A Descriptive Study

of

Primary Care Nurse Practitioner

Students' Clinical Practice

By

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ABSTRACT

TITLE: A Descriptive Study of Primary Care Nurse Practitioner Students' Clinical Practice

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Nurse practitioner (NP) education literature has focused on such subjects as core courses, clinical hours, preceptor types, and collaborative practice, with little on the specific content of student clinical encounters. This study describes 5,140 clinical patient encounters reported by 37 graduate students in a nurse practitioner program during 1995-96. NP students in family, pediatric, adult, and gerontology used a standardized encounter form to describe patient characteristics, reason for visit, medical and nursing diagnoses, and nursing interventions used, among others.

Visits for acute problems predominated (58.8%), followed by health maintenance/promotion (21.8%), and then chronic problems (14.7%). The different NP student types varied significantly with regard to visit type ($p<.001$). Adult NP (ANP) students saw more chronically ill patients, while pediatric NP (PNP) and family NP (FNP) students saw more people for "well" visits. Students

reported a great range of patient concerns, reflecting the broad scope of primary care practice and consistent with previously reported literature describing the practice of physicians and NPs. (Additional data analyses are incorporated in the bound manuscript.)

Public support for the expanded nursing role assumes adequate preparation of NPs to deliver a high quality of care. The increasingly competitive health care market adds emphasis to this concept.

Students and educators need to document the clinical learning experience of student NPs to assess adequacy of preparation in the decision-making processes necessary for assessment and management of the breadth of primary care problems.

Educators must continually assess the relevancy of clinical NP education to assure that data guide the educational processes offered today.

Table of Contents

List of Tables

Chapter 1

Introduction

The clinical experiences of nurse practitioner students are key to the foundation on which their careers are built. The specific content of these encounters is not well described in the literature. The purpose of this study is to identify and compare the practice patterns of nurse practitioner (NP) specialty students that evolve during clinical training. This study uses secondary analysis of data collected from adult, family, geriatric, and pediatric NP students at a university in the Pacific Northwest during the 1995-96 academic year . Examination of this data will allow description of certain demographic characteristics of patients seen and common clinical problems encountered by this student group. All students maintained a primary care focus in their educational specialty and practiced in settings where primary care was being delivered .

Primary care is defined as "the provision of integrated accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients and practicing in the context of family and community" (Donaldson, Yordy, Lohr, Vanselow, 1996, p.16). It is positioned between self-administered care and the vast network of clinical specialty services available to the public. Primary care providers take on the role of gatekeeper, caring for the majority of concerns their clients present while referring to specialists those problems deemed beyond the scope of primary care. In an era of cost consciousness, society emphasizes the

need for efficient use of health care dollars. The current trend toward providing fiscal accountability focuses on expanding primary care in order to reduce the use of expensive specialty care that had become the norm for this country. Primary care involves the use of health promotion and disease prevention strategies to maintain the health of the constituents it serves (Donaldson, et al., 1996). It is information intensive, and relies on the development of a partnership between the client and provider in order to maintain a high level of wellness. Nurse practitioners define their profession as well suited to deliver primary care. They contend that their nursing background in client teaching and their focus of maintaining wellness, combined with expanded physical assessment and diagnostic skills, enable them to join physicians in filling the role of primary care provider. The educational preparation of nurse practitioner students must meet the requirements of delivering this type of care.

Supporters of the nurse practitioner role believe that many common ailments can be managed by nurses with additional training in physical assessment and disease management. Complex or more seriously ill patients can be cared for by physicians with the level of training necessary to manage those cases. Collaboration between these two providers could better serve the public interest if quality is maintained and cost reduced. Buppert (1995), justifying the existence of nurse practitioners, cites three studies that indeed found comparable or superior performance by nurse practitioners and less costly care.

Nurse practitioners are less expensive to educate than physicians. A fact that is important, as Safriet (1992) points out, only when their ability to render safe and effective care has been established. The literature, she contends, is clear that in nearly all studies done to date, the quality of NP care was at least equivalent to that provided by physicians. This is one of the reasons NPs are employed in the cost conscious marketplace of today. Cost effectiveness of care NPs provide to their clients when compared to care provided by physicians is a major incentive for extensive utilization of NPs by Kaiser and other managed care organizations. Salkever, Skinner, Steinwachs & Katz (1982) found that nurse practitioners were 20% less costly in their care for two common ailments and at least as effective as physicians at resolving the problems. Avorn, Everitt, & Baker (1991) reported that nurse practitioners were more likely than physicians to suggest nonprescription approaches to therapy. Attention to lifestyle and diet exemplifies a more economical approach to care than the prescription of costly medications, but educating patients about lifestyle and diet changes is more time consuming than writing a prescription.

The use of nurse practitioners to provide care traditionally provided by physicians is often acknowledged as cost saving, but critics challenge the ability of nurse practitioners to meet the same standards. However, studies such as the one by Hall, Palmer, Orav, Hargraves, Wright & Louis (1990) found that nurse practitioners deliver care that is comparable or superior to care delivered by physicians.

The education of nurse practitioners is often cited by physicians and other professionals as deficient preparation for providers of primary care (Kukal, 1996). The typical two year requirement for masters prepared nurse practitioner programs may appear insufficient when compared to the time required to prepare a physician. However, the scope of practice for the NP is a more limited one. Nurse practitioners focus on the management of common and chronic illnesses and maintaining client wellness, rather than management of the complex or severely ill patient. Most nurse practitioner students begin their graduate studies with several years of clinical experience as nurses behind them. Ignorance among the health care professions of the training, education, and role competency of nurse practitioners is one of the barriers cited by Safriet (1994) in her comprehensive review of difficulties non-physician providers face in advancing their efficacy in the work place. In a 1992 publication, she asserts that knowledge of the training received in nurse practitioner programs may enhance the willingness of physicians to share patients in collaborative practices. Documenting the clinical education NPs undergo is necessary to demonstrate that students are being adequately prepared for the roles they will assume after graduation.

One of the first steps necessary to examine the content of preparation for nurse practitioner students is to describe the clinical encounters they experience. "Because nursing is a practice discipline, the cognitive processes of thinking are inseparably linked, for all practical purposes, with doing" (Bevis,1982 p. 78). Professional education prepares one to practice, and as such, the nature of

practice should be a factor in determining what is taught (Diers,1985). Didactic education cannot be fully relevant unless it is matched to the problems that students encounter in the field. This congruence can be enhanced by examination of student encounters and realignment of the curriculum, if needed. Assignment to clinical rotations in primary care practices does not assure that the patients seen by students are necessarily representative of the diagnostic range of patients for those sites. This project will describe characteristics of patients encountered by a student cohort during one year of clinical training, and document the most frequent medical and nursing diagnoses seen and interventions used by those students. These practice patterns can be used to compare students experiences with already documented experiences of primary care physicians and nurse practitioners.

The need to monitor and evaluate the content of practice is critical to improvement of service for any health care discipline (Pickwell,1993). Educators who take part in evaluating the process of student practice will enable delivery of the highest quality clinical experiences. Curricula must keep pace with the rapidly changing health care system. Educators who are proactive in designing a program focused on current health care needs will produce competitive graduates (O'Flynn, 1996). Emphasizing the cost effective nursing actions of health promotion and primary prevention will aid the profession in remaining competitive. Competition exists today with an increasing numbers of physicians willing to deliver primary care. Nurse practitioner students must have relevant clinical experiences that mirror the type of encounters reported by primary care

providers in order to enter the workforce ready to compete in the current marketplace.

As students learn to deliver primary care, exposure to a wide array of clinical problems provides an environment within which to sharpen skills in the art of assessment and intervention (Anderson, 1994). Medical diagnostic skills are new to most NP students, and must be developed. Exposure to a wide variety of cases is critical to building the knowledge base necessary to function in such a broad generalist role (Lange, et al., 1997). It is essential that educators evaluate the profile of patients that students encounter to assess the adequacy of the clinical experiences offered and make changes in the program where necessary. Quality in clinical education affects the future of the profession (Wilson, 1995). Wilson challenges nurse practitioner educators to be the standard bearers who shoulder a large part of the responsibility for the future of the nurse practitioner role. She calls for minimum requirements in types of patients seen during the education process and asserts that clinical experiences for nurse practitioner students should be reflective of nurse practitioner practice. Clinical experiences of both students and practitioners must be documented and compared.

The role of the nurse practitioner is an expanded nursing role with emphasis on health promotion, accountability of practice and management of common health problems (Hayes, 1985). Evolution of the role has required nurse practitioners to combine the skills of diagnosing and treating illness from the medical domain with the traditional nursing concerns of health promotion and

disease prevention (Lange et al., 1997). In a paper delineating the development of national guidelines for nurse practitioner education, Price et al.(1992) stress the importance of maintaining a focus of nursing care in the role that looks at client management from the perspective of wellness, illness prevention and health maintenance. There is a tendency for novices to ignore these prior nursing skills as they focus on learning the new diagnostic skills they begin to acquire during nurse practitioner education. The importance of the nursing perspective must not be lost.

The assumption exists in the literature that nurse practitioners bring to primary care a mind set that incorporates health maintenance, health promotion, and patient education. It is recommended by Stanford (1987) that this be documented. Without evidence that nurse practitioners use these strategies in daily encounters with patients, the claim that the profession is ideally suited for primary care delivery in the prevention focused future will likely be held as suspect. For the purpose of this study, health promotion will be defined as activities directed toward increasing the level of wellness and self actualization of a given individual or group (Pender, 1987).

Nursing diagnosis is the statement of the findings that necessitate a nursing intervention. Nursing diagnosis is defined as "a statement that describes a client's health status or an actual or potential alteration in one's life processes." (Malasanos, Barkauskas, Stoltenberg-Allen, 1990, p. 489). This differs from the medical diagnosis which has as its basis an illness or disease focus. In this study, the most common nursing diagnoses reported and interventions aimed at

health promotion are delineated from the data obtained from this group of primary care students. In so doing, the nursing perspective of these encounters can be captured for analysis. The medical diagnoses reported most frequently and the use of disease management strategies will also be examined in order to attain a perspective on the students involvement in the integrated role that nurse practitioners face once employed.

The use of nursing interventions to manage clients needs is one component that makes the practice of nurse practitioners different from that of physicians (Martin, 1995). Nursing interventions are therapeutic strategies used by nurses to promote health, intervene in the disease process and forestall complications. The areas of focus for nursing interventions in the primary care setting range from anticipatory guidance about developmental issues to teaching patients about monitoring their chronic illness. The nursing interventions included in this study are delineated in Appendix A .

In this study, patient demographics, most frequent medical diagnoses, most frequent nursing diagnoses, use of health promotion and disease management strategies will be described. Such description will provide a clearer picture of current clinical encounters involved in the preparation of NP students. Inquiry regarding the clinical education of future NPs will afford an opportunity to evaluate curricular content and may serve to improve the process.

CHAPTER 2

Review of Literature

The literature on the clinical education of nurse practitioner students is varied in focus. Descriptions are found of single clinical sites, and the student practice occurring at that site, but general descriptions of the types of patients encountered during clinical training are lacking. Characterization of the education for nurse practitioners has focused, so far, on topics such as core courses, number of required clinical hours, types of preceptors used and collaborative practices with other disciplines. Data are available that describe the practice patterns of primary care physicians and nurse practitioners. However, little is found that focuses on the content of clinical encounters that students experience. Such student data would allow comparison with existing data in the literature characterizing physician and nurse practitioner practice. This information can be useful in analyzing the congruence between preparation and practice.

The use of a data collection form to describe the clinical component of nurse practitioner programs was proposed in an article by Monninger and Fullerton in 1984. This tool was initially formulated in 1974 to develop a profile of patient populations seen in practice sites, identify skills that may be practiced, evaluate independence in decision making and determine if course objectives were being met. The data were analyzed to document whether students were seeing patients with acute, chronic, emergent or health maintenance concerns.

Twenty-four NP students, enrolled in a certificate program with the three specialty tracks of family practice, pediatrics and nurse midwifery, completed the clinical records for one academic year. The family nurse practitioner (FNP) students reported 18% of visits as having health maintenance as the major focus of care, with 53.1% having an acute problem as the focus, 17.7% a chronic problem, 8.6% with pre-natal, post-partum, or delivery concerns, 1.3% with family planning or gynecologic concern, and 0.4% reported as "other." For the pediatric nurse practitioner (PNP) students, 45.3% of the visits were health maintenance focused, 52.5% had an acute problem as a focus, 2% were focused on chronic problems, 0.2% characterized as "other", and no pre- or post-natal, family planning or gynecological visits. This information gives a sense of the acuity of patients seen by this group in 1974, but data on specific diagnoses were not provided.

Conference poster presentations (Covington, 1997; dela Cruz & Brehm, 1997; Fontana, 1997; Monahan, et al., 1997) indicate that faculty across the country are looking at the use of patient encounter forms to document the types of clinical diagnoses being encountered by nurse practitioner students, as well as to monitor the exposure to a broad cultural mix of patients and assess the complexity of the decisions made in managing the patient. To date, however, none of these data have been published.

The practice of nurse practitioners and family physicians in the areas of illness management has been reviewed in several articles. Rosenblatt, et al., in

an article published in 1982, reviewed the findings of three significant studies about the content of family practice--one out of the University of Southern California, data from the National Medical Ambulatory Care Survey, and a family practice study from Virginia. Diagnostic clusters were utilized to group similar recorded problems. The authors found that 80% of all principal ambulatory diagnoses made by office-based physicians in the United States could be categorized into 60 clinical clusters.

The University of Southern California (USC) survey came from data collected in 1977 via the Medical Activities and Manpower Project by the University of Southern California. Responses were received from 469 self-categorized "general practitioners" (a 36% response rate) and from 683 family physicians (a 44% response rate). These two physician groups were combined to report on the frequency of the most common diagnostic clusters for outpatient family practice, with a total number of 38,511 patient encounters. The number of patient encounters included in this analysis lends credibility, despite the low response rate.

