than on assisting the patient to adapt optimally with the environment, internally and externally. Nursing also draws from a wide variety of professions, including social work, psychology, anthropology, medicine and others. The medical model from which PA's practice is more focused, is disease oriented and deals with recognition, diagnosis and treatment of illness.

Literature Review

The number of studies directly comparing NPs and PAs are few. Editorial articles are present (Huch, 1992; Hodgson 1992), which outline differences in practice yet leave the question "What are the differences between NPs and PAs?", basically unanswered.

Articles providing information on NPs and PAs concerning specific study variables, such as demographics, income, education, certification, practice patterns, rural vs. urban practice, and satisfaction are available. These studies often concern either NP or PA practice or group NP/PAs together without differentiating between the two groups. Occasionally a limited comparison between groups is made. Information from different studies can be looked at to provide comparisons between NP and PA groups. The drawback with this approach is that studies will often approach a subject in a slightly different manner, or data will be available from different time periods. Given these problems, an attempt has been made to provide similar data for each group, within the limitations of the available literature.

General comparative studies will be presented first followed by a

review of the literature available on individual study variables.

General Comparative Studies

In 1975 Record and Greenlick compared the utilization of NPs and PAs within Kaiser Health Services. Both NP and PA roles were introduced into the Kaiser system at the same time, however, the use of PAs rapidly expanded while NP use did not. Record and Greenlick described the most important contributing factor in this disparity to be the "differential implications which the respective roles held for the role and status of the physician" (p. 276).

A more recent article from the sociology literature explored the relationship between discourse and occupational perspective; comparing the way NPs and PAs interact with patients during office visits (Drass, 1988). Examining nursing's claim to a "nursing perspective" distinct from that shared by physicians and PAs, Drass analyzed language content during history taking, examination, and problem discussion phase of the patient encounter. Significant differences were found in these encounters, especially during history taking. NPs used more open-ended questions and used them throughout the encounter whereas PAs began a discussion with an open ended question and then switched to a close ended sequence. Drass also noted differences in content, identifying NP style with "the voice of the lifeworld" and PA style with "the voice of medicine". Although the NP used both of these styles in patient care discourse, the PA used only the voice of medicine.

Demographics

There are an estimated 27,226 nurse practitioners in the United States and 20,000 physician assistants (Morgan, 1993; Stuart, 1991). Nurse practitioner demographic data were not readily available. A pediatric nurse practitioner survey in 1992 indicated that 1.2% of respondents were male and 98.8% were female. The same survey indicated that approximately 2% were 20 to 29 years of age, 31% were 30 to 39 years of age, 46% were 40 to 49 years of age and 21% were 50 years of

age or older (Dunn, 1993). Fifty seven percent of PA's are male, 43% female and 10% are minorities (Cawley, 1992).

Income

In one study of NPs done in North Carolina, Rogers, Sweeting and Davis (1989) reported 2/3 of nurse practitioners making less than $30,000.00, a figure more comparable to registered nurse salaries in the area. The author felt this was related to the high percentage of women in the profession who historically have been paid less than men. Cassel (1980) reported that NP salaries tended to be somewhat lower than those of PAs. Hooker (1993) described 1992 NP/PA salaries at Kaiser Permanente Northwest in Portland to be between 44,000 and 52,000 but did not differentiate between the two groups. Although not apparent in the NP literature, some discussion was apparent in the PA literature regarding the salary discrepancy between male and female PAs (Wills, 1990). Wills found that as a group, male annual PA salaries are $5000.00 higher than those of female PAs.

Education

Comparison of educational preparation between NPs and PAs is a complex issue, largely due to the fact that there are still a variety of options available for obtaining NP or PA education. Nurse practitioner programs are of two types, master's and certificate. The majority of NP programs in the country are master's level programs. The percentage of master's degree programs receiving federal funding increased from 23.5 percent in 1976 to 81.1 percent in 1985 (Geolet, 1987). In light of the recent ANA decision to require a master's degree for national certification (Hockenberry-Eaton & Woodruff, 1992), this trend is likely to continue. PA programs range from certificate to master's level but the majority award a bachelor's degree (67.3%) upon completion of the program (Fasser, 1992).

Prior preparation

The vast majority of NP programs require registered nurse (RN) licensure with experience prior to acceptance of applicants. However, a notable exception are the few master's level NP programs that accept non-nursing applicants. These programs consist of "accelerated undergraduate course work (to obtain basic licensure) followed by graduate course work taken with traditional RN students" (Smith & Shoffner, 1991, p. 49).

In contrast, experience required prior to acceptance for PA training ranges from none to 1 or 2 years experience in related health care fields. PA applicants include medics, corpsmen, emergency medical technicians, registered nurses and licensed practical nurses (LPNs). About 12 percent of applicants are nurses, RNs or LPNs (Berry & Deiter, 1989). According to a recent study (Berry & Deiter, 1989), 46 percent of PA students enrolled in their first year had prior experience in the health professions.

In response to a need in some underserved areas, graduates of foreign medical schools have been allowed to work as PAs. The AAPA opposes this practice, wishing to maintain standards for PA licensure and recommends "that accredited PA programs explore innovative ways to train as PAs those unlicensed medical graduates or others with significant medical backgrounds in health care who wish to become PAs" (1991-1992 Task Force on Unlicensed Medical Graduates, 1992, p. 71).

Course content

Although data on course content is not included in this study, information on course content is briefly included here for better understanding of the roles. The typical PA program is 24 months in length. In general, the first year of study consists of basic medical and behavioral sciences and completion of preclinical components such as clinical medicine, physical assessment and special skills. This is followed by an average of 34.9 weeks of supervised clinical experience

in primary care and 16.6 weeks of supervised clinical experience in primary care and 16.6 weeks in nonprimary care medical specialties (Fasser, 1992).

NP programs vary from 1 to 2 years, building on basic RN preparation, with 1 year generally being devoted to graduate core courses including research and preclinical courses, and 1 year being devoted to clinical courses including practicum time. In addition,many of the nurse practitioner programs now require completion of a physical assessment course prior to admission (Geolet, 1987).

Certification Issues

The large majority (95 percent) of physician assistants are certified by the National Commission on the Certification of Physician Assistants (NCCPA) (Willis, 1993). PAs must take the recertification examination every 6 years (Ley, Musant, Treiver, & Holland, 1991).

NPs are certified by the American Nurses Credentialing Center, American Academy of Nurse Practitioners, National Certification Board of Pediatric Nurse Practitioners and Nurses, and National Certification Corporation of ObGyn and Neonatal Nursing Specialties (Morgan, 1993). Recertification requirements range from 5 to 7 years and practice requirements and continuing education may take the place of reexamination.

It is important here to distinguish between certification and licensure. Governments grant licensure to individuals giving them permission to practice after meeting minimal standards of competency. Certification is administered by a nongovernmental agency and identifies higher competency levels (Millonig, Dickenson-Hazard, 1986).
Some states have included national certification as a requirement for licensure. This is true for PAs as well as NPs. Oregon recently changed its requirements for licensure and no longer requires NPs to have national certification. Registered nurse licensure and a master's degree in an NP program are currently the requirements for NP/CNM

licensure in Oregon. PAs in Oregon are required to pass the NCCPA exam but are allowed a 2 year grace period after starting work in Oregon (Oregon State Board of Nursing, 1993).

Linking state licensure to national certification has been controversial within the advanced practice nursing community (Geolet,1986; Minarik, 1992; Hall, 1993). This is largely due to the fact that many nurses feel that certifying agencies do not adequately screen applicants and that, in turn, states may rely too heavily on certification in awarding licensure. It was for this reason that Oregon dropped its requirement for certification. Others feel that requiring certification is essential to uphold national standards of competency.

Practice Patterns:

Specialty Area

An estimate of the percentage of NPs working in primary care specialties is 86% (Morgan, 1993). An estimate of the percentage of PAs in primary care is 51% (Willis,1993). Specialization is an issue for both NPs and PAs, however the issue is very different between groups. In general, NPs specialize in primary care areas, such as pediatrics, adult, geriatric or family, with specialization content taught as a part of basic NP curricula. For NPs, specialization areas are defined by client care population. (Sultz, Henry, Bullough, Buck, & Kinyon, 1983). Nurse practitioners do specialize in very specific areas, such as diabetes management and rheumatology, but their specialization is built on this primary care specialty preparation. NPs are more likely to specialize in this way by virtue of developing an interest and experience in a certain area and then choosing to work and study in that field.

PAs, conversely, also specialize as part of their educational program, however, this specialization occurs in specific secondary and tertiary care medical areas such as surgery, or orthopedics (Hooker & Freeborn, 1991). The University of Colorado's Child Health Associate

Program is the only program offering pediatric preparation, a primary care specialty (Fasser, 1992; Hockenberry-Eaton & Jordan, 1992). Primary care specialization among PAs does occur in family, internal medicine, and pediatrics, but generally not as a result of primary PA educational program preparation. PAs tend to specialize more through specific training, working with a physician in a specialty area, or specialized institutional programs in a certain medical specialty, eg. ophthalmology (Hooker & Freeborn, 1991).

There seems to be a considerable amount of controversy in both professions concerning specialization. Both fields see primary care as a major focus, however, an apparently large group of PAs feel that secondary specialization is a valid role (Condit, 1992).

Nurses have long been involved in secondary specialization, in the form of clinical nurse specialists (CNS). A clinical nurse specialist, according to the ANA (1980, p. 1), is "a nurse who, through study and supervised clinical practice at the graduate level (master's or doctorate), has become expert in a defined area of knowledge and practice in a selected clinical area of nursing." Clinical nurse specialists act as expert nursing clinicians, managers, researchers, educators and consultants (Hockenberry-Eaton & Powell, 1991). Clinical nurse specialists, however, are not nurse practitioners. Recently the nurse practitioner/clinical nurse specialist roles have been combined to provide care in tertiary settings. (Gleesson, McIlvain-Simpson, Boos, Sweet, Trzcinski, Solberg & Doughty, 1990). An example of this combined role is the clinical nurse specialist/neonatal practitioner.