Also reported was the National Medical Ambulatory Care Survey (NAMCS) data set. The National Center for Health Statistics (NCHS) conducts this survey with ambulatory care physicians across the country on an ongoing basis. This survey requests a one-page data form for a selected sample of patient encounters for one week (Starfield, 1992). The basic set of information requested is illustrated in Table I. Starfield (1992, p. 95) describes this survey's

Table 1. National Medical Ambulatory Care Survey (NAMCS) information set (Starfield, 1992, p.156-157).

1.	Date of visit.
2.	Patient's date of birth.
3.	Sex.
4.	Color or race.
5.	Ethnicity.
6.	Expected source of payment for the visit.
7.	A query as to whether the patient was referred for this visit.
8.	The patient's complaint(s), symptom(s), other reason(s) for visit.
9.	Other diagnostic sevices this visit.
10.	Physicians's diagnosis.
11.	A query as to whether the physician had seen the patient prior to this visit.
12.	Nonmedication therapy.
13.	Medication therapy.
14.	Disposition.
15.	Duration of visit (time that the patient spent with the physician.)

utilization of this minimum data set for ambulatory care as "the major source of information about the nature of primary care in the United States." Rosenblatt,

et al. (1982) cites data from the 1977-78 survey. The 1977 NAMCS response rate, from approximately 1,000 office-based physicians, was 78% with a total of 9,164 encounters reported. Courtney and Rice (1995) encourage NPs to initiate a comprehensive database that encompasses the minimum data set employed by NAMCS as well as captures additional data unique to their practice. They suggest that such information will become increasingly important in the competitive atmosphere expected in the future.

The Virginia study was based on 526,196 diagnoses recorded by family physicians and family practice residents from mid-1973 to mid-1975. In contrast to the other two studies, this focused on one geographic area of the country. Table 2 summarizes the top ten most common diagnostic clusters seen in these three studies. The authors concluded that striking similarities in the studies existed yet influences could be detected from varying parts of the country. For example, they observed that physicians in the Northeast saw more chronic illness and dermatologic conditions, but relatively few obstetrics, while those in the West saw more traumatic injuries.

Pickwell (1993) delineated the scope of family practice as reported in studies of family nurse practitioners. She reported on three national surveys of nurse practitioners, as well as her own fifteen year experience. One survey, published in 1979, included responses from 356 family nurse practitioners. A second survey, published in 1980, collected data from 341 nurse practitioners with no specialty specified. A third survey combined data collected in 1981

Table 2. Most common diagnostic clusters seen by family practitioners in order of frequency.

University of Southern California (USC)	National Medical Ambulatory Care Survey (NAMCS)	Virginia study
1. General medical examination	1. General medical examination	1. General medical examination
2. Acute upper respiratory tract infection	2. Acute upper respiratory tract infection	2. Acute upper respiratory tract infection
3. Hypertension	3. Hypertension	3. Hypertension
4. Soft tissue injury	4. Soft tissue injury	4. Soft tissue injury
5. Acute sprains and strains	5. Acute sprains and strains	5. Acute lower respiratory tract infection
6. Prenatal and postnatal care	6. Acute lower respiratory tract infection	6. Depression/anxiety
7. Depression/anxiety,	7. Prenatal and postnatal care	7. Acute sprains and strains
8. Ischemic heart disease	8. Ischemic heart disease	8. Ischemic heart disease
9. Diabetes	9. Diabetes	9. Diabetes
10. Dermatitis, eczema.	10. Depression/anxiety	10. Obesity

Note. This secondary analysis utilized diagnostic clusters that categorize similar pathophysiologic conditions.

Table 3. Nurse Practitioner diagnoses in family practice in order of frequency.

Pickwell (n=1NP x 15 years)	1979 FNP study (n=356 NPs)	1980 NP study (n=341 NPs)	1981/82 (n=1409 NPs)
1. Skin disorders	1. Hypertension	1. Upper respiratory infection	1. Upper respiratory infection
2. Well woman care	2. Physical exam	2. Well person care	2. Hypertension
3. Ear disease	3. Upper respiratory infection	3. Circulatory/ hypertension	3. Vaginitis
4. Bronchitis	4. Pharyngitis	4. Eyes, ears, nose and throat	4. Family planning
5. Pharyngitis	5. Well child care	5. Genitourinary/ gynecological	5. Urinary tract infection
6. Well child care	6. Otitis media	6. Skin diseases	6. Skin problems
7. Upper respiratory infection	7. Contraception	7. Musculoskeletal	7. Diabetes
8. Vaginitis	8. Vaginitis	8. Gastrointestinal	8. Otitis media
9. Strains/ sprains	9. Skin (other)	9. Obstetrics	9. Pregnancy/ pre-natal care
10. Sinusitis.	10. Prenatal.	10. Multisystem	10. Gastrointestinal

Note. These studies did not use standardized diagnostic clusters.

and 1982--600 surveys were returned in 1981 and 809 were returned in 1982 with no information on how many surveys were distributed. The absence of standardized categories, such as diagnostic clusters, makes comparison of these findings somewhat difficult; although, as illustrated in Table 3, similarities are apparent.

Health problems encountered by nurse practitioners in community clinics and hospital-based clinics were outlined and contrasted with problems seen by physicians in the same settings in an article by Chen, Barkauskas, and Chen (1984). They sampled 2,559 NP visits and 2,932 physician visits occurring in 1977 and 1978. All patients were seen in adult clinics. The diagnoses were characterized using International Classification of Disease, 9th Edition-Clinical Modification (ICD-9-CM) codes. Note, as shown in Table 4, the top two diagnoses seen were the same for physicians and nurse practitioners in each of these two settings and illustrates the many similarities in health problems seen by physicians and nurse practitioners. The authors note, however, that the range of complexity within each diagnostic category can be very broad. They suggested that emphasis should be placed on these most frequently reported health problems when preparing nurse practitioners to work in the field, and called for further research to describe the clients served by nurse practitioners and the interventions used in their care. The literature describing primary care physician and nurse practitioner practice clearly suggests that clinical problems encountered are similar for both types of provider, reflecting the broad nature of

Table 4. Health problems seen by nurse practitioners (NPs) and physicians in community and hospital based clinics.

NPs (Community clinics)	Physicians (Community clinics)	NPs (Hospital clinics)	Physicians (Hospital clinics)
1. Hypertension	1. Hypertension	1. Hypertension	1. Hypertension
2. General medical exam	2. General medical exam	2. Diabetes	2. Diabetes
3. Obesity	3. Diabetes	3. Other abnormal findings	3. Complications of heart disease
4. Follow-up exam	4. Follow-up exam	4. Obesity	4. Respiratory/ chest symptoms
5. Special exam	5. Obesity	5. Blood exam findings	5. Obesity
6. Diabetes	6. Other arthropathies	6. Respiratory/ chest symptoms	6. History of hazards to health
7. Upper respiratory infection	7. Upper respiratory infection	7. Other arthropathies	7. Other abnormal findings
8. Consultation without complaint	8. Osteoarthritiis	8. Osteoarthritis	8. Osteoarthritis
9. External ear disorder	9. History of other diseases	9. History of hazards to health	9. Heart failure
10. Administrative purposes.	10. Respiratory/ chest symptoms/ other abnormal findings	10. Heart failure	10. Blood exam findings

primary care practice. These studies did not address the use of health promotion by the different providers.

Health promotion and the role of the nurse practitioner in providing health education and preventive services has been described in the literature. Brown & Waybrant (1988) studied the extent to which coordination, health promotion, health education, and counseling activities were reported by nurse practitioners in their practice. They sent 210 questionnaires to graduates of one university and received 164 responses for a 78% response rate. They then selected those respondents who were employed in primary health care for a total of 110 studied. Study findings strongly supported the prominent role of patient education and health promotion seen by most nurse practitioners. However, they did note considerable variability among practitioners, and called on educators to continue to escalate efforts to strengthen this area of curriculum content.

Lemley, O'Grady, Rauckhorst, Russell & Small (1994) reported on a survey coordinated by the National Committee of Clinical Preventive Service to evaluate barriers to the delivery of preventive services. They utilized objectives from Healthy People 2000 and questioned whether providers were routinely providing the targeted services. A total of 2000 nurse practitioners were sent questionnaires, with 1407 responding. In some areas, the nurse practitioners exceeded expectations; in other areas targets were not being achieved. Nurse practitioners ranked well in assessment of emotional and behavioral functioning, family planning and pre-conception care. They were near target in the areas of

cognitive assessment, physical exercise, and sexual practices/sexually transmitted disease. Improvement was needed in the areas of nutrition, seat belt/car seat use, smoking, alcohol and illicit drug use, and occupational health risks. The authors encouraged nurse practitioners and educators to implement changes in practice and curricula to facilitate the achievement of national health objectives.

Studies such as those by Hale, Harper & Dawson (1996) and Patton, Conrad, & Kriedler (1995) have documented the use of health promotion activities in specific clinical settings by nurse practitioner students. However, there are no data found on whether students use health promotion consistently, across settings with all types of clients, throughout clinical training. Health promotion, as the cornerstone of primary care, should be an integral component of client/provider interactions from the inception of nurse practitioner education. Student experiences in the clinical setting must be described in detail in order to discern how the dual roles of disease management and health promotion are being integrated into learning the nurse practitioner role.

Nursing diagnosis, as used by nurse practitioners, is the focus of one study reported by Martin (1995). This involved 658 questionnaires mailed to randomly selected NPs in three northwestern states. The response rate to the survey was 34.9%. Only 15% of respondents reported using nursing diagnosis in their practice, and those who used nursing diagnoses wrote them for 57.6% of their clients. The most common diagnosis written by this small group in order of

frequency was #1 - Self care deficit, #2- Alteration in nutrition, #3 - Alteration in mobility, #4 - Impaired coping, #5 - Alteration in elimination, #6 - Alteration in comfort, #7 - Alteration in parenting, #8 - Alteration in skin, and, tied for #9, were Social isolation, Potential for injury, Alteration in thought processes, and Knowledge deficit. The limited response rate of this study limits its value, but the small number of practitioners who report using nursing diagnosis does suggest a lack of commitment to this method of documentation.

Morgan and Trolinger (1994) reported findings from a survey by the National Organization of Nurse Practitioner Faculties done in 1990 that looked at the number of hours spent in clinical and didactic learning. They found the mean for primary care programs to be 406 hours of didactic training and 486 clinical practice hours. The authors surveyed primary care NP programs to look at clinical sites, providers of clinical supervision and the sharing of clinical experiences with other health care professionals. Of the 131 surveys sent to programs listed in the 1990 National Directory of Nurse Practitioners Programs, only 69 were returned. Seven of these respondents offered certificates rather than Master's degrees. Of the 69 who completed surveys, the ambulatory clinical time averaged 569 hours with a range of 128 to 1290 hours. The two certificate family nurse practitioner programs that responded had the highest number of clinical hours at 1160 and 1290. This variation is striking and raises the question of competency standardization. Most programs reported use of varied clinical

sites including hospital-based clinics, public clinics and private practice. Close to two-thirds of the providers of clinical supervision and teaching were graduate nurse practitioners; the remainder were physicians. The majority of those responding reported sharing clinical sites and experiences with medical residentsand medical students. The authors call for continued study to further document such educational trends.

The most current data available from the National Organization of Nurse Practitioner Faculties is from 1995 and was reported by Harper and Johnson (1997). The mean clock hours curriculum requirements for a Master's program of all NP programs surveyed was 413 didactic hours and 615 clinical hours. Post-Master's requirements were a mean of 245 didactic hours and 566 clinical hours. Certificate programs surveyed reported a mean clock hours of 391 didactic hours and 816 clinical hours. Primary care tracts showed some variation in the number of required clinical hours. The adult nurse practitioner tract had a mean number of clinical hours of 569, the family nurse practitioner tract - 634, the gerontological nurse practitioner tract - 581 and the pediatric nurse practitioner tract - 574.

Perceived deficiencies in the educational process as reported by nurse practitioners has been discussed in the literature. Brower, Tappen and Weber (1988) surveyed licensed registered nurse practitioners in southeast Florida to determine whether they had found their educational programs adequate in providing the tools needed to perform their jobs. They reported perceived

shortcomings in several areas including clinical pathology, differential diagnosis, laboratory diagnostics, health teaching, and counseling. The survey had only a 42% response rate and findings were reported from 136 questionnaires. The respondents held degrees ranging from associate to doctoral. There was no commonality in how they had completed their practitioner education, some had received certificates, others attended advanced degree programs, while some were grandfathered in because they were practicing when legislation was implemented. There was no indication which educational group was expressing concern or contentment with the preparation they received although the authors did indicate that the majority of respondents attended certificate programs. The concerns were grouped instead by NP type and indicated that NPs practicing in highly specialized areas, specifically nurse anesthetists and nurse midwives, were most satisfied with the adequacy of their education. The authors call for more research on the gaps between education and practice.

The literature has reported the most common diagnoses, both medical and nursing, seen by practitioners in primary care practice. This has not been documented for the clinical practice of nurse practitioner students. The educational literature has focused on the acuity of clients seen, and how programs differ in respect to hours, course requirements and use of preceptors. Health promotion is explored but not the use of health promotion across the board in students' clinical practice. This project seeks to explore and document practice patterns for one student cohort and advance the data available on the educational process of nurse practitioner students.

Research questions

The study proposed will document NP student patient encounters throughout the clinical component of the primary care nurse practitioner curriculum. The following research questions are intended to describe specific patterns of clinical encounters experienced by nurse practitioner students at one Pacific Northwest university during the 1995-96 academic year:

1. What are the demographic characteristics of the patients being seen by primary care adult, family, and pediatric nurse practitioner students in a Pacific Northwest university graduate nursing program?
2. What are the top 10 most common medical diagnoses documented by each type of student nurse practitioner (FNP, ANP, and PNP)?
3. What are the top 10 most common nursing diagnoses documented by each type of student nurse practitioner?
4. In what percentage of patient visits was health promotion/maintenance identified as the reason for the visit? In what percentage of patient visits were health promotion/maintenance activities included as content of interventions.
5. What percentage of patient visits focused on disease management? Does this vary with type of nurse practitioner student?

CHAPTER 3

Methods

This study was a descriptive study, employing a secondary analysis of data collected from second year primary care nurse practitioner Master's and post-Master's students during the 1995-96 academic year.

Variables of interest included patient demographics, priority nursing and medical diagnoses, primary reason for the clinic visit, type of nursing interventions (teaching, counseling, medication prescription, etc.), and specific content of interventions. Primary reason for the clinic visit could be subdivided into two categories--health promotion/maintenance or disease management. Disease management visits could be further described as either acute or chronic in nature.

Sample and setting

The sample for this evaluation included 37 primary care nurse practitioner students for one academic year at one Pacific Northwest university, offering nurse practitioner education at three sites statewide -- fall 1995 through spring 1996. Students included 25 FNP students (a total of 11 students participated in two separate outreach settings), six PNP students, five adult nurse practitioner (ANP) students and one gerontological nurse practitioner (GNP) student.

During the second year of Master's study, three 12 week terms were devoted to clinical practica in primary care. The curriculum required approximately 500 clinical hours--510 for the GNP specialty; 480 for FNP, PNP and ANP specialties. Clinical settings were located statewide and provided a

wide diversity of both hospital and community based clinical opportunities, in rural and urban settings. Hospitals utilized included a tertiary university hospital, a Veterans Administration (VA) medical center, and a variety of community medical centers. These hospital-based sites included urgent care, and outpatient clinics (primary care, family practice, and a variety of specialty clinics including diabetes, hypertension, rheumatology, dermatology, endocrinology, neurology, orthopedics and women's health care). Community-based clinical opportunities included private practice (both primary care and specialty focused), urgent care, Health Maintenance Organization (HMO) clinic facilities, college student-health services, school-based clinics, family-planning clinics, Indian reservation clinics, county health clinics, faculty practice sites, university-sponsored nurse practitioner operated primary care clinics, and migrant farm clinics. FNP clinical opportunities also encompassed prenatal care, as well as the care of pediatric and adult patient populations.

Instruments

The standardized encounter form used for this data collection was developed by a consortium of nurse practitioner educators from four university-based primary care nurse practitioner graduate programs located in the Northwest and Midwest. This collaborative effort was undertaken to establish a data base to guide nurse practitioner education as well as promote expansion of primary care research. The consortium asserted that such a data base would provide "systematic rather than anecdotal information" with which to describe practice, monitor practice trends requiring curricular modification, as well as

evaluate caseload to determine adequacy of primary care preparation (K. Crabtree, personal communication, May 2, 1995). A paper presented at a National Organization of Nurse Practitioner Faculties conference documented the establishment of this data base, including a preliminary description of data from two participating universities (Crabtree, Hameister, Pohl, & Warren, 1996).

The encounter form was adapted from a standardized instrument developed by one consortium member. This instrument development was strongly influenced by a familiarity with the evolution of Harriet H. Werley's work pertaining to the Nursing Minimum Data Set (Werley & Zorn, 1989; Werley, Devine, & Zorn, 1989; Leske & Werley, 1992). Data, using this original tool, were collected by 32 ANP graduate students from 1985-1989. The consortium met as a group on two occasions to revise the instrument. Statistical consultation was obtained to ensure the format was adequate for analyses desired. Adaptation of the instrument required some format modification to encompass PNP, FNP, GNP as well as ANP practice (K. Crabtree, personal communication, May 2, 1995).

Data collected with this adapted instrument were reviewed after the initial academic term of implementation. This preliminary examination prompted minor additions and modifications to the tool, made primarily to facilitate ease of completion. No further modifications were made during the remaining two academic terms of data collection.

The encounter form was designed for multipurpose use. Some identified uses include faculty monitoring of student progress, guidance in future clinical placement, student and faculty feedback regarding the cumulative clinical

experience, assistance in student development of a practice portfolio for future employment, and curriculum evaluation.

The structured self-report instrument consisted of a two-sided xeroxed form comprised of 28 individual items to describe each patient encounter. An accompanying code sheet was utilized to enable student coding of nursing diagnoses, medical diagnoses, nursing interventions, and duration of visit (see Appendix A for complete encounter form and code sheet).

Items on this encounter form can be conceptualized into four areas of focus: description of patient, student, type of visit, and care decision making process. Patient focused items provide demographic information such as age, gender, and ethnicity, as well as nursing and medical diagnoses, ability to pay, and patient satisfaction as an indicator of quality of life. Student information elicited includes type of nurse practitioner student (FNP, ANP, GNP, or PNP), preceptor information (nurse practitioner or physician), and student level of responsibility for the patient care process. Visit descriptors provide practice setting, type of visit, date (hence time or season of year), primary reason for visit, time spent with client, and estimated cost of the visit. Items which yield information describing the process include diagnostic tests, treatments and procedures, nursing interventions, content of nursing interventions, disposition, and expected outcome based on the visit.

To preserve privacy and ensure confidentiality, the instrument excludes specific patient identifiers. Similarly, student and preceptor information was coded to shield the identity of individual students and preceptors.

Item response format was primarily limited to fixed choices to facilitate ease of completion for student respondents. The category of "other" was included to allow for additional responses not previously coded. Nursing diagnoses, medical diagnoses and nursing interventions were coded according to a standardized code sheet (Appendix A).

Procedures for data collection

Data were collected for one academic year. Students completed a form after each patient encounter. Completion of these forms was required. Students received group instruction on tool completion. An informational handout was distributed and an orientation session was presented in class by the study coordinator, with other primary care faculty present. This session provided a procedural overview as well as instruction and examples of coding. Submitted forms were monitored for completeness or unclear entries by faculty and incomplete forms were returned to the students for corrections.

Data were collected on clinical experiences for FNP, ANP, GNP, and PNP students throughout the academic year, documenting student progression through the curricular clinical component. A total of 5140 patient encounters were documented by 37 students over 36 weeks. Selected portions of the total data collected with this standardized instrument were utilized for this study. Data collected which was not utilized for this analysis include the patient focused items measuring ability to pay, and patient satisfaction as an indicator of quality of life; student information targeting preceptor information (nurse practitioner or physician), and student level of responsibility; visit descriptors of practice setting,

type of visit, date of visit, time spent with client, and estimated cost of the visit; and care decision making process items with information regarding diagnostic tests, treatments and procedures, disposition, and expected outcome based on the visit.

Limitations of the study

The constraints of secondary analysis limit this inquiry to questions answerable by data elicited by the encounter form and to the response choices designated by the authors of the instrument. Psychometric evaluation of the instrument is not available; therefore, reliability will not be reported. Face validity was attained using an expanded nurse practitioner educator consortium to review the encounter form. This expanded panel included two additional nurse practitioner faculty members, one of whom was also active in primary care research and directed a nurse run clinic employing nurse practitioners.

Data were collected from student self report. It was not feasible to correlate the data obtained with the client medical record with the number and diverse geographic location of clinical sites. Students completed forms on each client whose care they managed in clinic. Time constraints may have contributed to improper coding or incompleteness. If forms were incomplete, they were returned to the student for completion. This secondary completion likely necessitated reliance on memory for many details, which may lack precision. There was no notation of which forms were completed at the time of the patient visit, and those completed later. Despite this secondary effort, some data remain incomplete.

Finally, the following series of assumptions were made regarding the data collection process with regards to this existing data set:

- The student report forms are an accurate representation of the client encounter.
- The student reports that were submitted reflect the true range of primary care problems encountered.
- The students involved in the study reported on the majority of patient encounters that they co-managed.
- Student-client encounters are typical of primary care situations seen by graduate practitioners.
- The settings for these student-client encounters are typical of the variety of settings where nurse practitioners are employed.
- The final decisions reflected in the encounter forms were the result of input from both the preceptor and the student involved in the encounter.
- The nurse practitioner role is built on a nursing foundation with all students having some clinical background as well as an understanding of the concept of nursing diagnosis.

Protection of human subjects

The final research proposal was approved by the Institutional Review Board (IRB). As a secondary analysis of existing data, the study qualified as exempt from full committee review.

Data analysis

The data set used had been coded and entered into a computerized format. The computerized statistical program Statistical Program for the Social Sciences (SPSS) was employed to perform the statistical calculations.

The site study coordinator had previously implemented the decision to group the single GNP student's data with ANP student group data.

In a preliminary exploration of the computer database, data regarding age groups of patients seen by each NP student type, two unexpected findings were discovered. The first was documentation of 30 patient encounters over the age of 21 for the PNP student group. The coordinator for the PNP program was contacted and affirmed that such visits likely were accurately coded, reflecting women's health care experiences for the PNP NP students. The second finding, in the ANP student group, coded eight patients seen in the less than or equal to five years age group, and one patient in the six to eleven years age group. Examination of each of these nine individual cases revealed six cases which had been miscoded and were actually in the greater than or equal to 76 years age group--these cases were recoded. Three cases had insufficient information documented to determine whether coding was accurate. The decision was made to recode these three cases as missing.

For the purpose of this analysis, primary and additional nursing diagnoses, and primary and additional medical diagnoses were examined together when exploring the most frequent diagnoses seen, in order to capture chronic conditions which might not have been the primary reason for the visit.

Similiarly, to explore reason for the visit, the 10 response choices for primary reason visit were grouped into three categories: Health promotion/maintenance ("screening H & P" , "health promotion" and "follow-up health promotion" response choices), acute ("acute problem" and "follow-up acute problem"), and chronic ("chronic newly dx", "chronic stable", "chronic unstable", "chronic complex/multi", and "follow-up chronic problem").

The data available were, primarily, either nominal or ordinal data. Much of the demographic data was reported as frequencies and percentages. When describing the specialty of nurse practitioner students (FNP, ANP, and PNP) and patient characteristics, a cross tabs comparison was used. The majority of research questions were answered in this manner. Questions relating to the 10 most common diagnoses seen by each type of NP student were reported by rank ordered lists.

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Appendix A

Data Collection Instrument and Coding Key

Nurse Practitioner Data

Student ID
Preceptor ID
Patient ID
Family ID

Practice Setting
- ☐ Office/clinic
- ☐ Home
- ☐ Hospital
- ☐ Nursing Home
- ☐ Other

Visit Date
_____
mm dd yy

Date of Birth
_____
mm dd yy

Gender
- ☐ Male
- ☐ Female

Ethnicity
- ☐ Afro-American
- ☐ Asian
- ☐ Hispanic
- ☐ Native American
- ☐ Caucasian
- ☐ Other_____

Visit Type
- ☐ Phone call
- ☐ Walk-in
- ☐ New Patient
- ☐ Established patient
- ☐ Individual
- ☐ Family
- ☐ Group

Duration of Visit*
- ☐ Brief
- ☐ Limited
- ☐ Intermediate
- ☐ Extended
- ☐ Comprehensive

Time Spent with Client
- ☐ 00-20 min
- ☐ 21-40 min
- ☐ 41-60 min
- ☐ 60-90 min
- ☐ 91+ min

Type of exam
- ☐ History only
- ☐ Complete H&P
- ☐ Complete H&P/pelvic
- ☐ Partial H&P
- ☐ Pelvic only
- ☐ No exam

Special Assessments
- ☐ Mental status
- ☐ Functional status
- ☐ Developmental
- ☐ Family
- ☐ Fertility
- ☐ Home assessment
- ☐ Nutritional

Primary Reason Visit
- ☐ Screening H&P
- ☐ Health promo/maint
- ☐ Acute problem
- ☐ Chronic newly dx
- ☐ Chronic stable
- ☐ Chronic unstable
- ☐ Chronic complex/multi
- ☐ Followup health promo
- ☐ Followup acute problem
- ☐ Followup chronic problem

Source of Payment
- ☐ Prepaid health plan/HMO
- ☐ Private pay/Fee for service
- ☐ General assistance
- ☐ Medicaid
- ☐ Medicare
- ☐ No insurance

Total Cost of Visit
- ☐ $0-$25
- ☐ $26-$50
- ☐ $51-$75
- ☐ $76-$100
- ☐ Unknown

Diagnostic Tests
- ☐ Hgb
- ☐ Hct
- ☐ CBC
- ☐ Chemscreen
- ☐ Electrolytes
- ☐ Urinalysis
- ☐ Urine dipstick
- ☐ Throat/nose culture
- ☐ Strep screen
- ☐ Monospot
- ☐ Wet mount
- ☐ Pap smear
- ☐ Serology VDRL/RPR
- ☐ Culture source_____
- ☐ FBS
- ☐ HgbA1c
- ☐ Fingerstick Glucose
- ☐ HIV
- ☐ Cholesterol
- ☐ Triglycerides
- ☐ Lipid panel
- ☐ Serum HCG
- ☐ Urine HCG
- ☐ FSH
- ☐ LH
- ☐ TSH
- ☐ Urine drug screen
- ☐ Liver function
- ☐ Hemoccult
- ☐ Therapeutic drug titer
- ☐ EKG
- ☐ X-ray: chest
- ☐ X-ray: other_____
- ☐ Pulmonary function
- ☐ TB test/PPD
- ☐ Other: BP check
- ☐ Other: vision screen
- ☐ Other: hearing screen
- ☐ Other_____

Treatments/Procedures
- ☐ Med admin: oral
- ☐ Med admin: SQ
- ☐ Med admin: IM
- ☐ Med admin: IV
- ☐ Allergy series
- ☐ Immun: DPT
- ☐ Immun: DT
- ☐ Immun: Chickenpox
- ☐ Immun: Flu
- ☐ Immun: Hep A;B;C
- ☐ Immun: HIB
- ☐ Immun: MMR
- ☐ Immun: Pneumovax
- ☐ Immun:Polio
- ☐ Breathing treatment
- ☐ Assistive devices
- ☐ Other: eye irrigation
- ☐ Other: cerumen removal
- ☐ Other: peak flow
- ☐ Other: dressings
- ☐ Other: wound care
- ☐ Other: suture/removal
- ☐ Other: incision/drain
- ☐ Other: wart removal
- ☐ Other: foot care
- ☐ Other: bladder retraining
- ☐ Other: breath retraining
- ☐ Other: gait training
- ☐ Other_____

Disposition
- ☐ Return scheduled
- ☐ Home visit
- ☐ Admit to hospital
- ☐ Died
- ☐ Return PRN (unscheduled)
- ■ Scheduled phone contact
  - ☐ Pt/family initiated
  - ☐ Clinician initiated
- ■ Return to work/school
  - ☐ No limitation
  - ☐ Modified
  - ☐ Full disability
- ☐ Consult_____
- ☐ Refer: adv practice nurse
- ☐ Refer: clergy
- ☐ Refer: commun. agency
- ☐ Refer: dental
- ☐ Refer: diabetes education
- ☐ Refer: home care
- ☐ Refer: legal
- ☐ Refer: long term care
- ☐ Refer: mental health
- ☐ Refer: nutritionist
- ☐ Refer: pharmacologist
- ☐ Refer: physical therapy
- ☐ Refer: physician
- ☐ Refer: podiatrist
- ☐ Refer: public health
- ☐ Refer: social worker
- ☐ Refer: support group
- ☐ Refer: visiting nurse
- ☐ Other_____

Student's Level of Responsibility
- ☐ Pt examined jointly by student and preceptor; decisions made by preceptor
- ☐ Pt examined by student; consult preceptor; decisions made jointly
- ☐ Pt examined by student; decisions made by student; preceptor validates
- ☐ Pt examined by student; decisions made independently according to protocol or standards of care

* See codes for E/M services

Enter code # for nursing diagnoses and medical diagnoses from code sheet.