Some nursing leaders are advocating a merger of the CNS and NP roles, citing more similarities than differences in core preparation for the roles (Forbes, Rafson, Spross & Kozlowski, 1990). Others feel the CNS and NP roles should remain distinct and the emerging combined role given it's own unique name and definition (Hunsberger, Mitchell, Blatz, Paes, Pinelli, Southwell, French & Soluk, 1992).

It is important to note that the term advanced practice nurse has sometimes been used to describe this new role (Gleesson, McIlvain-Simpson, Boos, Sweet, Trzcinski, Solberg & Doughty, 1990). This terminology is unfortunate as the term advanced practice nurse has more consistently and appropriately been used inclusive of all nurses in advanced roles including certified nurse midwives, certified registered nurse anesthetists, nurse practitioners, clinical nurse specialists and combined advance practice roles (Safriet, 1992).

If the trend continues, increasing tertiary care specialization will have a profound effect on the NP role and its basis in primary care.

Settings

Nationwide, 62% of PAs are employed in outpatient areas, 30% in inpatient areas, 6% in military facilities and 2% in other clinical settings, 1% of these being in nursing homes (Willis & Pylitt, 1993). In a North Carolina study of NPs, 81% were employed in outpatient areas, 9% in inpatient areas and 9.7% in other settings (Rogers, et al, 1989). The National Survey of the American Academy of Nurse Practitioners (AANP) (1991) reported "16% of NPs in private practice, either with other providers or independently, 7% in health maintenance organizations (HMOs), 8% in inpatient hospital settings, 14% in freestanding primary care settings, 10% in hospital outpatient settings, 2% in college health settings, 3% in occupational health settings and 1% in home health settings" (p. 42).

Employment Pattern

Information available on part time work, number of hours per day, and number of hours per week was spotty, and if present, usually referred to specialty populations, so is not reported here.

Patient Load/Hours

Most studies have supported the idea that NPs see fewer patients per day than PAs. A study by Record and colleagues (Record, McCally,

Schweitzer, Blomquist & Berger, 1980), which looked at productivity and costs in primary care, found that NPs see 11.9 patients per day (pt./day) compared with 19.2 pt./day for PA's (Record et al., 1980). A more recent study at the same institution (Kaiser Permanente Northwest in Portland) described NP's in internal medicine as seeing 17.0 pt./day, PA's 19.0 pt./day and MDs 17.4 pt./day.

Procedures

Information concerning hospital, emergency room and delivery privileges for PAs was incomplete and referred to specialty populations to the point that no valid comparisons could be made. The AANP National Survey (1991) reports some data for NP's. Between 11.8% and 28.1% of NPs in this national survey reported hospital and nursing home privileges, with womens' health care NPs (WHCNPs) having the lowest percentage and adult NPs (ANPs) specialties having the highest percentage of practitioners with hospital and nursing home privileges. Of NPs with hospital and nursing home privileges, between 30.8 and 42.8% had admission and discharge privileges. Information on specific procedures performed was not found for either NPs or PAs.

Rural Vs. Urban

Fowkes (1993) described 46% of PAs working in communities of 50,000 or less and only 9% of NP's working in communities of 50,000 or less. However, Willis (1990) reported the number of PAs working in communities of 10,000 or less dropped from 19.9% to 12.9% and foresees a continuation of this trend. Willis attributes this drop to the increasing number of women in the PA profession and women being less likely to work in the rural areas than men. Both professions are interested in addressing the needs of rural and underserved populations (Willis, 1990; ANA, 1991).

When looking at urban vs. rural issues, it is important to also consider medically underserved populations, such as those in the inner city. In 1980, 47.3% of NPs were working with these medically

underserved populations, an increase from 23% in 1977. However, some of that increase came from a decreasing percentage of NPs working in rural areas (22% in 1977 to 9.4% in 1980). Similar to PAs there is a declining percentage of NPs working in rural areas.

One strategy that has been used to try to increase the number of NPs practicing in rural areas is selecting applicants to NP educational programs from areas of need (Andrus & Fenley, 1976). Others have simply stated the need to identify what characteristics and conditions are associated with providers going into rural practice (Willis, 1990). In the area of rural health care, perhaps more than any other, NPs and PAs seem to share common goals and common needs for research and support.

Satisfaction

In a study predicting role satisfaction among physician assistants, it was determined that role satisfaction among PAs was fairly high (Baker, Oliver, Donahue, and Huckabee, 1989). Although NPs were overall somewhat less satisfied in their roles, it is interesting to note that this difference was explained by the differences in only two categories: salary and promotions.

Summary of Literature Review

As seen by the preceding discussion, a comparison of NP and PA practice is complex. Yet when variables are examined in detail, several differences are apparent. NPs, at least in some parts of the country, practice from an independent model whereas PAs practice from a dependent model. There may be a difference in the way that physicians view the NP and PA roles. A difference in theoretical model (nursing vs. medical) exists. The overall number of NPs is higher than PAs. The ratio of male to female practitioners is higher in the PA profession. A salary discrepancy between PAs and NPs may exist. There are significant differences in NP and PA education and specialization characteristics. A larger percentage of NPs than PAs work in primary care. More PAs than NPs are likely to work in inpatient settings. Average patient load for

NPs is slightly less than for PAs and a larger percentage of PAs than NPs work in rural areas.

In evaluating survey data, direct comparisons in these areas will be made. In order to understand the importance of the data in terms of NP and PA roles, a conceptual framework using role theory will be applied.

Conceptual Framework: Sarbin and Allen's Theory of Role Enactment

In 1968, T. R. Sarbin and V. L. Allen, in the Handbook of Social Psychology (Lindzey and Aronson, 1968, pp. 488-567), outlined a midrange theory of role enactment, influenced by symbolic interactionism, a school of thought begun by George Mead in the 1930's (Biddle, 1986). The theoretical framework for this study is taken from Sarbin and Allen's work. Role expectation, role location, role skills, and audience effects are all presented as independent variables acting on the dependent variable of role enactment.

Like the work of many other role theorists, role enactment theory is constructed from a micro (individual) level orientation as opposed to a macro (social systems) orientation (Burr, Leigh, Day, 1979, p. 51). In order for Sarbin's mid range theory of role enactment to be applied to NPs and PAs as groups of individuals occupying a position within an occupational social system or "profession", the theory must be given a macro orientation.

In the following discussion, each of Sarbin and Allen's concepts are defined, given a macro orientation, and then operationalized in relation to the study variables.

1. Role expectation: Role expectations are defined as "the rights and privileges, duties and responsibilities, of any occupant of a social position in relation to persons occupying other positions in the social structure" (Sarbin and Allen, 1968, p. 497). This concept transfers well to a macro orientation and includes such aspects as conformity to

role expectations and clarity of role expectations. Role clarity is especially applicable in exploring NP/PA roles and is defined as "the difference between the optimal amount of information needed about role expectations and the amount actually available" (Sarbin & Allen, 1968, p. 503).

2. Role location: Role enactment theory asserts that survival in society is related to an individual's ability to locate himself in the social structure, and that "the position of others must be taken into account if he is to locate himself accurately" (Sarbin and Allen, 1968, p. 506). Description of relative NP/PA roles can be seen as an attempt to pinpoint role location.

3. Role skills: "A physical and psychological readiness to perform some task to some given level of competence, aptitude, experience and specific training" (Sarbin and Allen, 1968, p. 514). According to role enactment theory, these skills are related to the effectiveness of role enactment. By evaluating comparative NP and PA education and experience this concept is addressed.

4. Audience Effects: The audience consists of observers who are present during role enactment. The audience is not necessarily physically present (Sarbin and Allen, 1968). In the case of NPs and PAs, we can define the audience as being the public, the nursing community, the medical community and other health care providers.

5. Role Enactment/Quality of Role enactment (dependent variable): According to Sarbin and Allen (1988), "to the [researcher] whose observations are guided by role theory, the object of study is the role enactment of persons in social settings (p. 490)." Sarbin and Allen define role enactment on the basis of role appropriateness, propriety and convincingness. In other words, has the actor selected the correct (appropriate) role? Does the actor meet the normative standards for that role and is the actor's performance convincing? That is, does the audience accept the actor in the role?

Sarbin and Allen also state that role enactment involves "what the person says and does" (p. 491). The difficulty of applying this definition to practical research lies in it's level of abstraction. Cote and Yehle (1991) described role enactment as "why people do and say the things they do in particular situations in various organizations." Burr and associates (1979), described quality of role enactment. In order to operationalize the concept of role enactment, the term quality of role enactment has been chosen and given the definition, "the effectiveness of the performance of role functions resulting in satisfying outcomes for the performer, involved other(s) and audience."

Following the research questions, a table is provided (Table 1) which links study variables to the variables outlined in role enactment theory.

Research Questions

The research questions generated for this study are:

1. What are the demographic characteristics of NPs and PAs in Oregon?
2. How do NPs and PAs in Oregon compare in income?
3. How do NPs and PAs in Oregon compare in educational preparation, certification requirements and experience?
4. What are some of the similarities and differences between NPs and PAs in Oregon in practice patterns including comparisons of specialization characteristics, settings, employment pattern, patient load and procedures performed?
5. How do NPs and PAs in Oregon compare in their preference for rural practice?
6. How do NPs and PAs in Oregon compare in satisfaction with their practice?

Table 1

Sarbin and Allens Theory of Role Enactment Linked to Study Variables

Area of Content	NP Questionnaire Items	PA Questionnaire Items	Independent Role Enactment Variables
Demographics	1,2,3	1,2,3,	-role expectations
Income	6	6	-role expectations -audience effects
Education			
-educational background	9	7	-role skills
-experience	11,25	9,13	-role skills
-certification	12	11	-role skills
Practice Pattern			
-specialty area	14	14	-role location
-settings	17,18,35	16,17,36	-role location
-employment patterns	31	33	-role expectations -role location
-patient load/hour	29	31	-role expectations -role skills
-procedures	32,36	34,35	-role skills
Rural Vs. Urban	4,19	4,18	-role location
Satisfaction	7	37	-role expectations -audience affects
ROLE ENACTMENT as the dependent variable is affected by role expectations, role location, role skills and audience affects.			

(See Appendix A & B for NP and PA Surveys.)

Chapter 2

Method

This study is a nonexperimental, descriptive, secondary analysis of data gathered from two questionnaires collected in Oregon in 1992. Nurse practitioners and physician assistants and some of their practice characteristics were compared through statistical analysis of survey data.