Priority 1 Nursing Diagnosis	Priority 1 Medical Diagnosis

NURSING INTERVENTIONS

Enter number of intervention from code sheet. Limit to 3 interventions per priority 1 nursing and medical diagnoses.

1	2	3	1	2	3

Content of Intervention For each intervention used, check off content of intervention below.

Advance directives	☐	☐	☐	☐	☐	☐
Assistive devices	☐	☐	☐	☐	☐	☐
Back care	☐	☐	☐	☐	☐	☐
Breast exam SBE	☐	☐	☐	☐	☐	☐
Breast feeding	☐	☐	☐	☐	☐	☐
Cancer screening	☐	☐	☐	☐	☐	☐
Car seat	☐	☐	☐	☐	☐	☐
Care-giving	☐	☐	☐	☐	☐	☐
Comfort/Pain	☐	☐	☐	☐	☐	☐
Dental	☐	☐	☐	☐	☐	☐
Developmental	☐	☐	☐	☐	☐	☐
Disease process	☐	☐	☐	☐	☐	☐
Economics	☐	☐	☐	☐	☐	☐
Elimination	☐	☐	☐	☐	☐	☐
Environmental	☐	☐	☐	☐	☐	☐
Exercise	☐	☐	☐	☐	☐	☐
Falls	☐	☐	☐	☐	☐	☐
Family health	☐	☐	☐	☐	☐	☐
Family planning	☐	☐	☐	☐	☐	☐
Family Violence	☐	☐	☐	☐	☐	☐
Firearm safety	☐	☐	☐	☐	☐	☐
Hearing	☐	☐	☐	☐	☐	☐
HIV	☐	☐	☐	☐	☐	☐
Legal	☐	☐	☐	☐	☐	☐
Mammography	☐	☐	☐	☐	☐	☐
Meds (Rx/OTC)	☐	☐	☐	☐	☐	☐
Menstrual cycle	☐	☐	☐	☐	☐	☐
Menopause	☐	☐	☐	☐	☐	☐
Mental Health	☐	☐	☐	☐	☐	☐
Nutrition: general	☐	☐	☐	☐	☐	☐
Nutrition: cholesterol	☐	☐	☐	☐	☐	☐
Nutrition: diabetes	☐	☐	☐	☐	☐	☐
Nutrition: sodium	☐	☐	☐	☐	☐	☐
Nutrition: weight control	☐	☐	☐	☐	☐	☐
Occupational	☐	☐	☐	☐	☐	☐
Osteoporosis	☐	☐	☐	☐	☐	☐
Parenting	☐	☐	☐	☐	☐	☐
Pregnancy	☐	☐	☐	☐	☐	☐
Prevent complications	☐	☐	☐	☐	☐	☐
Role relationships	☐	☐	☐	☐	☐	☐
Seat belt/helmet	☐	☐	☐	☐	☐	☐
Self-care	☐	☐	☐	☐	☐	☐
Sex	☐	☐	☐	☐	☐	☐
Skin care	☐	☐	☐	☐	☐	☐
Sleep/rest	☐	☐	☐	☐	☐	☐
Smoke detector	☐	☐	☐	☐	☐	☐
Social isolation	☐	☐	☐	☐	☐	☐
Spirituality	☐	☐	☐	☐	☐	☐
STD	☐	☐	☐	☐	☐	☐
Substance abuse/use	☐	☐	☐	☐	☐	☐
Vision	☐	☐	☐	☐	☐	☐
Other_____	☐	☐	☐	☐	☐	☐

Priority 2 Nursing Diagnosis ☐ **Priority 2 Medical Diagnosis** ☐

Priority 3 Nursing Diagnosis ☐ **Priority 3 Medical Diagnosis** ☐

Mutuality with client

- ☐ Client involved in decision-making
- ☐ Client set goals
- ☐ Client negotiated goals, plan, strategies

Quality of Life

- ☐ Patient satisfied
- ☐ Patient dissatisfied

Expected Outcome for plan of care based on this visit

☐ Problem resolved	☐ ADL with help	☐ ADL able to work
☐ Knowledge improved	☐ ADL without help	☐ Self-care enhanced
☐ Sx resolved	☐ ADL with devices	☐ Self-care skills adequate
☐ Sx improved	☐ ADL does housework	☐ Self-care skills need supplement
☐ Sx unchanged	☐ ADL is socially active	☐ Functional status improved
☐ Coping effectively	☐ ADL walks	☐ Functional status maintained
☐ Hospitalized	☐ ADL transport problem	☐ Functional status deteriorated
☐ Long Term Care	☐ ADL disability permit	☐ No evaluation

Nurse Practitioner Data

Code sheet for Nursing Diagnoses

Nursing Diagnoses

I. HEALTH-PERCEPTION-HEALTH-MANAGEMENT
- 0 Health Maintenance
- 1 Altered Health Maintenance
- 2 Total Health Management Deficit
- 3 Health Management Deficit
- 4 Health Seeking Behaviors
- 5 Noncompliance
- 6 Potential Noncompliance
- 7 Potential for Infection
- 8 Potential for Injury (Trauma)
- 9 Potential for Poisoning
- 10 Potential for Suffocation
- 11 Altered Protection

II. NUTRITIONAL-METABOLIC PATTERN
- 12 Altered Nutrition: Pot. for More than Body Requirements or Pot. Obesity
- 13 Altered Nutrition: More than Body Requirements or Exogenous Obesity
- 14 Altered Nutrition: Less than Body Requirements or Nutritional Deficit
- 15 Ineffective Breastfeeding
- 16 Effective Breastfeeding
- 17 Impaired Swallowing
- 18 Potential for Aspiration
- 19 Altered Oral Mucous Membrane
- 20 Potential Fluid Volume Deficit
- 21 Fluid Volume Deficit (Actual) 1
- 22 Fluid Volume Deficit (Actual) 2
- 23 Fluid Volume Excess
- 24 Potential for Impaired Skin Integrity or Potential Skin Breakdown
- 25 Decubitus Ulcer
- 26 Impaired Tissue Integrity
- 27 Potential for Altered Body Temperature
- 28 Ineffective Thermoregulation
- 29 Hyperthermia
- 30 Hypothermia

III. ELIMINATION PATTERN
- 31 Constipation or Intermittent Constipation Pattern
- 32 Colonic Constipation
- 33 Perceived Constipation
- 34 Diarrhea
- 35 Bowel Incontinence
- 36 Altered Urinary Elimination Pattern
- 37 Functional Incontinence
- 38 Reflex Incontinence
- 39 Stress Incontinence
- 40 Urge Incontinence
- 41 Total Incontinence
- 42 Urinary Retention

IV. ACTIVITY-EXERCISE PATTERN
- 43 Potential Activity Intolerence
- 44 Activity Intolerence
- 45 Fatigue
- 46 Impaired Physical Mobility
- 47 Potential for Disuse Syndrome
- 48 Total Self-Care Deficit
- 49 Self-Bathing - Hygiene Deficit
- 50 Self-Dressing - Grooming Deficit
- 51 Self-Feeding Deficit
- 52 Self-Toileting Deficit
- 53 Altered Growth & Development: Self-care Skills
- 54 Diversional Activity Deficit
- 55 Impaired Home Maintenance Management
- 56 Potential Joint Contractures
- 57 Ineffective Airway Clearance
- 58 Ineffective Breathing Pattern
- 59 Impaired Gas Exchange
- 60 Decreased Cardiac Output
- 61 Altered Tissue Perfusion
- 62 Dysreflexia
- 63 Altered Growth and Development

V. SLEEP-EXERCISE PATTERN
- 64 Sleep Pattern Disturbances

VI. COGNITIVE-PERCEPTUAL PATTERN
- 65 Pain
- 66 Chronic Pain
- 67 Pain Self-Management Deficit
- 68 Uncompensated Sensory Deficit
- 69 Sensory-Perceptual Alteration: Input Deficit or Sensory Deprivation
- 70 Sensory-Perceptual Alteration: Input Excess or Sensory Overlaod
- 71 Unilateral Neglect
- 72 Knowledge Deficit
- 73 Uncompensated Short-Term Memory Deficit
- 74 Potential Cognitive Impairement
- 75 Impaired Thought Processes
- 76 Decisional Conflict

VII. SELF-PERCEPTION-SELF-CONCEPT PATTERN
- 77 Fear
- 78 Anxiety
- 79 Mild Anxiety
- 80 Moderate Anxiety
- 81 Severe Anxiety (Panic)
- 82 Anticipatory Anxiety
- 83 Reactive Depression (situational)
- 84 Hopelessness
- 85 Powerlessness
- 86 Self-Esteem Disturbances
- 87 Chronic Low Self-Esteem
- 88 Situational Low Self-Esteem
- 89 Body Image Disturbance
- 90 Personal Identity Disturbance

VIII. ROLE-RELATIONSHIP PATTERN
- 91 Anticipatory Grieving
- 92 Dysfunctional Grieving
- 93 Disturbances in Role Performance
- 94 Unresolved Independence-Dependence Conflict
- 95 Social Isolation
- 96 Social Isolation or Social Rejection
- 97 Impaired Social Interaction
- 98 Altered Growth and Development: Social Skills
- 99 Translocation Syndrome
- 100 Altered Family Processes
- 101 Potential for Altered Parenting
- 102 Altered Parenting
- 103 Parental Role Conflict
- 104 Weak Mother-Infant Attachment or Parent-Infant Attachment
- 105 Impaired Verbal Communication
- 106 Altered Growth and Development: Communication skills
- 107 Potential for Violence

IX. SEXUALITY-REPRODUCTIVE PATTERN
- 108 Sexual Dysfunction
- 109 Altered Sexuality Patterns
- 110 Rape Trauma Syndrome
- 111 Rape Trauma Syndrome: Compound Reaction
- 112 Rape Trauma Syndrome: Silent Reaction

X. COPING-STRESS TOLERANCE PATTERN
- 113 Ineffective Coping (Individual)
- 114 Avoidance Coping
- 115 Defensive Coping
- 116 Ineffective Denial or Denial
- 117 Impaired Adjustment
- 118 Post-Trauma Response
- 119 Family Coping: Potential for Growth
- 120 Ineffective Family Coping: Compromised
- 121 Ineffective Family Coping: Disabling

XI. VALUE-BELIEF PATTERN
- 122 Spiritual Distress (Distress of Human Spirit)

XII. OTHER_____

Nurse Practitioner Data

Code sheet for Medical Diagnoses

Medical Diagnoses

01: Abdominal pain
02: Acne
03: Acute upper respiratory disease
80: Acute otitis media
04: Acute pharyngitis
05: Alcoholism
103: Allergies
86: Alzheimer's Disease
06: Anemia
07: Angina
87: Anxiety(panic disorder)
08: Arteriosclerotic heart disease
09: Arthritis, unspecified
10: Asthma
11: Breast Cancer
12: Bronchitis (Acute)
13: CAD, post CABG (see condition)
102: Candidiasis
14: Cardiac arrythmias
15: Cardiomyopathy
16: Cataracts
101: Cellulitis
85: Cervicitis
17: Chest wall pain
18: Chronic ischemic heart disease
19: Chronic brain syndrome
20: Chronic Obstructive lung disease
21: Colon cancer
22: Congestive heart failure
104: Conjunctivitis
23: Constipation
24: Contact dermititis
25: Coronary artery disease
26: Cough
27: Debility and undue fatigue
28: Degenerative joint disease
29: Depression
105: Dermatitis
30: Diabetes Mellitus
106: Diaper rash
31: Diarrhea
32: Dizziness
33: Duodenal Ulcer
34: Dysmenorrhea
35: Dyspepsia
36: Dyspnea
37: End stage renal failure
107: Fracture
38: Gestational diabetes
39: Goiter
81: Gout
40: Head and neck cancer
41: Headache
42: Hodgkins disease
43: Hypercholesterolemia
88: Hyperlipidemia
44: Hypertension
89: Hyperthyroid
90: Hypothyroid
45: Leukemia, Chronic
46: Leukemia, Acute
47: Low back pain
48: Lung cancer
49: Lymphadenopathy
50: Lymphoma, non-hodgkins
51: Malignant Neoplasm (general)
52: Menopause
53: Minor Trauma
54: Multiple myeloma
55: Myelodysplastic syndrome
79: Myocardial Infarction
56: Obesity
57: Osteoarthritis
108: Otitis
58: Ovarian cancer
59: Pancreatic cancer
60: Pelvic Inflammatory disease
61: Peptic ulcer disease
82: Perforated Tympanic membrane
62: Peripheral vascular disease
91: Pharyngitis
92: Pneumonia
63: Pregnant woman
64: Premenstrual syndrome
65: Prostate cancer
66: Psoriasis
67: Rheumatoid arthritis
68: Sarcoma (Neoplasm)
109: Scabies
69: Seizure disorder
70: Sinusitis
93: STDs (veneral disease)
71: Stroke
72: Substance abuse counseling/surveillance for drug abuse
73: Systemic lupus erythematosis
110: Tendonitis
111: Tinea
83: Tonsilitis
74: Urinary tract infection
84: Uterine fibroids
75: Vaginitis
76: Valvular heart disease
77: Veneral disease
78: Weight loss
99: No medical diagnosis
100: Other_____

Nursing Intervention Codes

1. Advocacy
2. Biblio therapy
3. Cognitive therapy
4. Contracting
5. Counseling: anticip guidance
6. Counseling: assertiveness training
7. Counseling: contracting
8. Counseling: crisis intervention
9. Counseling: decision-making
10. Counseling: diversional tx
11. Counseling: humor
12. Counseling: self-modification
13. Family care
14. Family problem solving
15. Health promotion
16. Individual problem solving
17. Monitoring/surveillance
18. Mutual goal setting
19. OTCMed: prescription
20. OTCMed: new drug
21. OTCMed: refill
22. OTCMed: change dose
23. OTCMed: discontinue
24. Relaxation
25. Reminiscence
26. Resource coordination
27. RxMed: prescription
28. RxMed: new drug
29. RxMed: refill
30. RxMed: change dose
31. RxMed: discontinue
32. Teaching
33. Telephone management
34. Stress management
35. Values clarification
36. Other nonpharm_____

AMA Medicare Revised Coding System For Evaluation/Management (E/M) Services

Key to Content Descriptors* of E/M Codes:

Your History & Exam are:
PF = Problem Focused
E = Expanded
D = Detailed
C = Comprehensive

Your Medical Decision Making is:
S = Straightforward
LC = Low Complexity
MC = Moderate Complexity
HC = High Complexity

The Severity of Presenting Problem is:
MI = Minor Severity
LS = Low Severity
MS = Moderate Severity
HS = High Severity
SR = Stable, Recovering
RP = Responding Poorly
SC = Significant Complication(s), Unstable
UE = Urgent Evaluation Required
LT = Life Threatening Problem(s)

Service	CPT Code #	History & Physical Exam	Medical Decision Making	Severity	Avg. Physician Time in Minutes
Office Consultations (New or Established)	99241	PF	S	MI	15
	99242	E	S	LS	30
	99243	D	LC	MS	40
	99244	C	MC	MS-HS	60
	99245	C	HC	MS-HS	80
Follow-Up Consultations Established	99261	PF	S-LC	SR	10
	99262	E	MC	RP	20
	99263	D	HC	SC	30
Emergency Department (New or Established)	99281	PF	S	MI	-
	99282	E	LC	LS-MS	-
	99283	E	LC-MC	MS	-
	99284	D	MC	UE	-
	99285	C	HC	LT	-

*History, Exam and Medical Decision Making are considered the KEY components in selecting a visit code. These service descriptors, NOT TIME, are used to select the correct level of code. Time becomes a key consideration in selecting a level of code only when counseling or coordination of care accounts for over 50% of the time spent with the patient.

1/5/96

Appendix B

Institutional Review Board Correspondence

MEMO

Date: November 19, 1997

To: Research Support Office/Institutional Review Board
Oregon Health Sciences University

From: Susan Porter, R.N., B.S.N. [redacted]
Shelley Nielsen, R.N., B.S.N. [redacted]

Subject: IRB submission packet

Please find attached the following information regarding our proposed research project titled "A Descriptive Study of Primary Care Nurse Practitioner Students' Clinical Practice":

Proposed Project Questionnaire
Initial Review Questionnaire
Copy of research proposal

This study is under the supervision of faculty advisor M.Katherine Crabtree, R.N., D.N.Sc., Associate Professor/School of Nursing/Primary Health Care. (Mailcode: SN-5 South/4-3828).

The proposed study would employ a secondary analysis of data collected in the OHSU primary care nurse practitioner program evaluating implemented curricular clinical components during the 1995-1996 academic year. There would be no additional data collection. Therefore, no consent form is included in this packet.

If you should have any questions or concerns regarding the contents of this packet, please contact Shelley Nielsen, R.N., B.S.N. at (503)648-9787.

IMPORTANT: Answers MUST be typed

Date Received: _____
IRB I.D.#: _____

OREGON HEALTH SCIENCES UNIVERSITY

INSTITUTIONAL REVIEW BOARD
INITIAL REVIEW QUESTIONNAIRE

This questionnaire is based on Federal requirements for the protection of human subjects and OHSU policies. All research involving humans (including human organs, tissues, fluids or potentially confidential information), regardless of funding, must be reviewed by the Institutional Review Board. ***PLEASE ALLOW 4-6 WEEKS FOR THE REVIEW PROCESS***. For further information call 494-7887.

RESEARCH PROJECT TITLE: _____

"A Descriptive Study of Primary Care Nurse Practitioner Students' Clinical Practice"

FUNDING SOURCE OR SPONSOR: **No funding** Start Date **Dec. 15, 1997** End Date **June 30, 1998**

GRANT/CONTRACT/PROTOCOL I.D. #: **N/A**

PRINCIPAL INVESTIGATOR AND ASSOCIATES (application will be filed under the name of the first person listed):

NAME	DEGREE	POSITION	DEPT/DIVISION	MAILCODE	PHONE
Porter, Susan	**R.N., B.S.N.**	**Graduate Student**	**SON/Primary Health Care**	**SN-5 South**	**(503) 236-8836**
Nielsen, Shelley	**R.N., B.S.N.**	**Graduate Student**	**SON/Primary Health Care**	**SN-5 South**	**(503) 648-9787**
Crabtree, M. Katherine	**R.N., B.S.N.**	**Associate Professor**	**SON/Primary Health Care**	**SN-5 South**	**4-3828**

CONTACT PERSON: **M. Katherine Crabtree, R.N., D.N.Sc.** PHONE: **4-3828** MAIL CODE: **SN-5 South**

1. Is the Principal Investigator (or co-P.I.) qualified to conduct research at OHSU (see attached policy on PIs)? ☐YES ☒NO
   If not, attach a written assurance from the sponsor/advisor who assumes responsibility for the research.
   Faculty Advisor: M. Katherine Crabtree, R.N., D.N.Sc., Associate Professor/SON

2. If this study involves medical or surgical intervention for research subjects, is the Principal Investigator a licensed physician or dentist with clinical privileges at OHSU? N/A ☐YES☐ NO
   If not, attach written assurance from the physician or dentist who assumes medical responsibility for the research subjects, if applicable.

3. Will this work be done if the project is not funded? ☒YES ☐ NO
   Date which you expect to start this research? **Immediately**

4. Research will be conducted through or in collaboration with (please check):
   ☐Clinical Research Center ☐Primate Center ☐VA Medical Center
   ☐Shriners Hospital ☐ Other(s) ☒Not Applicable

If one of the above is checked, a copy of the protocol, supporting material and consent form should be submitted to the

14. Will computing services be used in the investigation? If yes, call the Biomedical Information Communication Center and include the costs in the budget. Y ☐ N ☒

15. Is space available within the department adequate for installation of the proposed equipment and/or employees who will conduct the project? If no, please explain your space requirements on a separate sheet of paper . Y ☒ N ☐

What rooms will be used for this project? List building and room numbers: SON 585

If you are applying to a private foundation, private corporation, etc., please ask the Office of Research Services (ORS) for the Funding Request Clearance Form. The Form should be completed and sent to OHS Foundation, L344, prior to submitting your application.

If this project involves resources (faculty, staff, equipment, space) from more than one department/school/unit, each Department Chair/Dean/Director must review the proposal and signify approval by signing this questionnaire.

If this is a program project-type application, ask ORS for the supplemental signature sheet.

The Principal Investigator's signature indicates that no changes have been made to the Animal Care or Human Subjects protocol(s) listed. Signatures required before proposal will be signed by the institutional official are: PI, Division Head, Department Chair, and Unit Dean/Director. If VA space or personnel are to be used, the PPQ must be signed by the VA Research Service.

[redacted] 11/19/97
PI/Project Director/Date

[redacted] 11/19/97
PI/Project Director/Date

[redacted] 11/19/97
Dept. Chair/Date

[redacted] /19/97
Dean/Director/Date

/19/97
Dean/Director/Date

Asst. Vice President for Research Administration/Date

N/A
VA Research Service/Date

[redacted]
SON Advisor/Date
(needed if PI is a School of Nursing student)

OREGON HEALTH SCI ;CES UNIVERSITY
Research Support Office (RSO), L106 (503) 494-7887

MEMO

OHSU SCHOOL OF NURSING
DEC 2 1997
Office of STUDENT AFFAIRS

Date: November 26, 1997

To: *Susan Porter, RN, BSN, SN-5 South,*

From: Richard T. Jones, MD, PhD, Chair Institutional Review Board, L106
Leslie Bevan, PhD, Director Research Support Office, L106

Subject: 4736 EX [redacted]
A Descriptive Study of Primary Care Nurse Practitioner Students' Clinical Practice

Special Communication

☐ The RSO has not received a response to the request made on _____ for revisions of the above protocol/consent form. These were due in the RSO on _____.

☐ The attached advertisement has been approved as presented. Any changes to this advertisement must be submitted to the RSO for IRB approval.

☐ The IRB reviewed the attached advertisement on _____. The following changes will need to be made before approval is given. [1]

☐ The above study involves only discarded tissues/samples that do not include *identifiable private data/information obtained in a form associable with an individual.* Therefore, the study does not require IRB review.

☐ The above study meets the criteria for waiver of consent.

✗ This study is exempt based on criteria category # 4 .

[1] see appended copy for suggested editing

Rev. 04/11/97

Oregon Health Sciences University
Office of Research Services
PROPOSED PROJECT QUESTIONNAIRE

PPQ

This form must accompany all grant/contract applications and new protocols to be reviewed by the Committee on Human Research.

	Last Name, First Name, Degree	Mail Code	Phone Number	E-mail Address
Principal Investigator	Porter, Susan R.N., B.S.N.	SN-5 South	(503)236-8836	porters@ohsu.edu
	Nielsen, Shelley R.N., B.S.N.	SN-5 South	(503)648-9787	nielsen@ohsu.edu

Contact Person: M. Katherine Crabtree, R.N., D.N.Sc. Phone Number: 4-3838

School/Unit: SON Funds assigned to (Dept/Div): No funding

Joint Appointments (School/Dept): Graduate nursing students/primary care/SON PI % of Effort: 20%

Project Title: "A Descriptive Study of Primary Care Nurse Practitioner Students' Clinical Practice"

Agency: Oregon Health Sciences University Agency Deadline: June 30, 1997

pplication is: ☒ New ☐ Noncompeting ☐ Competing ☐ Supplement ☐ Revision (of proposal dated _____)

Does the Principal Investigator or any co-PI receive any salary support from the VAMC?	Y ☐	N ☒
Does this project involve VAMC resources (space, equipment or VA patients)?	Y ☐	N ☒
Is this project cancer related? (Exclude GOG, SWOG, CCG, NSABP & UCOG protocols.) If yes, please forward a copy of the protocol to the Oregon Cancer Center, mail code L609, x4-6349).	Y ☐	N ☒
Will animals be used in the investigation? If yes, complete the appropriate animal care form, and include the costs of animals and board in the proposed budget (as supplies).	Y ☐	N ☒
Animal Care Protocol Number (not A3304-01): If this protocol is new, then none. None		
Will non-exempt recombinant DNA be used in the study? If yes, send a copy of the application to the Biosafety Committee, L333.	Y ☐	N ☒
Will radionuclides be acquired, used, and/or disposed of in the investigation? If yes, complete the Radioactive Materials Cost Analysis form and include the costs of acquiring and disposing of radioactive materials in the budget.	Y ☐	N ☒
Will hazardous materials or biological agents be used in the study? If yes, complete the Hazardous Materials Cost Analysis form and include the costs of disposing of hazardous chemicals/wastes in the budget.	Y ☐	N ☒
Will human subjects be used in the study? If yes, complete the Initial Review Questionnaire, protocol, and draft consent form (if applicable). Consent form not applicable/secondary analysis of existing data.	Y ☒	N ☐
Human Subjects Protocol Number (not M1359): If this protocol is new, then none. None		
Will hospital services and/or equipment be utilized? If yes, include charges for hospital services in the budget.	Y ☐	N ☒
Are drugs to be administered? If yes, contact the Pharmacy and Therapeutics Committee, OP24.	Y ☐	N ☒
Has the investigator read the OHSU policy and procedures dealing with possible misconduct in research? If no, misconduct policy statements are available in ORS, MacHall 2160.	Y ☒	N ☐
Is there a subcontract? If yes, is there a budget and willing letter for that institution attached?	Y ☐	N ☒
Is OHSU the subcontract? If yes, please submit materials necessary for ORS to provide an institutional willing letter.	Y ☐	N ☒

stitutional Review Board of that organization, as well as the OHSU Research Support Office. If the VAMC box is checked, the PI may be eligible for a waiver from review at the VAMC. See the last 3 pages of this questionnaire.