Rationale

Impetus for the original surveys began out of a Community Medicine project at Oregon Health Sciences University (OHSU) headed by Dr. Harold Osterud, in which running data on physicians in Oregon have been kept for several decades and correlated with population data. The goal of this project has been to look at physician needs for the state. For a number of years individuals involved with the project recognized the need to develop the same type of data for NPs and PAs. The NP and PA surveys were developed to answer this need. Using these surveys, data could then be collected every couple of years and used by agencies such as the State Office of Health Policy for the purpose of health personnel planning. This type of information is especially valuable in planning for the provision of primary care in rural communities. In addition to health personnel planning, the Oregon Legislature was interested in exploring the possibility of developing a physician assistant program in Oregon.

Sample

The sample for the NP survey included all the certified NPs in Oregon as provided by the Oregon Board of Nursing. Questionnaires were sent to 810 Oregon NPs. Of these, 630 questionnaires were returned with an overall response rate of 78%. NPs not involved in active practice were excluded from data analysis. Analysis was based on 570 respondents involved in active clinical practice (Office of Rural Health, November 1992).

The Physician Assistant Survey sample included all licensed PAs in Oregon as provide by the Board of Medical Examiners. A total of 221 questionnaires were mailed. Of these, 174 surveys were returned with a response rate of 79%. As with the NPs, PAs not involved in active practice were excluded from analysis. In addition, 7 PAs were excluded based on their "grandfathered" certification status, leaving a sample of 146 respondents. "Grandfathered" PAs practice under special limited licenses and were not used in the original survey data analysis as it was felt this subgroup of respondents did not accurately represent PA practice (Office of Rural Health, July 1992).

Measurement

Catherine Burns, PhD, RN, PNP, representing the PNP, ANP and FNP programs at the Oregon Health Sciences University School of Nursing (SON), acted as convener for the original nurse practitioner survey working group. The remaining group members included representatives from the Oregon Nurses Association, the Oregon Office of Health Policy, Office of Rural Health, the Oregon State Board of Nursing and the SON midwifery and mental health programs. This committee collectively drafted and agreed on the questions and a pilot survey was sent out prior to final revisions.

Karen Whitaker, Director of the Office of Rural Health convened the working group which developed the PA survey. This group also collectively developed survey items. Other group members include representatives from the Oregon Society of Physician Assistants, Oregon Board of Medical Examiners, Association of Physician Assistant Programs; MEDEX Northwest, Office of Congressman Ron Wyden and PA legal counsel.

Both the NP and PA surveys were developed close to the same time, with the Office of Rural Health involved with both projects. Underlying goals for health personnel planning were shared by both projects, along with the idea that the information would someday be used in conjunction. There seems to have been a considerable amount of sharing of ideas

between groups and many survey items are identical or similar.

Makeup of the working groups and systematic procedure used during tool development increase the probability of content validity of these questionnaires. Unfortunately, reliability testing for these measures has not been done and the structure of the questionnaire does not lend itself to split-half reliability or alpha testing.

Due to the relatively high return rate for both the NP and PA surveys, response bias is probably relatively small (Polit and Hunger, 1991, p. 292). Some bias may also exist in that individuals may have answered the questions based on social desirability.

Data Collection

The Office of Rural Health conducted the data collection for both groups, beginning the PA project first. A total of three mailings for the PA survey were done, each including a questionnaire and cover letter. The first questionnaire went out February 5, 1992. A second mailing was sent after 3 weeks. Immediately following the second mailing, a representative of the Oregon Society of Physician Assistants followed up with non-respondents by phone. Two weeks following this a 3rd mailing was sent out to the remaining non-respondents. The first NP survey was mailed out July 10, 1992, after being piloted on a sample of 20 NPs. A follow-up mailing of the questionnaire including cover letter was done 5 weeks later. Questionnaires were then returned to the Office of Rural Health staff, who then entered and tabulated the data.

Resources

Funding for both NP and PA surveys came from the State of Oregon through the Office of Rural Health with supplemental funding for the NP survey coming from an Area Health Education Center Grant. The data from the NP survey were made available for this project from the OHSU School of Nursing. Data from the PA survey were made available by the Office of Rural Health. Raw data were provided for this project by the Office of Rural Health for both PA and NP data in the form of ASCII files which

were converted into DATA CRUNCH4 files for coding and statistical evaluation. Respondents have been identified by number only.

Human Subjects

Exemption from review by the Human Subjects Committee was granted based on exemption category (4); "research involving collection of existing data where the information is recorded in such a way that subjects cannot be identified" (EXCAT, rev. 1991).

Procedures

Data comparison was made between NPs and PAs in the ares of: demographics, income, education, practice patterns (including specialty area, settings, employment pattern, patient load and procedures), rural vs. urban practice, and satisfaction. Questions were evaluated for content and then grouped into one of these content areas. The two survey forms were examined to determine which questions were identical or equivalent and which were non-comparable. Comparable items from the two surveys were merged into one file. Non-comparable items were either excluded from inferential analysis or data were recoded to make variables comparable and extract relevant information.

Data analysis included the use of frequency distributions for descriptive purposes. In addition, t-tests for independent groups and chi-square with correction for continuity were used to compare NPs and PAs on identical and equivalent items. Based on a determination of content, non-equivalent items are presented for descriptive comparison only, without inferential statistical evaluation.

All individuals not in active practice were excluded from all data analysis. Of 630 NP respondents, 53 were inactive and 7 had extensive missing values, leaving 570 respondents. Of 174 PA respondents, 21 were inactive and none were excluded for extensive missing values, and additional 7 respondents were excluded based on grandfathered limited licenses, leaving data from 146 respondents available for analysis.

Chapter 3

Results

Demographics

The first research question related to demographic characteristics of NPs and PAs. Age, gender and ethnic group were evaluated.

Age

PAs in Oregon as a group are significantly older than NPs. Mean age of NPs is 41.3 yrs. (SD=7.3), mean age of PAs is 43.7 yrs. (SD=6.6), a difference of 2.4 years, $t(714) = 3.62$, $p<.001$.

Gender

NPs in Oregon are most likely to be female (91.6%), whereas PAs are more likely to be male (69.2%), chi-square (1, $N = 716$) = 256.7, $p<.001$.

Ethnic group

Ethnic categories were collapsed to white and non-white groups. The nonwhite groups included black, hispanic, asian/pacific islander, native american and other. PAs as a group had the greater ethnic diversity with 11.7% nonwhites as compared to 4.2% nonwhites in the NP group, chi-square (1, $N = 712$) = 10.6, $p<001$.

In summary to answer the first research question, PAs in Oregon are slightly older than NPs, NPs are overwhelmingly female as compared to PAs and PAs as a group have greater ethnic diversity than NPs.

Income

The second research question asks how NPs and PAs compare in income. In order to control for the number of hours worked per week in comparing NPs and PAs on income, individuals were selected for the analysis if they were working full time, defined as 35 hours per week or more. Income categories A(<$20,000) and B($20,000-29,999), and F($60,000 to $69,999) and G($70,000>), were collapsed because of small numbers at the high and low end of the income scale (see Table 2). Also note that response options for this item were incorrectly labeled on

both surveys so that there are two "D" responses. Data entry was corrected for this error.

Table 2

Comparison of NPs and PAs by Income

Income in $$$	Nurse Practitioners	Physician Assistants
F or G - 60,000 or >	7.1%	15.4%
E 50 - 59,999	15.3%	15.4%
D 40 - 49,999	43.2%	45.1%
C 30 - 39,999	23.4%	23.1%
A or B <29,999	11.0%	1.1%
Total	100.0%	100.0%

Comparison of income between groups shows a statistically significant difference between NPs and PAs, with more NPs (11%) in the under $29,999 category compared to PAs (1%) and more PAs (15%) in the $60,000 and over category compared to NPs (7%), chi-square (4, N = 399) = 11.3, $p<.05$. PAs in Oregon have significantly higher incomes than do NPs.

Education

The third research question compares NPs and PAs on educational preparation, certification requirements and experience.

Educational background

The nurse practitioner survey distinguished between nursing education and other types of educational degrees while the physician assistant survey did not make any such distinctions. Thus, for purposes of comparison, NP data was collapsed into general degree categories. A significant association between educational background and practice group was found, in that 76% of NPs held a master's degree or higher, compared to only 11% of PAs (see Table 3), chi-square (4, N = 714) = 260.7, $p<.001$.

Table 3

Comparison on NPs and PAs by Educational Background

PA/NP x Degree	Nurse Practitioners	Physician Assistants	Total
Ph.D	4.4%	0.7%	3.6%
Master's	71.8%	10.3%	59.2%
Bachelor's	16.9%	56.8%	25.1%
Associate/ 3 yr.Diploma	6.9%	12.3%	8.0%
Certificate	0%	19.9%	4.1%
Total	100%	100%	100%

Prior experience

NP/PA pre educational program health experience.

Since RN licensure is a requirement prior to attending an educational program, information on prior experience for NPs was unenlightening. Virtually all NPs had prior RN experience. Some had additional experience in other medical/nursing areas prior to R.N. licensure such as LPN, nurses aide, EMT, medical technologist, medical assistant and others. Number of years of pre-educational experience was listed for the NP survey but not for the PA survey, so this information could not be compared. Because of the way responses to this item were arranged, it was difficult to evaluate percentages of individuals having each type of experience.

The PAs, brought a wide variety of experiences to the PA role. Of the PAs previous experience included: military corpsman (35.6%), EMTs (21.9%), hospital orderlies (14%), medical assistants (12.4%), surgical technicians (11%), RNs (8.9%), LPNs (8.2%), medical technologists (8.2%), and all others (14.37%). Many individuals had experience in more than one area, however, as for NPs, there was no way to accurately quantify this from the data available. Additionally, because of wording in response options it was not clear what percentage of PAs had no prior

health professions experience. Review of the PA raw data sets shows that this was the case at least occasionally.

Experience in the NP/PA role

PAs reported 1.4 years more experience in their current role (M = 10.9 yrs., SD = 5.4) than did NPs (M = 9.5 yrs., SD = 5.6), t (711) = 2.80, $p<.01$.

Certification

More NPs (84.4%) than PAs (76.6%) were nationally certified, chi-square (1, N = 638) = 4.250, $p<.05$.

To summarize, the largest percentage of NPs (72%) hold a Master's degree, while the largest percentage of PAs (59%) hold a Bachelor's degree. Virtually all NPs have prior experience as an RN and some have additional experience in other health related fields as well. PAs have a wide variety of experiences in the health care professions. PAs in Oregon have somewhat more experienced than NPs in current professional roles. Other experience in advaced health care roles was not studied. More NPs than PAs hold national certification.

Practice Pattern

Research question four compares NPs and PAs on practice patterns including; comparisons of specialization characteristics, settings, employment pattern, patient load and procedures performed.

Specialty area

Both surveys included an open-ended question asking respondents to list their specialty areas. NPs gave very different responses from PAs. Of NP's 82.3% were in primary care specialties, excluding mental health NPs and geriatric NPs. PAs in primary specialties, including family practice (general practice), ob-gyn and pediatrics, constituted 47.5% of PAs in Oregon (see Tables 4 and 5).

Table 4

Nurse Practitioner Specialties in Oregon

Specialty Area	Frequency	Percent
Family NP	128	23.1%
Adult NP	97	17.5%
Womens Health Care NP	95	17.2%
Primary Mental Health NP	79	14.3%
Pediatric NP	74	13.4%
Certified Nurse Midwife	66	12.0%
Geriatric NP	14	2.5%
Total	553	100%

Table 5

Physician Assistant Specialties in Oregon

Specialty	Frequency	Percent
Family Practice	59	40.6%
Orthopedics	21	14.4%
Surgical Specialties	17	11.7%
Internal Medicine	15	10.3%
Other Specialties	9	6.2%
Medical Specialties	7	5.0%
General Surgery	7	5.0%
Pediatrics	6	4.1%
Obstetrics/Gyn	4	2.7%
Total	163	100%

Settings

Type of Practice

Significant differences were found in location of NPs and PAs in practice settings, chi-square (8, N = 707) = 139.1, p<.001, expected frequency in 1 of the 18 cells was only 4.1, however due to the highly significant p value, results are still valid. NPs were 7 times more likely to work in a public health department as PAs (14.8 to 2.1%). NPs were 8 times more likely to work in a school or college clinic as PAs (5.9 to 0.7%). NPs were twice as likely to work in an office practice without a physician (12.1 to 5.5%). On the other hand, PAs were twice as likely to work in an HMO/ambulatory care agency as NPs (24.8 to 12.8%) and PAs were twice as likely to work in an office practice with a physician (42.8 to 23.5%).

Other settings were collapsed due to the small numbers of individuals working in these settings. These settings included occupational health, extended care facilities, academic settings, hospital emergency care, in-hospital patient units, military clinics, correctional facilities, and home health agencies. NPs were 5 times more likely to work in these settings (10.9 to 2.8%).

Individuals also responded to an "other" category with responses such as migrant health centers, planned parenthood, free standing birth centers, home births, adult day care, and rural health consultant. NPs were 6 times more likely to work in these settings as PAs (12.3 to 2.8%). Chi-square (8, N = 707) = 139.086, p<.001.

Federally supported clinics

Nurse practitioners were twice as likely to work in federally supported clinics (20.5%) compared to 9.9% of physician assistants, chi-square (1, N = 678) = 7.843, p<.01.

Age groups

Data on age groups seen in practice was problematic in that respondents had the option of indicating that they served clients of all

ages, but they could also check one or more of six age categories. It was unclear if individuals who saw all age groups in their practice selected not only that category but all others as well. This made it difficult to extract information about individuals seeing only one age group, however, by counting response options selected some information was obtained from the data.

NPs and PAs looked significantly different in the age groups of clients seen in practice, chi-square (3, N = 705) = 87.6, p<.001. PAs were more than twice as likely to report that they saw all age groups. NPs were three times as likely to report seeing a mix of pediatric and adult patients but not all age groups. NPs were three times as likely to see pediatric patients only (see Table 6).

Table 6

Comparison of NP and PA Practice by Client Age Group

NP and PA x Age of Clients	NP %	n	PA %	n	total %	n
All ages	24.5%	137	65%	93	32.6%	230
Some 18 and under and some >18 (Adults and Pediatrics but not all age groups)	38%	213	11.1%	16	32.5%	229
<18 only (Pediatrics)	11%	63	3.4%	5	9.6%	68
>18 only (Adults)	26.5%	148	20.5%	30	25.3%	178
Total	100%	561	100%	144	100%	705

Employment Pattern

Unfortunately, this study did not yield acceptable data on part time vs. full time work, number of hours per day or number of hours per week. Questions in this content area were worded in a way to make them non-comparable or difficult to interpret even when considered for one group only. For example, NP survey item 30 asks about hours in a typical work week, while similar PA survey item 32 asks about direct

patient care hours in a typical work week. Information on the number of weeks worked per year was available but showed no significant differences, (NP M = 47.6, SD = 2.9), (PA M = 48.1, SD = 5.9), $t(436)$ = 1.42 separate variances estimate, p>05.

Patient Load/Hours

In spite of the limitations noted above, comparison of patient load per hour was possible through reorganization of data. Individuals working less than 35 hours per week were removed from analysis, and the number of patients seen per hour was calculated in individuals working 35 hours or more per week. Outliers greater than 4 SD from the mean were excluded from analysis. The average number of patients seen per hour was higher for PAs (M = 2.4, SD 2.4,than for NPs (M = 1.9, SD 1.9, $t(119)$ = 2.85, p<.01.

Procedures

Procedures currently provided.

Only information on procedures currently performed was compared. Information on pediatrics was not compared due to differences in the response options for this category between the NP and PA questionnaires. Additionally, the PA response option on emergency administration of prescriptions was not included as there was no corresponding NP response option. Significant associations between practice group and procedures were noted in several areas (see Table 7).

Privileges/housecalls

Only 15.1% of NPs reported having hospital admitting privileges in their current practice as compared to 21.9% of PAs. This difference was not statistically significant, chi-square (1, N = 716) = 3.5, p>.05. Non-admitting hospital privileges were reported by 37.7% of the PAs as compared with only 17.4% of the NPs, chi-square (1, N = 716) = 27.2, p>.001, a highly significant difference.

Table 7

Comparison of NP and PA procedures performed

PA/NP x Proc-edure	NP % now provides	NP n	PA % now provides	PA n	chi-square	df	p
Drug RX Write	83.3%	570	76%	146	3.698	1	0.054
Lab	62.5%	570	43.8%	146	15.859	1	0.000
Womens Health Care	62.3%	570	52.4%	146	3.452	1	0.063
Mens Health Care	40.9%	570	58.9%	146	14.569	1	0.000
Trauma Minor	37.2%	570	58.2%	146	20.311	1	0.000
Drug Disp.	34.4%	570	16.4%	146	16.756	1	0.000
EKG	31.8%	570	39.7%	146	2.973	1	0.084
X-ray	29.6%	570	33.6%	146	0.666	1	0.414
O.B.	25.5%	570	18.5%	146	14.298	1	0.000
Trauma Major	4.7%	570	23.3%	146	48.969	1	0.000

More PAs (22.6%) than NPs (8.8%) reported seeing patients in the hospital ER, chi-square (1, N = 716) = 20.4, p<.001. More PAs (19.9%) than NPs (5.3%) reported nursing home privileges, chi-square (1, N = 716) = 30.9, p.<001.

No significant differences in house calls were reported between the two groups, chi-square (1, N = 716) = 0.3, p>.05.

To summarize results on practice patterns, NPs and PAs specialize in very different ways and more NPs than PAs in Oregon specialize in primary care areas. NPs and PAs locate in different practice areas and see different age groups, although there is a large overlap between the two groups in both areas. There is no association between weeks worked per year and practice group, NP or PA. PAs see more patients per hour than NPs. There are some significant differences in the kind of procedures performed by NPs and PAs, however again there is a substantial overlap between the two groups. There are also differences in privileges reported by NPs and PAs. More PAs than NPs have hospital, emergency room and nursing home privileges. There is no difference in house calls between NPs and PAs.

Rural vs. Urban

The fifth research question explores which practice group, NP or PA, is more likely to work in a rural practice. Survey data was available on the size of town in which the individual grew up and the size of town individuals are now working in and a comparison was made between NP an PA groups on these two items. Data categories were collapsed for analysis. No association was noted between home town size (chi-square (4, N = 712) = 0.17, p>.05) or practice size town (chi-square (4, N = 697) = 2.1, p>.05) and NP or PA group, in fact, the two groups looked almost identical on these items.

Table 8

Home town size by NP and PA groups.

Town Size x Group	0-1,999	2,000 - 4,999	5,000 to 19,999	20,000 to 49,999	50,000 or >	% of Total number
NPs	11.8%	8.3%	18.9%	17.0%	44.0%	20.5%
PAs	12.3%	6.8%	19.9%	16.4%	44.5%	79.5%

Table 9

Current practice site town size by NP an PA groups.

Town Size x Group	0-1,999	2,000 - 4,999	5,000 to 19,999	20,000 to 49,999	50,000 or >	% of Total number
NP's	4.5%	5.3%	13.8%	15.4%	61.1%	20.8%
PA's	4.8%	6.9%	15.2%	10.3%	62.8%	61.1%

Although not specifically addressed by the stated research questions, an additional crosstabulation for town of origin by town of current employment was done with NP/PA groups considered as one group. Further data collapse was done for this crosstabulation.

Home town size by practice town size

Data were collapsed into three categories, small town = pop. less than 5000, medium town = pop. 5000 to 49,999 and city = pop. 50,000 or greater. When considered as a group, NP and PAs who grew up in a small town were twice as likely to return to a small town (40.8) to practice as NPs and PAs who grew up in a city (22.5%). This difference seemed to be more true for PAs (47.1 to 5.9%) than for NPs (38.9 to 27.8%) but held across both groups when analyzed individually.

Differences were statistically significant for NP/PAs taken together (chi-square (4, N = 693) = 42.4, $p<.001$), for NPs only (chi-square (4, N = 548) = 30.3, $p<.001$), and for PAs only (chi-square (4, N = 145) = 13.9, $p<.01$). In summary NPs and PAs were equally as likely to have grown up in and to practice in a small town. In Oregon, a greater

percentage of NPs and PAs who have grown up in a small town will return to practice there.