STUDY POPULATION:

5. Are the subjects patients? ☐ or volunteers ? ☐ **Primary health care graduate students from Academic year 1995-96/Students have graduated.**

6. What is the total number of subjects you plan to study? **32** Age range? **Adult graduate students**

7. Source of subjects:

OHSU hospital/clinics	Yes ☐ No ☒	General Public	Yes ☐ No ☒
Patient families	Yes ☐ No ☒	VA inpatients	Yes ☐ No ☒
OHSU students	Yes ☒ No ☐	VA outpatients	Yes ☐ No ☒
Vancouver Nursing Home (VA affiliate)	Yes ☐ No ☒	Other _____	

8. Study subjects may include (please check):

☐ Minors	☐ Fetuses	☐ Mentally Ill	☐ Prisoners
☐ Pregnant Women	☐ Abortuses	☐ Mentally Impaired	☒ None of the above

9. If this study involves any of the special groups in question 8, check one: **N/A**

☐ Use of such subjects is a necessary part of the research.
☐ Such subjects may be included incidentally as members of a more general population.

10. If specific gender or ethnic groups are excluded, explain rationale: **No gender or ethnic groups excluded.**

11. How will subjects be recruited (i.e., referral, advertisements, etc)? **N/A--secondary analysis of existing data.**

If advertisements will be used, please attach a copy for review.

12. How will consent be obtained? Who will obtain consent? **N/A--secondary analysis of existing data.**

COSTS

13. Will subjects receive payments for participation in the study? ☐YES ☒NO
If **YES**, what amount and under what circumstances? **N/A--secondary analysis of existing data.**

14. Will subjects be responsible for the costs incurred as a result of participation in the study? ☐YES ☒NO
If **NO**, who is responsible? **N/A--secondary analysis of existing data, no costs to be incurred.**

CONFIDENTIALITY:

15. Specify how documents and/or data will be stored and how confidentiality will be maintained (e.g, locked file, computer with restricted password, etc.) **Existing data currently available. Original data collection employed an instrument which excluded specific patient identifiers. Specific student and preceptor information was coded on the data collection instrument. (See Appendix A of protocol for instrument used for data collection.)**

DEVICE USAGE:

25. Will an investigational device be used? ☐YES ☒NO

26. Has the device been determined (by the FDA or sponsor) to be a significant risk device ☐ or a non-significant risk device ☐?
27. IDE (Investigational Device Exemption) # : N/A
You may need to contact the sponsor of the study for this number.

If this study involves an investigational device, you must attach sponsor/manufacturer information (including name, description, FDA status, any previous IRB reports, and risks). This may include IDE (investigational device exemption) application.

BY SIGNING THIS FORM THE INVESTIGATOR ASSURES THE FOLLOWING:

I. I will **promptly** notify the OHSU IRB of any proposed changes to the project and/or unanticipated problems such as adverse reactions.
II. I assure that documentary evidence of informed consent, where appropriate, will be included in the medical records of the subjects if applicable. These documents will be retained for 3 years following the completion of the study.
III. Because the OHSU IRB is obligated to periodically review this project, I will furnish relevant information when requested.
IV. I will be responsible for the ethical conduct of this project, and for protecting the rights and welfare of the subjects.

[redacted] 11/19/97
Co-Principal Investigator **SIGNATURE** Date

Susan Porter, R.N., B.S.N./ Graduate Student/SON-PHC
Co-Principal Investigator **PRINT NAME & OHSU AFFILIATION**

[redacted] 11/19/97
Co-Principal Investigator **SIGNATURE** Date

Shelley Nielsen, R.N., B.S.N./ Graduate Student/SON-PHC
[redacted]IATION
Signature of OHSU Sponsor/Advisor (if applicable) 11/19/97 Date

M. Katherine Crabtree, R.N., D.N.Sc./Faculty/SON-PHC
OHSU Sponsor/Advisor **PRINT NAME & OHSU AFFILIATION**

16. Will audio tape recordings, videos or photographs be made? ☐YES ☒NO
If YES, explain how they will be kept confidential: _____

LEVEL OF REVIEW:
Anticipated to qualify as exempt as a secondary analysis of existing data, collected in an academic setting evaluating an implemented curricular componant.

17. Would the protocol/procedure be carried out as part of the patient's standard care if there was not a research interest? **N/A.** ☐YES ☐NO

18. Will the information be recorded in such a way that it cannot be linked to the subject? ☒YES ☐NO

19. Will this research use existing data or specimens? ☒YES ☐NO
(Existing means previously collected (i.e.on the shelf) for either research or nonresearch activities).

20. Are the data publicly available (i.e., birth or death certificates) ? ☐YES ☒NO

If the research involves collection of descriptive data, please submit a data collection form (or an outline of the information/data that will be collected) with the protocol. This may include information such as date of birth, age, sex, medical record number, etc.

RADIATION:

21. Will the subject be exposed to materials with potential radiation risks solely for the purpose of research (e.g., x-rays, radioisotopes that are not part of the standard care)? ☐YES ☒NO
If YES, a copy of the protocol and consent form should be submitted to the Radiation Safety Committee for review, and the following questions answered (PP236):

A. Total dosage in rads: N/A
B. Date submitted to Radiation Safety Committee: _____
C. Radiation Safety Committee review (date approved/pending): _____

DRUG USAGE:

22. Will an FDA approved drug be used for an unapproved purpose? ☐YES ☒NO
If YES, give the name of the drug(s) and uses: **N/A**

23. Will an investigational (unapproved) new drug/substance be used? **N/A** ☐YES ☒NO

If you answered YES to question 22 or 23, <u>you must</u> attach a copy of the Investigator's Brochure (including toxicity, previous animal/human studies, bibliography) and send an additional copy of the protocol to the OHSU Pharmacy and Therapeutics Committee c/o Karen Schoenbrun (OP-16A).

24. Give the name of the person/firm that holds the IND (investigational new drug): **N/A**
Name: _____ IND #: _____
Address: _____ *You may need to contact the sponsor of the study for this number.*
_____

OREGON HEALTH SC. ICES UNIVERSITY
Research Support Office (RSO), L106 (503) 494-7887

MEMO

Date: November 26, 1997

To: *Susan Porter,RN, BSN, SN-5 South,*

From: Richard T. Jones, MD, PhD, Chair Institutional Review Board, L106
Leslie Bevan, PhD, Director Research Support Office, L106

Subject: 4736EX [redacted]
A Descriptive Study of Primary Care Nurse Practitioner Students' Clinical Practice

Special Communication

☐ The RSO has not received a response to the request made on _____ for revisions of the above protocol/consent form. These were due in the RSO on _____.

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✗ This study is exempt based on criteria category # 4 .

[1] see appended copy for suggested editing

Appendix C

Article for Journal Submission

Primary Care Nurse Practitioner Students' Clinical Practice

Shelley Nielsen, Susan Porter, & M. Katherine Crabtree

The clinical experiences of nurse practitioner (NP) students are key to the foundation on which their careers are built. The didactic portion of the educational process cannot be fully relevant unless matched to problems that students encounter in the field. These problems should mirror the types of encounters reported by primary care providers in practice if the graduate is to enter the workforce as competent and competitive. The practice of NP students warrants scrutiny to determine the types of patients they encounter and manage. This study seeks to provide data about the clinical education of NP students in a master's program. The most frequent medical diagnoses reported by one cohort of 37 primary care NP students are then compared with types of patient problems managed by physicians and NPs as described in the literature.

Review of Literature

The specific content of NP student clinical encounters is not well documented. Literature describing NP education literature has, to date, focused on such subjects as core courses, number of clinical hours, types of preceptors, and collaborative practice with other disciplines.

Monninger and Fullerton (1984) did seek to characterize the type of patients seen by students. They reported the use of a data collection form in a 1974 certificate program to determine the proportion of patient visits for acute, chronic or health maintenance care. They observed that family nurse practitioner (FNP) students saw mainly acute problems, for 53.1% of total visits. Health maintenance visits represented 18%, chronic visits 17.7%, with other categories constituting a minority of visits. Pediatric nurse practitioner

(PNP) students also saw acute care problems most frequently at 52.5%, with health maintenance visits at 45.3%, and chronic problems at 2% of total. Although these data address the question at hand, they are no longer current. With the advent of managed care, significant changes have occurred both in health care and the utilization of NPs since this study was done and the distribution of services should be reassessed in today's arena.

The practice patterns of NPs and family physicians have been explored in greater detail. Chen, Barkauskas, and Chen (1984) and Rosenblatt, et al. (1982) documented the most frequent diagnoses seen in a variety of settings by NPs and physicians. However, these data were collected in the 1970s and also need updating. Furthermore, local practice surveys may reflect geographical differences which do not generalize well nationally.

The National Ambulatory Medical Care Survey (NAMCS) was initiated in 1973 by the National Center for Health Statistics to collect data on services provided by office-based physicians. Starfield (1992, p. 95) describes this survey as "the major source of information about the nature of primary care in the United States." The most recent published survey (1996) describes visits to private nonhospital - based clinics and health maintenance organizations (HMOs), but not federally operated facilities or hospital-based outpatient departments. Diagnoses were classified using ICD-9-CM codes. The most frequent diagnoses reported in the 1996 NAMCS are included in Table 1. However, NPs are not well represented in this survey.

Pickwell (1993) reported on three national surveys of FNPs, as well as her own fifteen year experience. The absence of standardized diagnostic clusters makes

comparison with the NAMCS difficult yet commonalties are noted throughout the list. The top frequencies reported by Pickwell are also included in Table 1.

[Table 1. approximately here]

Method

This descriptive study retrospectively analyzed data collected during the 1995-96 academic year by 37 second year primary care NP Master's and post-Master's students at a Pacific Northwest university. These student group was comprised of 25 FNP students, six PNP students, five adult nurse practitioner (ANP) students and one gerontological nurse practitioner (GNP) student, whose data were grouped with the ANP student data.

During the second year of study, students completed three 12 week clinical practica terms. The curriculum required approximately 500 clinical hours--510 for the GNP specialty; 480 for FNP, PNP and ANP specialties. Statewide clinical settings provided a diversity of both hospital-based and community-based clinics, in rural and urban settings. A total of 5140 patient encounters were reported by this student group over 36 weeks.

Instrument:

The standardized encounter form used was developed by a consortium of NP educators from four university-based primary care NP graduate programs. Adapting a standardized instrument developed by one member, the consortium met as a group to accomplish the revision, obtaining statistical consultation to ensure the format was

suitable for the analyses desired. Minor modifications were made to the form after the first clinical practica for ease of reporting.

The structured self-report instrument consisted of a two-sided form comprised of 28 individual items to describe the patient encounter. An accompanying standardized code sheet enabled student coding of nursing diagnoses, medical diagnoses, nursing interventions, and duration of visit. Although the item response format was largely fixed choices, there was opportunity to write in additional responses not previously coded using the category of "other".

The constraints of secondary analysis limit this inquiry to questions answerable by data elicited on this encounter form. There was no opportunity to correlate data obtained with the client medical record. However, the large number of encounters documented permits the examination for emerging trends which can provide potential areas for subsequent investigation.

Results

Patients seen were principally female (59.8%), mirroring the 1996 NAMCS where 59.2% were female. Patients were primarily Caucasian (76.1%), with other ethnic groups represented--12.9% Hispanic, 7.4 % Native American, 3.9% African/American, and 2.7% Asian. This is a more diverse ethnicity than the home state for the university, where, according to 1994 US Census data, 89.7% of the population is Caucasian. The student study also demonstrated a higher incidence of minority patients than the 1996 NAMCS where 85.2% of patients were Caucasian.

Patient age groups represented both extremes of the age continuum, with 27.3% of patients ≤ 11 years old and 9.4% of patients ≥ 65 years old. This indicates a difference from the 1996 NAMCS survey where 19.2% were ≤ 15 years and 24.5 % of patients were ≥ 65 years. This difference may in part be due to the PNP students comprising 16.2% of the student cohort, while pediatricians in the 1996 NAMCS were 13.2% of the total.

[Table 2 approximately here]

Medical Diagnoses

Although students could enter a possible total of three medical diagnoses for each patient visit, most chose only one. The frequency of a diagnosis was derived by determining the number of times a diagnosis was coded as any of the three possible medical diagnoses compared to the total number of diagnoses recorded. Those forms which coded "other" as a medical diagnosis were reviewed and diagnoses that fit into one of the codes were added to that group. The most frequently recorded medical diagnoses for the total NP student cohort, as well as for the individual NP student types are presented in Table 2.

Overall, acute problems predominated (58.8%), followed by health maintenance/promotion (21.8%), and then chronic problems (14.7%). However, the reason for visit varied significantly ($p<.001$) among the NP student types. PNP students saw acute problems (69.8%), and very few patients with chronic problems (2.7%). ANP students saw fewer health maintenance patients (12.8%), significantly more chronic

problems (32.3%), but still saw a majority of patients with acute problems (50%). FNP students saw a majority of acute problems (57.4%), with 21.8% reported as health maintenance, and 13.6% chronic care visits.

Discussion

The acuity of patient visits demonstrates some differences from what had been previously reported, especially in the area of PNP care. The drop in health maintenance visits (23.9%) reported by PNP students from 45.3% reported by Monninger and Fullerton (1984) is notable. This finding may reflect changes in preventive care coverage by insurance and the expanded scope of NP practice since 1974.

Chronic care was less frequent for FNP students in this study compared to surveys reported previously. Only 19.5% of patients seen by the FNPs in this study group were over age 50. The ANP group had the highest percentage of chronic care, with 40% of their patients over age 50, but saw fewer patients primarily for health maintenance.

These findings have important implications for educators. One approach may be to homogeneously prepare all NP types to manage patients with acute and health maintenance needs, and focus on chronic problems to a different extent in each specialty according to the proportion seen by that specialty. Analysis of these factors encourages critical review of clinical experiences and consideration of the extent to which common courses should be used to prepare the different specialties.

It is interesting to compare the medical diagnoses seen most frequently by these students to published reports of those seen by physicians and NPs. FNP and ANP student coded "other" more frequently than any one of the 105 designated diagnosis codes. In

part, this may be reflective of the diagnostic codes used, which did not allow for broad groupings. Although a small percentage of those recorded as "other" have been included in available codes, the majority were infrequently seen diagnoses. From the sheer number of diagnoses recorded, it is apparent these students encountered a great range of patient concerns, reflecting the broad scope of primary care practice. This "other" list is too lengthy to enumerate , but includes 330 diagnoses that range from complex entities such as "multiple sclerosis" to minor problems like "ingrown toenail." Such information is important in evaluating the scope of the student practice and the educational preparation needed.

Similarities exist between diagnoses previously reported as the most frequent by physicians and NPs and the ones reported by this student group. Several categories of upper respiratory infections are noted in the top ten list. This is an expected finding in primary care and appropriate for NP scope. They predominate to a greater extent for the students than for those reported by clinicians. Possibly students were assigned a higher proportion of these patients by preceptors, especially at the outset of their clinical experiences. It may also reflect the coding used by the student group, which divided upper respiratory illnesses into several categories that were grouped together in other studies.

"Sinusitis" was the third most common diagnosis overall and appeared in each type of NP student's most frequent list. It does not appear on the clinicians frequently reported encounters with the exception of Pickwell. Jackler and Kaplan (1998) suggest that sinusitis is overdiagnosed compared with rhinitis, which has a similar clinical

presentation. In contrast, Schwartz (1994) reports that sinusitis is one of the most common health care complaints, and is often overlooked. The true incidence of sinusitis, and how well recognized it is, provides an interesting topic for further investigation.

The diagnoses "no medical diagnosis" and "pregnant woman" were also among the most frequently cited, corresponding to categories such as "general medical exam" reported both by primary care physicians and NPs. The FNP and PNP student groups saw proportionally more of these "well people" than did the ANP group, likely reflecting the large pediatric health maintenance component of their practices.

Overall, the most common chronic illnesses reported were diabetes and hypertension with "hypertension" fifth , and "diabetes mellitus" tenth. For the ANP students, these were # 1 and #2 respectively, reflecting the increased chronically ill patients seen by ANP students and the higher patient acuity at internal medicine sites where ANPs often practice. These are also commonly reported in practice and students should be managing these patients during clinical training.

Although only the ANP group reported "depression" in their top 10 diagnoses, it comprised only 2.7% of diagnoses coded. The FNP student group reported "depression" for 2.5% of diagnoses, ranking it 11^{th}. This diagnosis did appear in the top 10 reported by family practice physicians in studies reported by Rosenblatt, et al. (1982) , but did not appear on any list by NPs in the literature or in the current NAMCS. Eisendrath (1998) suggests that up to 30% of primary care patients have depressive symptoms. Depression is noted to be underdiagnosed in the literature and indeed, it is coded in less than 4% of the total number of adult patients seen in this study. This may reflect the fact that novice

practitioners predominately focus on medical problems or feel inadequately prepared to diagnose and treat depression.

Certain diagnoses were surprisingly absent from the top ten diagnoses reported by students. Dermatologic problems featured prominently on the top ten lists of many of the studies in the literature. At first analysis, skin problems were not frequently coded in this student study. However, on further examination of the coding opportunities available, eight separate dermatologic codes were possible, some quite general, others very specific. These dermatologic problems, when examined as a group, were frequently coded and if these separated codes had been consolidated it would have demonstrated that dermatologic problems were seen frequently by this student group.

Vaginitis , one of the most common primary care problems noted in studies from the 1970s was only coded 64 times in this study (1% of total diagnoses). The increased availability of over the counter treatments for problems such as vaginal yeast infections may, in part, explain this finding.

There is a noted absence of musculoskeletal problems on the total list of diagnoses reported by the student NPs. The ANP student group reported minor trauma and low back pain in their top 10 list, while FNPs coded minor trauma at #10. Many of the physician studies and two of the four NP studies noted in the literature reported musculoskeletal problems prominently among their top 10 diagnoses. However, the only musculoskeletal coding options in this study were "fracture," "low back pain," "minor trauma," and "tendonitis," contributing to a low observed frequency. This is confirmed by a large variety of musculoskeletal problems noted in the "other" list. Students do

encounter patients with these problems and need to be adequately prepared to diagnose and treat them.

Finally, malignant neoplasms were among the most frequent reported in the 1996 NAMCS, but only represented 0.1% of total diagnoses in the student study. Reasons for this may involve preceptor selection of patients appropriate for students, the inclusion of specialists in the NAMCS and the scope of NP practice with regard to specialty treatment.

This study's findings confirm that these NP students encountered a wide variety of primary care problems. Those most frequently diagnosed by students were similar to diagnoses reported as the content of primary care practice. The large scope of problems seen and the difficulties inherent in providing classroom content for this broad range of problems are appreciated in reviewing this data. Educators must continually assess the relevancy of clinical education, in light of the continued expansion of the NP scope of practice, particularly in areas similar to the Pacific Northwest where legislation has favored an expanded role.

Further research is needed to standardize a data base for NP practice which might facilitate such assessments, as has been done for physician practice. Courtney and Rice (1995) encourage NPs to establish a comprehensive database that encompasses the minimum data set employed by NAMCS and captures additional data unique to NP practice. Such information will become increasingly important in the competitive atmosphere in the healthcare marketplace.

Further study should be undertaken to determine the complexity of patients students see, the level of responsibility students have in decision making, and the incorporation of health promotion activities and interventions with all patients, regardless of complaint. Evaluation of the use of different types of preceptors and whether this affects level of complexity or student involvement in decision making is another important area where research is needed to more fully document the process of clinical education. This topic needs to be fully explored to assure that research guides the educational processes offered today.

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Table 1. Top ten medical diagnoses compared across studies.

	Pickwell		1996 NAMC	1995-96 students
	Pickwell's individual experience (n=1 NP x15 yrs.)	1981/82 NP study (n=1409 NPs)	(n=892,025 patient visits)	(n=37 students/ 5120 patient visits)
1.	Skin disorders	URI	Acute URI	No medical diagnosis
2.	Well woman care	Hypertension (HTN)	Essential HTN	Acute otitis media
3.	Ear disease	Vaginitis	Normal pregnancy	Sinusitis
4.	Bronchitis	Family planning	Routine infant or child health check	Acute UR disease
5.	Pharyngitis	Urinary tract infection	Malignant neoplasms	Otitis
6.	Well child care	Skin problems	Otitis media & eustachian disorders	HTN
7.	Upper respiratory infection (URI)	Diabetes	General medical exam	Bronchitis (acute)
8.	Vaginitis	Otitis media	Diabetes mellitus	Pregnant woman
9.	Strains/sprains	Pregnancy/ pre-natal care	Arthropathies and related disorders	Pharyngitis
10.	Sinusitis	Gastrointestinal	Dorsopathies	Diabetes Mellitus

Table 2. Medical diagnoses recorded in the NP student study, in descending order of frequency.

Total	FNP	ANP	PNP
No medical dx (06.1%)	Pregnant woman (05.4%)	HTN (08.1%)	Acute otitis media (13.3%)
Acute otitis media (05.5%)	No medical dx (05.1%)	DM (05.6%)	No medical dx (13.0%)
Sinusitis (04.2%)	Acute otitis media (04.7%)	Sinusitis (05.3%)	Otitis (06.7%)
Acute UR disease (03.9%)	Bronchitis (acute) (04.4%)	Minor trauma (03.0%)	Pharyngitis (06.1%)
Otitis (03.8%)	Acute UR disease (04.2%)	Depression (02.7%)	Acute UR disease (05.0%)
HTN (03.7%)	Sinusitis (03.8%)	Otitis Low Back Pain Abdominal Pain (02.6%)	Cough (04.5%)
Bronchitis (acute) (03.5%)	HTN (03.4%)	No medical dx (02.5%)	Sinusitis (04.4%)
Pregnant woman (03.3%)	Otitis (03.3%)	Bronchitis (acute) UTI (02.3%)	Dermatitis (04.0%)
Pharyngitis (03.2%)	Pharyngitis (02.8%)	Acute URI (01.8%)	Conjunctivitis (02.7%)
Diabetes Mellitus (02.7%)	Minor trauma (02.7%)	COPD Dermatitis (01.7%)	Asthma (02.4%)

Appendix D

Data Tables

Datatable 1. Client age group/**FNP students**

Age group	Frequency	Percent	Valid %	Cum %
≤ 5	447	14.8	15.4	15.4
6-11	181	6.0	6.2	21.6
12-20	487	16.1	16.8	38.4
21-49	1203	39.9	41.4	79.7
50-64	331	11.0	11.4	91.1
65-75	167	5.5	5.7	96.9
≥76	91	3.0	3.1	100.0
Subtotal	2907	96.4	100.0	
Missing	110	3.6		
Total	3017	100.0		

Datatable 2. Client age group/**ANP students**

Age group	Frequency	Percent	Valid %	Cum %
≤ 5	8	.8	.9	.9
6-11	1	.1	.1	1.0
12-20	52	5.4	5.6	6.6
21-49	488	51.0	52.8	59.4
50-64	158	16.5	17.1	76.4
65-75	101	10.6	10.9	87.4
≥76	117	12.2	12.6	100.0
Subtotal	925	96.8	100	
Missing	31	3.2		
Total	956	100.0		

Datatable 3. Client age group/**PNP students**

Age group	Frequency	Percent	Valid %	Cum %
≤ 5	549	47.9	48.4	48.4
6-11	220	19.2	19.4	67.8
12-20	336	29.3	29.6	97.4
21-49	29	2.5	2.6	99.9
50-64				
65-75	1	.1	.1	100.0
≥76				
Subtotal	1135	99.0	100.0	
Missing	12	1.0		
Total	1147	100.0		

Datatable 4. Client gender/**FNP students**

Gender	Frequency	Percent	Valid %	Cum %
male	979	32.4	33.8	33.8
female	1921	63.7	66.2	100.0
Subtotal	2900	96.1	100.0	
Missing	117	3.9		
Total	3017	100.0		

Datatable 5. Client gender/**ANP students**

Gender	Frequency	Percent	Valid %	Cum %
male	404	42.3	43.7	43.7
female	520	54.4	56.3	100.0
Subtotal	924	96.7	100.0	
Missing	32	3.3		
Total	956	100.0		

Datatable 6. Client gender/**PNP students**

Gender	Frequency	Percent	Valid %	Cum %
male	502	43.8	44.7	44.7
female	622	54.2	55.3	100.0
Subtotal	1124	98.0	100.0	
Missing	23	2.0		
Total	1147	100.0		

Datatable 7. Client ethnicity/**FNP students**

Ethnic group	Frequency	Percent	Valid %	Cum %
Afro-American	48	1.6	1.6	1.6
Asian	55	1.8	1.8	3.5
Hispanic	518	17.2	17.4	20.8
Native American	69	2.3	2.3	23.1
Caucasian	2270	75.2	76.0	99.2
other	25	.8	.8	100.0
Subtotal	2985	98.9	100.0	
Missing	32	1.1		
Total	3017	100.0		

Datatable 8. Client ethnicity/**ANP students**

Ethnic group	Frequency	Percent	Valid %	Cum %
Afro-American	40	4.2	4.2	4.2
Asian	37	3.9	3.9	8.1
Hispanic	52	5.4	5.5	13.6
Native American	8	.8	.8	14.4
Caucasian	802	83.9	84.5	98.9
other	10	1.0	1.1	100.0
Subtotal	949	99.3	100.0	
Missing	7	.7		
Total	956	100.0		

Datatable 9. Client ethnicity/**PNP students**

Ethnic group	Frequency	Percent	Valid %	Cum %
Afro-American	112	9.8	9.8	9.8
Asian	46	4.0	4.0	13.8
Hispanic	89	7.8	7.8	21.6
Native American	46	4.0	4.0	25.6
Caucasian	822	71.7	71.8	97.4
other	30	2.6	2.6	100.0
Subtotal	1145	99.8	100.0	
Missing	2	.2		
Total	1147	100.0		

Datatable 10. Primary reason for visit/**All students**

Reason for visit	Frequency	Percent	Valid %	Cum %
Screening H&P	248	4.8	5.1	5.1
Health Prom/maint	741	14.5	15.4	20.5
Acute problem	2691	52.6	55.8	76.3
Chronic newly dx	57	1.1	1.2	77.5
Chronic stable	183	3.6	3.8	81.3
Chronic unstable	202	3.9	4.2	85.5
Chronic complex/mult	66	1.3	1.4	86.9
F/U Health promotion	65	1.3	1.3	88.2
F/U acute problem	320	6.3	6.6	94.9
F/U chronic problem	248	4.8	5.1	100.0
Subtotal	4821	94.2	100.0	
Missing	299	5.8		
Total	5120	100.0		

Datatable 11. Primary reason for visit/**FNP students**

Reason for visit	Frequency	Percent	Valid %	Cum %
Screening H&P	133	4.4	4.7	4.7
Health Prom/maint	469	15.5	16.7	21.5
Acute problem	1533	50.8	54.6	76.1
Chronic newly dx	34	1.1	1.2	77.3
Chronic stable	128	4.2	4.6	81.9
Chronic unstable	95	3.1	3.4	85.2

Chronic complex/mult	46	1.5	1.6	86.9
F/U Health promotion	56	1.9	2.0	88.9
F/U acute problem	199	6.6	7.1	96.0
F/U chronic problem	113	3.7	4.0	100.0
Subtotal	2806	93.0	100.0	
Missing	211	7.0		
Total	3017	100.0		