Satisfaction

The final research question asks how NPs and PAs compare in satisfaction with their practice. NP and PA questions on satisfaction, although both Likert scales and generally the same, were different enough to be statistically non-comparable. However, basic responses on both questionnaires can be reported as either satisfied (options 1 and 2 on NP survey and options A, B, and C on PA survey); neither satisfied or dissatisfied (option 3 on NP survey and option D on PA survey); or dissatisfied (option 4 and 5 on NP survey and options E, F, & G on PA survey). Based on this assumption, 79% of NPs and 79% of PAs reported satisfaction with their current practice situation. Seventeen percent of NPs and 8% of PAs reported being neither satisfied or dissatisfied. Four percent of NPs and 13% of PAs reported dissatisfaction with their current practice situation. In summary, NPs and PAs appear to be similar in practice satisfaction, although NPs may be slightly more satisfied in their roles than PAs.

Chapter 4

Discussion

Demographics

NPs and PAs are not significantly different in age. The majority of NPs and PAs have prior education and health professions experience probably developed during the 20's and early 30's so age at entry for NPs and PAs is probably older than for many other professions.

Not surprisingly, nurse practitioners in Oregon are overwhelmingly female and the majority of PAs are male. Compared to national data, Oregon has a higher percentage of male NPs and PAs (Dunn, 1993; Cawley, 1992). Although the demographics of gender are changing in the PA profession if not in the nursing profession, this difference in gender still represents a significant difference in the professions. Role expectations may be different for NPs, most often identified as female, than for PAs, most often identified as male, affecting role enactment.

PAs in Oregon are more ethnically diverse than NPs, with more than twice the percentage of minority practitioners. These results are close to the national average of minorities in the PA profession (Cawley, 1992). The difference between NP and PA ethnic diversity may be due in part to increased accessibility of the PA profession to minority groups. Higher educational and experience requirements in NP programs may present a barrier to applicants.

Income

In agreement with the cited literature, NPs in Oregon are making less money than PAs (Rogers, et al., 1989; Hooker, 1993; Wills, 1990). This difference is evident only at the high and low ends of the income scale, with NPs clustered at the low end and PAs clustered at the high end. Since information on the exact number of hours worked was not available and it was necessary to assume full time work for individuals working more than 35 hours per week, individuals working significantly more than 40 hours per week may have confounded the results related to

this variable. This might be true if they were seeing more patients through working more hours. Any effect this may have had was modulated, however, by excluding outliers greater than 4 SD away from the mean.

Each individual NP or PA, and the people they work with and for have expectations about a salary range for NPs and/or PAs. Thus, expected salary constitutes a role expectation. Role expectations are important in role definition. In turn, NPs and PAs evaluate their own value through the salaries they are offered in the workplace. This audience effect impacts role enactment in many ways, for example through job satisfaction, level of confidence, and colleague respect.

Education

Educational Background

Data on educational background of NPs and PAs supports the available literature suggesting a trend towards the Master's degree as entry level for NPs (Geolet, 1987; Hockenbery-Eaton & Woodruff, 1992) and the Bachelor's degree as the primary degree for PAs (Fasser, 1992). Nurses in Oregon are predominantly Master's prepared compared with PAs who predominantly hold a Bachelor's degree. The level of educational experience required for NP/PAs is regulated from within each respective profession and by the practice requirements of each state. It would have been helpful to be able to compare NPs and PAs on educational degrees related to health care, since determining if educational degrees are health related or from other fields of study is an important distinction.

Experience

Data on this question were unsuitable for inferential statistical comparison, however, differences between NPs and PAs in experience prior to NP or PA educational programs are obvious. As in many areas of comparison, there is overlap, and individual NPs and PAs may appear similar in terms of experience. NPs are nurses, they practice based on nursing licensure and so almost all have RN education and experience,

although they may have additional experience in other health fields as well. PAs on the other hand come to the profession from a broad range of backgrounds. Data collected in previous studies supports results shown here (Smith & Shoffner, 1991; Berry & Deiter, 1989).

There was also a significant difference in professional role experience, that is, the number of years worked either as an NP or PA, with PAs having 1.4 more years of experience than NPs. PAs are slightly older in this sample and increased experience may be a function of increased age. Different types of educational and prior health professions experience bring different role skills to NP and PA groups. Given that role skills affect role enactment, it can be assumed that these differences will affect the way in which NP and PA roles are enacted.

Certification

The majority of individuals in both professions are nationally certified, giving credence to the importance of certification cited in the literature (Willis, 1993; Geolet, 1986; Minarik, 1992; Hall, 1993). At the time of the survey, certification was a requirement to practice in Oregon for both professions. More NPs than PAs in Oregon are certified, this is statistically significant but may not be clinically significant.

Practice Pattern

Specialty Area

Survey results show that NP and PA specialties in Oregon are quite different, and this finding is supported by the literature (Sultz, et al, 1983; Hooker & Freeborn, 1991). PAs specialize along medical specialties, while NPs specialize by populations served in their practice. Although this data could not be evaluated through inferential statistics, descriptive results point to clinically important differences in the two professions. Differences in specialization are representative of differences in role location and may result in

differences in how and where these two groups are being used to meet health care needs.

Settings

Type of practice.

NPs and PAs are practicing in different places. This difference in practice location is not only statistically significant but clinically significant as well. It seems likely that educational preparation is involved in choice of practice location. A broad based education with social sciences components may lead more NPs to work in settings such as public health, where these skills would be most useful. This broad based education and broader theoretical base may also be why NP practice locations are more diverse. This may also be why nurse practitioners are twice as likely as PAs to work in federally supported clinics.

PAs close association with the medical profession makes them more likely, for example, to work in an office with a physician or in surgery. History may also play a part in role location, it may be that more PAs now work in HMOs because when both roles were introduced, the PA role met with less resistance from MDs and other health care professionals and this just became a "traditional area" for PAs to work.

Type of practice setting, whether it be in a public health clinic or a hospital operating room, is a reflection of role location but it is also an outcome, a measure of role enactment. NPs and PAs as groups are enacting different roles.

Age groups.

Data on age groups was also interesting. Educational preparation linked to age related population groups, such as adult or pediatric nurse practitioner accounts for the more even spread of NPs across age groups than PAs. The majority of PAs saw all age groups in their current practice, which is consistent with the educational preparation of PAs as generalists. Because of the structure of this question,

information on older age groups could not be teased out of the data.

Employment Patterns

Evaluating the limited data available in this content area, NPs and PAs are similar, both groups working approximately the same number of weeks per year. It is unfortunate more of the data in this are were not usable due to problems with wording of items and response options.

Patient Load/Hours

The literature supports the findings of this study which report that NPs see fewer patients per hour than do PAs. This result is statistically significant and probably clinically significant as well as it translates to PAs seeing 18.87 patients per day compared to NPs seeing 15.24 patients per day. Assuming 8 hours of appointment time, this hourly difference amounts to PAs seeing 3.5 patients per day more than NPs.

Patients seen per hour may be seen, not only as a reflection of role skills and of role expectation, specifically role clarity, but also as a measure of role enactment. Are nurses less busy during their patient encounters or are they doing different things? Is the expectation (of clinic administrators, patients, etc.) that they are performing the same role? Are nurses placing more emphasis on teaching and health promotion and therefore taking more time with patients? Is a difference in communication style as suggested by Drass (1988) responsible for the difference?

Procedures

Specific procedures performed.

Results for procedures performed are not surprising given previous results about type of practice setting, specialty area and age groups. For example, NPs are more likely to provide O.B. coverage which is logical given that 12% of nurses are certified nurse midwives and another 17% are women's health care practitioners as compared to only 2.7% of PAs. However, there was no statistical difference in NPs and

PAs in the provision of women's health care. This is probably accounted for by the fact that the largest percentage of PAs in any specialty are in family or general practice.

All the listed role skills were performed by both NPs and PAs and in this the two groups looked alike, however, they differ again in which skills are most likely to be provided by each group. It seems reasonable to say, given results that NPs and PAs as individual groups bring different role skills to their practices.

Hospital/nursing home privilege/house calls.

PAs are more likely to have hospital priveleges, although statistical results were mixed. They were also more likely to see patients in the hospital ER and in nursing homes. This may be related to specific procedure results that show PAs are more likely to provide major and minor trauma services as these services are most likely to be provided in these settings. These results may be partially explained by the higher percentage of PAs in the surgical specialties but this seems unlikely to fully explain this difference. Another explanation may relate to legislative regulation of NP admitting privileges. Recent Oregon legislation has made it easier for NPs to gain hospital privileges, so future research may show different results in this area.

Rural vs. Urban

No differences exist between PAs and NPs in Oregon by rural, suburban or urban practice. Although the literature states that PAs are more likely work in a rural practice (Andruns & Fenley, 1976; Willis, 1990), these study data did not support the previous research. Groups looked almost identical in the size of hometown they grew up in. These results agree with the author's suggestion noted in the literature review that PAs and NPs probably look most alike in rural practice. This measure is also one of role location, but in this instance, unlike others discussed, NPs and PAs seem to occupy similar role locations.

Because the question arose in the literature review and data were

available, crosstabulations were done by hometown and town of practice site for NP/PAs as a whole. A need for research in this area was stated in the literature (Willis, 1990). Results noted here support the idea presented in the literature that PA/NPs who grew up in a rural town are more likely to work in a small town than individuals growing up in a city. However, the largest percentage of these individuals were still lost to larger towns.

Satisfaction

NPs and PAs appear to be similar in role satisfaction based on gross comparison. Role satisfaction is a complex phenomenon in which audience effects may play a part. but role satisfaction like choice of practice site and patient load may also be seen as a measure of role enactment. Individuals who are able to effectively act out their roles will be more satisfied.

Summary

Through analysis of existing data most of the research questions posed have been answered. Information on practice patterns surrounding employment, such as part time vs. full time work, overtime, etc., was not available due to wording of questions and response options. All other questions were addressed at least in part by this study.

Results show that NPs and PAs as groups in Oregon are different in sex and ethnicity but similar in age. PAs in Oregon make more money than NPs. Prior experience and educational preparation for these two roles are different, as well as number of years experience in the professional role. There are differences in the manner in which NPs and PAs specialize, in the settings in which they work, and age groups which they are most likely to serve. They are different in the provision of some procedures, while they are similar in the provision of other procedures. A similar percentage of NPs and PAs go into rural practice in Oregon. Finally, NPs and PAs are similar in their level of satisfaction with their respective roles, although NPs may be slightly

more satisfied than PAs.

Taken as individual groups, it appears that NPs and PAs indeed are different, they may have different role expectations, they occupy different role locations, draw from different pools of applicants and experience, and possess different role skills. The reason that this idea is often so confusing is that taken as individuals, NP and PAs can look very much alike if not identical, as in the case of PAs with nursing backgrounds. It is important to be aware of this wide diversity and overlap in the two fields without loosing site of group characteristics.

If, as groups, NPs and PAs occupy different locations and enact their roles in different ways, then they are occupying different ecological niches in health care. Different role location, different role enactment, different health care needs being met. This idea underscores the value of both roles to health care.

Implications

Identifying specific role characteristics of NPs and PAs is important for individuals recruiting for non-physician providers. Other members of the health care team working with NPs and PAs make decisions based on the perceived role functions or roles expectations of NPs and PAs. They need to be able to define the respective roles accurately in order to make these decisions effectively. The public needs to be able to make an informed choice when selecting health care providers. All of these are important reasons for improving role definition in the still developing NP and PA roles. Yet most important of all is the need for each of us in our respective professions, nurse practitioners and physician assistants, to define within our profession and in relation to other members of the health care team; who, what and where we are. Then we will be able to take a proactive stance in determining who, what and where we will be in the future.

Limitations

Limitations of this study include problems related to secondary data analysis. Although practice pattern information on employment would have been informative and very helpful when looking at income and patient load it simply was not available in a usable form and made the information in these areas less certain than it might have been. Some other related problems were outlined in the discussion. Secondary data analysis provides no opportunity to obtain missing chunks of data.

A non-random sample limits generalizability of findings. Additionally, differences in demographics, regulation of practice, educational opportunities and population characteristics from state to state limits the generalizability of results to NP/PAs in other states. However, results may be somewhat generalizable to certain states such as Washington, Arizona, Montana and Wyoming which have many areas of sparse population and regulation which allows for a relatively independent practice for NP/PAs, conditions which are similar to practice in Oregon. Another important characteristic in Oregon which may be unique is that NPs outnumber PAs 4:1. A careful comparison of these characteristics would be necessary before attempting to generalize to a target population larger that Oregon's NP/PA population.

The surveys analyzed here are part of an Oregon plan to track health personnel in that state and repeated surveys are planned at intervals. This may provide a unique opportunity to track and compare NP/PA roles in the future. Minor modifications in the questionnaires would eliminate many of the problems encountered in data analysis and recommendations regarding measurement problems are to be provided to working groups as a result of this study.

Future research

There are many more questions about NP and PA role enactment and role delineation that are not addressed by this study, questions such as: How are the respective roles viewed by the public, or other health

care providers and how do differences in these expectations impact NP/PA roles (audience effects)? How do NPs and PAs differ in research practices and health promotion? How cost effective are the respective roles in comparison to each other?

Some additional questions could be answered by further evaluation of this study data. For example, what accounts for the difference in income between NPs and PAs? Analysis of NPs and PAs by gender, specialty, setting, education and experience might help to explain this difference. An interesting idea, given that NP and PA practice does indeed appear different, is that the area where NP and PA practice looks most the same is in rural health. A comparison could be made between NPs and PAs working in rural areas to see if they are more similar than NPs and PAs in general.

Other questions raised by the study include: Why do NPs tend to gravitate towards certain settings? Is it truly because of differences in education? Why do more PAs than NPs have admitting privileges in Oregon? Is this due to legislative differences in regulation, and if so will results change with recent changes in Oregon law related to NP admitting priveleges? If PAs see more patients in a day than NPs, why? Are they providing different services during a patient interaction, or the same services in a different way? Future research can further define role expectations, role location, role skills, audience effects and the outcome of role enactment for NPs and PAs

References

American Academy of Physician Assistants (1990). Physician assistants and rural health care. Journal of the American Academy of Physician Assistants, 3,(6), 414-422.

American Academy of Physician Assistants (1990). A challenge for the physician assistant profession: Report of the AAPA force on unlicensed medical graduates. Journal of the American Academy of Physician Assistants, 6(1), 65-72.

American Nurses Association (1986). The role of the clinical nurse specialist. p. 1. American Nurses Association: Missouri.

Andrus, M. D., & Fenley, M. D. (1976). Evolution of a family nurse practitioner program to improve primary care distribution. Journal of Medical Education, 51, 317-324.

Baker, J. A., Oliver, D., Donahue, B.S., and Huckabee, M. (1989). Predicting role satisfaction among practicing physician assistants. Journal of the American Academy of Physician Assistants, 2(6), 461-470.

Berry, T. R. & Dieter, P. M. (1989). Recruitment of physician assistants: Implications for the future. Journal of the American Academy of Physician Assistants, 2(5), 383-392.

Biddle, B. J. (1986). Recent developments in role theory. Annual Review of Sociology, 12, 67-92.

Burr, W. R., Leigh, G. K., Day, R. D., & Constantine, J. (1979). Symbolic interaction and the family. In W. R. Burr, R. Hill, F. I.

Nye, & I.L. Reiss (Eds.), Contemporary theories about the family: Vol. 1. (pp. 42-111). New York: MacMillan.

Carter, R. D. (1992). Sociocultural origins of the PA profession. Journal of the American Academy of Physician Assistants, 5(9), 655-657.

Cawley, J. F. (1992). Federal health policy and PA's. Journal of the American Academy of Physician Assistants, 5(9), 679-687.

Condit, D. (1992). Primary Care Letter Strikes a Chord [Letter to the editor]. Journal of the American Academy of Physician Assistants. 5(7), 535.

Drass, K. A. (1988). Discourse and occupational perspective: comparison of nurse practitioners and physician assistants. Discourse Processes, 11, 163-181.

Estes, H. E. (1992). The PA 'experiment' after 25 years: What have we learned? Journal of the American Academy of Physician Assistants, 5(9), 714-716.

Fasser, C. E. (1992). Historical perspectives of PA education. Journal of the American Academy of Physician Assistants, 5(9), 663-670.

Forbes, K. E., Rafson, J., Spross, J. A., & Kozlowski, D.(1990). Nurse Practitioner, 15(4), 43-48.

Fowkes, V. (1993). Meeting the needs of the underserved: The roles of physician assistants and nurse practitioners. In D.K. Clawson & M. Osterweis, (Eds.), The roles of physician assistant and nurse

practitioners in primary care. pp. 51-67. Association of Academic Health Centers: Washington, D. C.

Geolet, D. H. (1987). NP education: Observations from a national perspective. Nursing Outlook, 35(3), 132-135.

Geolet, D. H. (1986). The relationship between certification and practice. Nurse Practitioner, 11(3), 55-58.

Gleeson, R. M. (1990). Advanced practice nursing: A model of collaborative care. Maternal Child Nursing, 15, 9-12.

Hockenberry-Eaton, M. & Hodgson, N. (1991). Merging advanced practice roles: The NP and CNS. Journal of Pediatric Health Care, 5(3), 158-9.

Hockenberry-Eaton, M. & Jordan, C. (1992). The pediatric nurse practitioner and the physician assistant: How are we different? Journal of Pediatric Health Care, 6(6), 383-384.

Hooker, R. S. (1993). The roles of Physician assistants and nurse practitioners in a managed care organization. In D.K. Clawson & M. Osterweis, (Eds.), The roles of physician assistant and nurse practitioners in primary care. pp. 51-67. Association of Academic Health Centers: Washington, D. C.

Hooker, R. S. & Freeborn, D. K. (1991). Use of physician assistants in a managed health care system. Public Health Reports, 106(1), 90-93.

Huch, M. H. (1992). Nurse practitioners and physician assistants: Are they the same? Nursing Science Quarterly, 5(2), 52-53.

Hunsberger, M., Mitchell, A., Blatz, S., Paes, B., Pinelli, J., Southwell, D., French, S., & Soluk, R. (1992). Definition of an advanced nursing practice role in the NICU: The clinical nurse specialist/neonatal nurse practitioner. Clinical Nurse Specialist, 6(2), 91-96.

Koch, L. W. (1992). The first 20 years of nurse practitioner literature: An evolution of joint practice issues. Nurse Practitioner, 17(2), 62-71.

Levy, M., Musante, L., Treiber, F. A. & Holland, G. J. (1991). Preparing for recertification. Journal of the American Academy of Physician Assistant, 4, 68-72.

McNaughton-Dunn, A. (1993). 1992 NAPNAP membership survey. Part 1: Member characteristics, issues, and opinions. Journal of Pediatric Health Care, 7(5), 245-250.

Millonig, V. L. & Dickenson-Hazard, N. (1986). Considering pediatric nurse practitioner certification. Pediatric Nursing, 12(4), 268-290.

Minarik, Pamela A. (1992). Second license for advanced nursing practice? Clinical Nurse Specialist, 6(4), 221-222.

Morgan, W. A. (1993). Using state board of nursing data to estimate the number of nurse practitioners in the United States. Nurse Practitioner, 18(2), 65-74.

Moulton, Kathleen (1991). RN's must meet rural health care challenge. American Nurse, p.4.

Office of Technology Assessment (1986). Nurse practitioners, physician assistant, and certified nurse-midwives: A policy analysis. Health Technology Case Study 37. U.S. Congress, Office of Technology Assessment, LCCN 85-600596.

Oliver, D. & Whitten, M. A. (1988). Analysis of Physician Assistant Programs in the United States, 1984 to 1987. Journal of the American Academy of Physician Assistants, 1(4), 292-300.

Oregon Nurses Association, (Undated). White paper on nurse practitioners prepared by the ONA special interest group.

Oregon State Board of Nursing (1993). Fact sheet: Licensing requirements for nurse practitioners in Oregon.

Osterweis, M. & Garfinkel, S. (1993). The roles of physician assistants and nurse practitioners in primary care: An overview of the issues. In D. K. Clawson & M. Osterweis,(Eds.), The roles of physician assistant and nurse practitioners in primary care. pp. 51-67. Association of Academic Health Centers: Washington, D.C.

Pearson, L. J., (1993). 1992-1993 Update: How each state stands on legislative issues affecting advanced nursing practice. Nurse Practitioner, 18(1), 23-38.

Record, J. C. & Greenlick, M. R. (1975). New health professionals and the physician role: An hypothesis from Kaiser experience. Public Health Reports, 90(3), 241-246.

Record, J. C., McCally, M., Schweitzer, S. O., Blomquist, R. M. & Berger, B. D. (1980). New health professions after a decade and a

half: delegation, productivity and costs in primary care. Journal of Health Politics. Policy. and Law, 5(3), 470-496.

Rogers, M. E., (1975). Nursing is coming of age..through the practitioner movement: Con. American Journal of Nursing, 75, 1834-1875.

Rogers, B., Sweetings, S., Davis, B. (1989). Employment and salary characteristics of nurse practitioners. Nurse Practitioner, 14(9), 56-63.

Safriet, B. J. (1992). Health care dollars and regulatory sense: The role of advanced practice nursing. The Yale Journal on Regulation, 9(417), 417-488.

Sarbin, T. R., & Allen, V. L. (1968). Role theory. In G. Lindzey and E. Aronson (Eds.), Handbook of social psychology (2nd ed.) (pp. 488-567). Reading: Addison-Wesley.

Schafft, G. E. & Cawley, J. F. (1987). The physician assistant in a changing health care environment. Rockville, MD: Aspen.

Sexton, D. L., Munro, B. H., & Sulzbach, L. M. (1993). Factors that influence CNS's decision about specialization. Clinical Nurse Specialist, 7(4), 200-205.

Smith, P. L.& Shoffner, D. H. (1991). Non-nurse college graduates: A new resource for future nurse practitioners. Nurse Practitioner, 16(1), 49-53.

Stanford, D. (1987). Nurse practitioner research: Issues in

practice and theory. Nurse Practitioner, 12(1), 64-75.

Stanhope, W. D. (1992). The roots of the AAPA. Journal of the American Academy of Physician Assistants, 5(9), 671-678.

Stuart, S. (1991). 2001: A PA odyssey. The Physician Assistant, 24A-25A.

Sultz, H. A., Henry, O.M., Bullough, B., Buck, G. M., Kinyon, L. J. (1983). Nurse practitioners: A decade of change -- Part III. Nursing Outlook, 31(5), 266-269.

Tower, J. (1991). Report of the national survey of the American Academy of Nurse Practitioners, Part IV: Comparison of nurse practitioners according to practice setting. Journal of the American Academy of Nurse Practitoners, 2(4), 164-177.

Tower, J. (1991). Report of the national survey of the American Academy of Nurse Practitioners, Part V: Comparison of nurse practitioners according to practice setting. Journal of the American Academy of Nurse Practitoners, 3(1), 42-44.

Willis, J. B. (1990). Analysis of the influence of, gender on PA salaries. Journal of the American Academy of Physician Assistants, 3(4), 269-276.

Willis, J. B. (1990). Is the PA supply in rural America dwindling? Journal of the American Academy of Physician Assistants, 3(6), 433-435.

Willis, J. B. (1992). Explaining the salary discrepancy between male and female PA's. Journal of the American Academy of Physician Assistants,

5(4), 280-288.

Willis, J. & Lipsig Pylitt, L. (1993). Physician assistants and hospital practice. Journal of the American Academy of Physician Assistants, 6(2), 115-121.

NURSE PRACTITIONER PRACTICE PROFILE QUESTIONNAIRE

NOTE TO RESPONDENTS: *The Oregon Board of Nursing, OHSU School of Nursing, Oregon Nurses Association, Office of Rural Health and Office of Health Policy appreciate your willingness to fill out this questionnaire. Because the information we obtain may be used to make decisions affecting the future of nurse practitioner practice in Oregon,* ***we need a 100% return rate.*** *Please complete the survey as thoroughly as possible and call Tim Ennis at the Office of Rural Health (494-4450) if you have any questions.*

I. First, please supply us with some information about yourself. Either fill in the blanks as requested or circle the letter next to the most appropriate answer:

1. What is your age? _____years

2. Are you:

   A. Male B. Female

3. What is your ethnic origin?

   A. Black
   B. Hispanic
   C. White
   D. Asian/Pacific islander
   E. Native American
   F. Other_____

4. In what type of town/city did you spend **the majority** of your childhood?

   A. Population less than 1,000
   B. Population 1,000 - 1,999
   C. Population 2,000 - 2,999
   D. Population 3,000 - 4,999
   E. Population 5,000 - 9,999
   F. Population 10,000 - 19,999
   G. Population 20,000 - 50,000
   H. Population more than 50,000

5. Would you describe the town/city in which you grew up as:

   A. Urban B. Suburban C. Rural

6. Which of the following best describes your current annual **practice** income?

   A. Less than $20,000
   B. $20,000 - $29,999
   C. $30,000 - $39,999
   D. $40,000 - $49,999
   D. $50,000 - $59,999
   E. $60,000 - $69,999
   F. $70,000 or more

II. Now, please tell us about your educational background:

7. What was your basic nursing education?

   A. Associate degree
   B. Diploma
   C. Bachelors (nursing)
   D. Generic Masters

8. How did you obtain your nurse practitioner education?

   A. Certificate program B. Masters program

9. **Which of the following best describes your highest level of education/training?**

Degree/certificate		Year completed	Degree/certificate		Year completed
A.	Associate degree	_____	D.	Masters/nursing	_____
B.	Diploma	_____	E.	Masters/other	_____
C.	BS/BA - nursing	_____	F.	Doctorate/nursing	_____
D.	BS/BA - other	_____	G.	Doctorate/other	_____

10. Where did you complete your NP training?

City_____ State_____

11. If you had health professions experience of any kind prior to becoming a nurse practitioner, please indicate below:

Type of experience, e.g., RN, LPN, EMT	How many years?
_____	_____
_____	_____
_____	_____

III. **Please give us some information about your current practice status:**

12. Are you currently certified as an NP or CNM?

A. NP - Yes B. CNM - Yes

13. If yes, by whom?

A. ANA
B. NAACOG
C. NAPNAP
D. ACNM
E. Other _____

14. What is your clinical specialty? _____

15. What **single** factor most influenced your choice of specialty?

_____

_____

16. Are you currently involved in an active clinical NP practice?
(If "no," please skip to question number 39)

A. Yes B. No

17. **Which of the following best describes your current primary practice setting:**

A.	Hospital ambulatory care	I.	Local health department
B.	Ambulatory care agency/HMO	J.	Hospital emergency room
C.	Occupational health	K.	In-hospital patient unit
D.	Extended care facility	L.	Hospital operating room
E.	Office practice w/physician(s)	M.	Military clinic/hospital
F.	Office practice w/o physician(s)	N.	Correctional facility
G.	School/college clinic	O.	Home health agency
H.	Academic	P.	Other (please explain)

_____

_____

18. Do you practice in any of the following federally-supported clinics?

A. Community Health Center (CHC)
B. Migrant Health Clinic (MHC)
C. Certified Rural Health Clinic (RHC)
D. FQHC "look-alike"
E. None of the above

19. Please describe the town/city which is your current **primary** practice site:

A.	Population less than 1,000	E.	Population 5,000 - 9,999
B.	Population 1,000 - 1,999	F.	Population 10,000 - 19,999
C.	Population 2,000 - 2,999	G.	Population 20,000 - 50,000
D.	Population 3,000 - 4,999	H.	Population more than 50,000

20. What is the zip code for your current primary practice site? _____

21. Would you describe the client base you serve as mostly

A. Urban B. Suburban C. Rural

22. Do you currently practice in more than one practice setting? If so, please indicate below:

Site	Type of site (use categories in #17)	Zip code	Hrs per week each site
#1	_____	_____	_____
#2	_____	_____	_____
#3	_____	_____	_____
#4	_____	_____	_____

23. Is your current site your first practice site? A. Yes B. No

24. If "no," how many other practice sites have you had during your NP career?

Number of practice sites _____

25. How long have you practiced as a nurse practitioner? _____ years

26. How long have you been in your current primary practice site? _____years A4

27. If you have ever practiced in a rural setting and moved to an urban or suburban setting, can you tell us why you no longer have a rural practice?

_____

_____

28. Please circle the appropriate number following each of the listed "lifestyle" factors, with "1" being the least important in your choice of practice site and "5" being the most important factor.

	Least important				Most important
Availability of technology	1	2	3	4	5
Professional challenge	1	2	3	4	5
Community support	1	2	3	4	5
Educational opportunities for self/family	1	2	3	4	5
Cultural opportunities for self/family	1	2	3	4	5
Recreational opportunities for self/family	1	2	3	4	5
Support from peers/colleagues	1	2	3	4	5
Income potential	1	2	3	4	5
Availability of continuing professional education	1	2	3	4	5
Support/availability of backup physician	1	2	3	4	5
Closeness to metropolitan area	1	2	3	4	5
Availability of affordable/appropriate housing	1	2	3	4	5
Employment/practice stability, i.e., long term security	1	2	3	4	5
Employment opportunities for spouse	1	2	3	4	5
Practice expenses	1	2	3	4	5
Cost/availability of malpractice insurance	1	2	3	4	5

OTHER?_____

_____

29. How many patients do you see in an average or typical work day?_____

30. How many hours do you work in a typical work week? _____

31. How many weeks do you work in a typical year?_____

32. Do any of the following apply to your current practice?

A. Have hospital privileges - admitting
B. Have hospital privileges - nonadmitting
C. See patients in the hospital ER
D. Have nursing home privileges
E. Make house calls

33. If you are a certified nurse midwife, do you deliver babies in the hospital?

A. Yes
B. No

34. If you answered "yes" to question number 33, is a physician required to be present at your hospital deliveries?

A. Yes
B. No

35. What age group(s) of patients do you see in your practice?

A. All ages
B. 0-5 years
C. 6-12 years
D. 13-18 years
E. 19-40 years
F. 41-65 years
G. Over 65 years

36. **Which of the following clinical (medical) services do you provide or have provided in your practice career?**

		Currently provide	Have provided
A.	X-ray	____	____
B.	Laboratory	____	____
C.	Trauma - major	____	____
D.	Trauma - minor	____	____
E.	Pediatrics	____	____
F.	Adolescent care	____	____
G.	Women's health care - all ages	____	____
H.	Men's health care - all ages	____	____
I.	Prescriptions	____	____
J.	Prescriptions - dispensing privileges	____	____
L.	EKGs	____	____
M.	Prenatal/postpartum care	____	____
N.	Deliveries	____	____
O.	Invasive procedures, e.g., intubations, CVP lines		
	Please list_____	____	____

37. On a scale of one to five, with "1" being the **least** satisfied, how would you rate your satisfaction with your current practice situation?

Least satisfied				Most satisified
1	2	3	4	5

38. Are you currently searching for/interested in a new professional opportunity?

A. Yes B. No

39. If you are not currently in a clinical practice, can you tell us why?

A.	Pursuing further education/training	F.	Can't find work as an NP
B.	Pursuing other medical training	G.	Unemployed by choice
C.	Engaged in teaching/research	H.	Have left the nursing profession
D.	Working in administrative position	I.	Medically disabled
E.	Retired	J.	Other (please explain)

_____

COMMENTS?_____

_____

THANK YOU FOR TAKING YOUR VALUABLE TIME

TO FILL OUT THIS QUESTIONNAIRE!

ALL RESULTS ARE COMPLETELY

CONFIDENTIAL!

PHYSICIAN ASSISTANT PRACTICE PROFILE QUESTIONNAIRE

NOTE TO RESPONDENTS: *The Office of Rural Health appreciates your willingness to fill out this questionnaire. Because the information we obtain will be used to make decisions affecting the future of PA practice in Oregon,* ***we need a 100% return rate.*** *Please complete the survey as thoroughly as possible and use the self-address postage-paid envelope enclosed to return it. If you have questions, you may call Tim Ennis at the Office of Rural Health (494-4450).*

I. First, please supply us with some information about yourself. Either fill in the blanks as requested or circle the letter next to the most appropriate answer:

1. What is your age? _____ years

2. Are you:

   A. Male B. Female

3. What is your ethnic origin?

   A. Black
   B. Hispanic
   C. White
   D. Asian/Pacific islander
   E. Native American
   F. Other _____

4. In what type of town/city did you spend the **majority** of your childhood?

   A. Population less than 1,000
   B. Population 1,000 - 1,999
   C. Population 2,000 - 2,999
   D. Population 3,000 - 4,999
   E. Population 5,000 - 9,999
   F. Population 10,000 - 19,999
   G. Population 20,000 - 50,000
   H. Population more than 50,000

5. Would you describe the town/city in which you grew up as:

   A. Urban B. Suburban C. Rural

6. Which of the following best describes your current annual **practice** income?

   A. Less than $20,000
   B. $20,000 - $29,999
   C. $30,000 - $39,999
   D. $40,000 - $49,999
   D. $50,000 - $59,999
   E. $60,000 - $69,999
   F. $70,000 or more

II. Now, please tell us about your educational background:

7. Which of the following best describes your highest level of education/training?

Degree/certificate		Year completed
A.	Certificate	_____
B.	Associate degree	_____
C.	Bachelor's degree	_____
D.	Master's degree	_____
E.	Doctorate	_____

8. Where did you complete your initial PA training? B2

Name of program _____ Year completed _____

City _____ State _____

9. Prior to your PA training, did you have any health professions experience (please circle all that apply)? Y or N recorded

A. RN - Associate program
B. RN - Diploma program
C. RN - Baccalaureate program
D. LPN
E. Military corpsman/health aide
F. Physical therapist
G. Respiratory therapist
H. Surgical technician
I. Radiologic technician
J. Medical or lab technologist/technician
K. Medical assistant
L. Certified nurses aid
M. EMT or paramedic
N. Hospital orderly
O. Other _____

10. Have you completed any formal postgraduate training/fellowship programs (in addition to required CME)?

A. Yes B. No

C. If "yes," please list

Program _____ Year completed _____

III. **Please give us some information about your current practice status:**

11. Are you currently certified by NCCPA as a PA?

A. Yes B. No

12. Are you currently involved in an active clinical PA practice?
(If "no," please skip to question number 38.)

A. Yes B. No

13. How many years have you practiced as a PA? _____ years

14. What is your clinical specialty? _____

15. What **single** factor most influenced your choice of specialty?

_____

_____

16. Which of the following best describes your current primary practice setting:

A.	Hospital ambulatory care	I.	Local health department
B.	Ambulatory care agency/HMO	J.	Hospital emergency room
C.	Occupational health	K.	In-hospital patient unit
D.	Extended care facility	L.	Hospital operating room
E.	Office practice w/physician(s)	M.	Military clinic/hospital
F.	Office practice w/o physician(s)	N.	Correctional facility
G.	School/college health	O.	Home health agency
H.	Academic	P.	Other (please explain)

_____

_____

17. Do you practice in any of the following federally-supported clinics?

A. Community Health Center (CHC)
B. Migrant Health Clinic (MHC)
C. Certified Rural Health Clinic (RHC)
D. FQHC "look-alike"
E. None of the above

18. Please describe the town/city which is your current **primary** practice site:

A.	Population less than 1,000	E.	Population 5,000 - 9,999
B.	Population 1,000 - 1,999	F.	Population 10,000 - 19,999
C.	Population 2,000 - 2,999	G.	Population 20,000 - 50,000
D.	Population 3,000 - 4,999	H.	Population more than 50,000

19. What is the zip code for your current primary practice site? _____

20. Would you describe the patient base in your current practice site as:

A. Urban B. Suburban C. Rural

21. Is your **primary** practice site the same as your supervising physician(s)'?

A. Yes B. No

22. If you answered "no" to question number 21, how many miles away from your primary practice site is your supervising physician?

_____ miles

23. Do you currently practice in more than one practice setting? If so, please indicate below:

Site	Type of site (use categories in #16)	Zip code	Hrs per week each site
#1	_____	_____	_____
#2	_____	_____	_____
#3	_____	_____	_____
#4	_____	_____	_____

24. If you have more than one practice site, do you share the site(s) with your supervising physician(s)?

	Physician on site?		Urban, suburban or rural?
Practice site #2:	Yes	No	_____
Practice site #3:	Yes	No	_____
Practice site #4:	Yes	No	_____

25. Is your current site your first practice site? Yes No

26. If "no," how many other practice sites have you had during your career as a PA?

Number of practice sites_____

27. If you have had other practice sites during your career, would you describe the practice site **immediately preceding your current site** as:

A. Urban B. Suburban C. Rural

28. How long have you been in your current primary practice site? _____years

29. If you have **ever** practiced in a rural setting and moved to an urban or suburban setting, can you tell us why you no longer have a rural practice?

_____

_____

30. Please circle the appropriate number following each of the listed "lifestyle" factors, with "1" being the **least** important in your choice of practice site and "5" being the **most** important factor.

	Least important				Most important
Availability of technology	1	2	3	4	5
Professional challenge	1	2	3	4	5
Community support	1	2	3	4	5
Educational opportunities for self/family	1	2	3	4	5
Cultural opportunities for self/family	1	2	3	4	5
Recreational opportunities for self/family	1	2	3	4	5
Support from peers/colleagues	1	2	3	4	5
Income potential	1	2	3	4	5
Availability of continuing professional education	1	2	3	4	5
Support/availability of supervising physician	1	2	3	4	5
Closeness to metropolitan area	1	2	3	4	5
Availability of affordable/appropriate housing	1	2	3	4	5
Employment/practice stability, i.e., long term security	1	2	3	4	5
Employment opportunities for spouse	1	2	3	4	5
Practice expenses	1	2	3	4	5
Cost/availability of malpractice insurance	1	2	3	4	5

OTHER?_____

_____

31. How many patients do you see in a typical work day? _____patients

32. How many hours do you spend **in direct patient care** in a typical work week (exclude time spent "on call")? _____hours

33. How many weeks do you work in a typical year? _____weeks

34. Do any of the following apply to your current practice?

A. Have hospital privileges - admitting
B. Have hospital privileges - nonadmitting
C. See patients in the hospital ER
D. Have nursing home privileges
E. Make house calls

35. Which of the following clinical (medical) services do you provide or have provided in your practice career?

		Currently provide	Have provided
A.	X-ray	____	____
B.	Laboratory	____	____
C.	Trauma - major	____	____
D.	Trauma - minor	____	____
E.	Pediatrics - acute care	____	____
F.	Pediatrics - preventive care	____	____
G.	Women's health care - all ages	____	____
H.	Men's health care - all ages	____	____
I.	Prescription writing	____	____
J.	Prescriptions - emergency administration	____	____
K.	Prescriptions - repackaging/dispensing	____	____
L.	EKGs	____	____
M.	Prenatal/postpartum care	____	____
N.	Invasive procedures, e.g., intubations, CVP lines		
	Please list_____	____	____
	_____	____	____
	_____	____	____

36. What age group(s) of patients do you see in your practice?

A. All ages
B. 0-5 years
C. 6-12 years
D. 13-18 years
E. 19-40 years
F. 41-65 years
G. Over 65 years

37. How satisfied are you with your current PA practice?

A. Very dissatisfied
B. Moderately dissatisfied
C. Somewhat dissatisfied
D. Partly satisfied/partly dissatisfied
E. Somewhat satisfied
F. Moderately satisfied
G. Very satisfied

38. If you are not currently in a clinical practice, can you tell us why?

A. Pursuing further PA training
B. Pursuing other medical training
C. Engaged in teaching/research
D. Working in administrative position
E. Retired
F. Can't find work as a PA
G. Unemployed by choice
H. Have left the PA profession
I. Medically disabled
J. Other (please explain)

_____

IS THERE ANYTHING YOU WOULD LIKE TO ADD? B6

COMMENTS?

THANK YOU FOR TAKING YOUR VALUABLE TIME TO FILL OUT THIS QUESTIONNAIRE!

SURVEY FORMS ARE CODED TO PROTECT YOUR CONFIDENTIALITY!