Datatable 12. Primary reason for visit/**ANP students**

Reason for visit	**Frequency**	**Percent**	**Valid %**	**Cum %**
Screening H&P	58	6.1	6.4	6.4
Health Prom/maint	62	6.5	6.8	13.2
Acute problem	428	44.8	47.1	60.4
Chronic newly dx	19	2.0	2.1	62.4
Chronic stable	50	5.2	5.5	68.0
Chronic unstable	101	10.6	11.1	79.1
Chronic complex/mult	18	1.9	2.0	81.1
F/U Health promotion	2	.2	.2	81.3
F/U acute problem	50	5.2	5.5	86.8
F/U chronic problem	120	12.6	13.2	100.0
Subtotal	908	95.0	100.0	
Missing	48	5.0		
Total	956	100.0		

Datatable 13. Primary reason for visit/**PNP students**

Reason for visit	Frequency	Percent	Valid %	Cum %
Screening H&P	57	5.0	5.1	5.1
Health Prom/maint	210	18.3	19.0	24.1
Acute problem	730	63.8	65.9	90.1
Chronic newly dx	4	.3	.4	90.4
Chronic stable	5	.4	.5	90.9
Chronic unstable	6	.5	.5	91.4
Chronic complex/mult	2	.2	.2	91.6
F/U Health promotion	7	.6	.6	92.2
F/U acute problem	71	6.2	6.4	98.6
F/U chronic problem	15	1.3	1.4	100.0
Subtotal	1107	96.5	100.0	
Missing	40	3.5		
Total	1147	100.0		

Datatable 15. Nursing Intervention1/**ALL students**

Intervention	Frequency	Percent	Valid %	Cum %
Advocacy	7	.7	.9	.9
Bibliotherapy	29	2.8	3.6	4.5
Cognitive therapy	9	.9	1.1	5.6
Contracting	4	.4	.5	6.1
Counseling: Anticip. Guidance	182	17.3	22.6	28.6
Counseling: Assertive-ness training				
Counseling: contracting	2	.2	.2	28.9
Counseling: crisis interv.	1	.1	.1	29.0
Counseling: decision-making	10	.9	1.2	30.2
Counseling: diversional tx	3	.3	.4	30.6
Counseling: humor	2	.2	.2	30.9
Counseling: self-modification	11	1.0	1.4	32.2
Family care	8	.8	1.0	33.2
Family problem solving	9	.9	1.1	34.3
Health promotion	161	15.3	20.0	54.3
Individual problem solving	11	1.0	1.4	55.6
Monitoring/ surveillance	63	6.0	7.8	63.4
Mutual goal setting	4	.4	.5	63.9
OTCMed: RX	2	.2	.2	64.2
OTCMed: new drug				
OTCMed: refill				
OTCMed: change dose				
OTCMed: DC				
Relaxation	1	.1	.1	64.3
Reminiscence				

Resource coordination	5	.5	.6	64.9
RxMed: RX	15	1.4	1.9	66.8
RxMed: new drug	9	.9	1.1	67.9
RxMed: refill	15	1.4	1.9	69.8
RxMed: change dose	1	.1	.1	69.9
RxMed: DC				
Teaching	238	22.6	29.5	99.4
Telephone management				
Stress management	2	.2	.2	99.6
Values clarification	1	.1	.1	99.8
Other nonpharm	2	.2	.2	100.0
Subtotal	807	76.6	100.0	
Missing	247	23.4		
Total	1054	100.0		

Table 16. Medical diagnoses recorded, regardless of priority/**All students**

Med diagnosis	Frequency	Percent	Valid %	Cumulative %
(erroneous entry)	10	.1	.2	.2
Abdominal pain	101	.7	1.6	1.8
Acne	32	.2	.5	2.3
Acute UR disease	207	1.3	3.3	5.6
Acute pharyngitis	58	.4	.9	6.5
Alcoholism	29	.2	.5	7.0
Anemia	21	.1	.3	7.3
Angina	18	.1	.3	7.6
Arterioscler. ♡ disease	5	.0	.1	7.7
Arthritis	23	.1	.4	8.0
Asthma	141	.9	2.2	10.3
Breast CA	4	.0	.1	10.3
Bronchitis	216	1.4	3.4	13.8
CAD, post CABG	15	.1	.2	14.0
♡ arrhythmias	16	.1	.3	14.3
Cardio-myopathy	2	.0	.0	14.3
Cataracts	2	.0	.0	14.4
Chest wall pain	20	.1	.3	14.7
Chronic ischemic ♡ disease	5	.0	.1	14.8
Chronic brain syndrome	2	.0	.0	14.8
Chr. Obstr Lung disease	53	.3	.8	15.6
Colon CA	2	.0	.0	15.7
CHF	33	.2	.5	16.2
Constipation	24	.2	.4	16.6
Contact dermatitis	28	.2	.4	17.0
CAD	10	.1	.2	17.2
Cough	113	.7	1.8	19.0
Debility/ fatique	18	.1	.3	19.3
Degen. joint disease	21	.1	.3	19.6
Depression	131	.9	2.1	21.7
Diabetes M.	170	1.1	2.7	24.4
Diarrhea	36	.2	.6	25.0
Dizziness	20	.1	.3	25.3
Duodenal ulcer	5	.0	.1	25.4

Dysmen-orrhea	16	.1	.3	25.6
Dyspepsia	15	.1	.2	25.9
Dyspnea	5	.0	.1	25.9
End stage renal fail.	2	.0	.0	26.0
Gest. Diabetes	1	.0	.0	26.0
Goiter	3	.0	.0	26.0
Head/neck CA	4	.0	.1	26.1
Headache	83	.5	1.3	27.4
Hodgkins disease				
Hypercholes-terolemia	13	.1	.2	27.6
HTN	233	1.5	3.7	31.4
Leukemia, chronic				
Leukemia, acute				
Low back pain	89	.6	1.4	32.8
Lung CA	4	.0	.1	32.8
Lymphadenopat hy	14	.1	.2	33.1
Lymphoma, non-Hodgkins	3	.0	.0	33.1
Malignant neoplasm	5	.0	.1	33.2
Menopause	32	.2	.5	33.7
Minor trauma	142	.9	2.3	36.0
Multiple Myeloma	1	.0	.0	36.0
Myelodys-plastic syndr				
Obesity	64	.4	1.0	37.0
Osteo-arthritis	24	.2	.4	37.4
Ovarian CA				
Pancreatic CA				
PID	12	.1	.2	37.6
PUD	22	.1	.4	37.9
PVD	8	.1	.1	38.0
Pregnant woman	201	1.3	3.2	41.3
Premenstr. syndrome	1	.0	.0	41.3
Prostate CA	8	.1	.1	41.4
Psoriasis	14	.1	.2	41.6
Rheumatoid arthritis	18	.1	.3	41.9
Sarcoma	1	.0	.0	41.9
Seizure disorder	21	.1	.3	42.3
Sinusitis	264	1.7	4.2	46.5
Stroke	18	.1	.3	46.8
Substance abuse	69	.4	1.1	47.9
SLE	2	.0	.0	47.9

UTI	113	.7	1.8	49.7
Vaginitis	63	.4	1.0	50.7
Valvular ♡ disease	8	.1	.1	50.8
Venereal disease	8	.1	.1	50.9
Weight loss	17	.1	.3	51.3
MI	6	.0	.1	51.3
Acute Otitis Media	341	2.2	5.4	56.8
Gout	10	.1	.2	56.9
Perf. TM	9	.1	.1	57.1
Tonsilitis	27	.2	.4	57.5
Uterine fibroids	1	.0	.0	57.5
Cervicitis	8	.1	.1	57.6
Alzheimers	22	.1	.4	58.0
Anxiety	23	.1	.4	58.3
Hyperlipidemia	28	.2	.4	58.8
Hyperthyroid	6	.0	.1	58.9
Hypothryroid	32	.2	.5	59.4
Pharyngitis	196	1.3	3.1	62.5
Pneumonia	74	.5	1.2	63.7
STDs	42	.3	.7	64.4
No Med dx	321	2.1	5.1	69.5
"Other	1278	8.3	20.4	89.9
Allergies	68	.4	1.1	91.0
Candidiasis	29	.2	.5	91.4
Cellulitis	34	.2	.5	92.0
Conjunctivitis	59	.4	.9	92.9
Dermatitis	93	.6	1.5	94.4
Diaper rash	14	.1	.2	94.6
Fracture	26	.2	.4	95.0
Otitis	221	1.4	3.5	98.5
Scabies	24	.2	.4	98.9
Tendonitis	24	.2	.4	99.3
Tinea	42	.3	.7	100.0
Subtotal	6271	40.8		
Missing	9089	59.2		
Total	15360	100.0		

Table 17. Medical diagnoses recorded, regardless of priority/**Crosstabulation with type of NP student.**

Med diagnosis	FNP	ANP	PNP	Total
(invalid entry)	10	1		11
Abdominal pain	53	30	18	101
Acne	15	1	16	32
Acute UR disease	140	22	45	207
Acute pharyngitis	32	13	13	58
Alcoholism	23	6		29
Anemia	14	5	2	21
Angina	10	8		18
Arterioscler. ♡ disease	2	3		5
Arthritis	16	6	1	23
Asthma	93	20	28	141
Breast CA	3	1		4
Bronchitis	165	29	22	216
CAD, post CABG	7	8		15
♡ arrhythmias	8	7	1	16
Cardio-myopathy	1	1		2
Cataracts	1	1		2
Chest wall pain	14	4	2	20
Chronic ischemic ♡ disease	2	3		5
Chronic brain syndrome		2		2
Chr. Obstr Lung disease	31	22		53
Colon CA	2			2
CHF	21	12		33
Constipation	7	9	8	24
Contact dermatitis	17	5	6	28
CAD	4	6		10
Cough	50	8	55	113
Debility/ fatique	13	5		18
Degen. joint disease	13	8		21
Depression	96	34	1	131
Diabetes M.	97	72	1	170
Diarrhea	20	4	12	36
Dizziness	14	4	2	20
Duodenal ulcer	3	2		5
Dysmen-orrhea	13		3	16

Dyspepsia	14	1		15
Dyspnea	3	2		5
End stage renal fail.		2		2
Gest. Diabetes	1			1
Goiter	2	1		3
Head/neck CA		4		4
Headache	56	19	8	83
Hodgkins disease				
Hypercholes-terolemia	10	3		13
HTN	128	104	1	233
Leukemia, chronic				
Leukemia, acute				
Low back pain	53	30	6	89
Lung CA	1	3		4
Lymphadenopat hy	6	4	4	14
Lymphoma, non-Hodgkins	2	1		3
Malignant neoplasm	4	1		5
Menopause	25	7		32
Minor trauma	84	39	19	142
Multiple Myeloma		1		1
Myelodys-plastic syndr				
Obesity	51	11	2	64
Osteo-arthritis	3	21		24
Ovarian CA				
Pancreatic CA				
PID	7	2	3	12
PUD	17	5		22
PVD	6	2		8
Pregnant woman	198	3		201
Premenstr. syndrome	1			1
Prostate CA	3	4	1	8
Psoriasis	11	1	2	14
Rheumatoid arthritis	4	14		18
Sarcoma	1			1
Seizure disorder	11	9	1	21
Sinusitis	142	68	54	264
Stroke	3	15		18
Substance abuse	57	9	3	69
SLE	2			2
UTI	75	26	12	113

Vaginitis	37	18	8	63
Valvular ♡ disease	5	3		8
Venereal disease	3	3	2	8
Weight loss	14	3		17
MI	4	2		6
Acute Otitis Media	176	5	160	341
Gout	4	6		10
Perf. TM	6		3	9
Tonsilitis	20	2	5	27
Uterine fibroids		1		1
Cervicitis	6	1	1	8
Alzheimers	1	20	1	22
Anxiety	20	3		23
Hyperlipidemia	21	7		28
Hyperthyroid	5	1		6
Hypothryroid	19	12	1	32
Pharyngitis	101	20	75	196
Pneumonia	46	5	23	74
STDs	28	10	4	42
No Med dx	133	32	156	321
"Other	795	235	248	1278
Allergies	28	19	21	68
Candidiasis	14	2	13	29
Cellulitis	25	4	5	34
Conjunctivitis	25	6	28	59
Dermatitis	55	17	21	93
Diaper rash	8		6	12
Fracture	13	8	5	26
Otitis	112	33	76	221
Scabies	13	5	6	24
Tendonitis	13	9	2	24
Tinea	19	14	9	42
Total	3760	1280	1231	6271

Table 18. "Other" Diagnoses.

01 Abdominal pain Pelvic pain FNPP 3 Gas entrapment FNPP 1 R/O Ectopic preg FNPP 1 Kidney stone FNPE 1 Diverticulitis FNPS 2 ANP 2 Bowel obstruction ANP 1	T = 11 F=8 A=3
02 Acne	
03 Acute URI URI FNPP 6 FNPE 1 FNPS 7 PNP 15 ANP 1 Laryngitis FNPP 2 RSV FNPS 1 PNP 1 Cold PNP 1	T= 35 F=17 A= 1 P=17
80 Acute Otitis media Otitis media FNPP 1 FNPS 1 PNP 3 ANP 1	T=6 F=2 A=1 P=3
04 Acute pharyngitis	
05 Alcoholism	
101 Allergies Allergic rhinitis FNPP 2 FNPE 1 ANP 1 PNP 1 Allergies FNPP 2 FNPE 1 FNPS 1 ANP 1 Environm. eye allergy FNPE 1 Allergic rash PNP 1	T=12 F=8 A=2 P=2
86 Alzheimers disease	
06 Anemia	
07 Angina	
87 Anxiety (Panic dis.) Anxiety FNPP 1 PTSD FNPP 1 GNP 1	T=3 F=2 A=1
08 Atherosclerotic ♥ Disease	
09 Arthritis - unspec. Psoriatic arthritis ANP 1	T=1 A=1
10 Asthma Reactive airway disease FNPP 1 PNP 2	T=3 F=1 P=2
11 Breast Ca	
12 Bronchitis (acute) Asthmatic bronchitis FNPS 1	T=5 F=2 P=3

Bronchiolitis PNP 3
Bronchitis FNPP 1

13 CAD, post CABG

102 Candidiasis T=5 F=1 P=4
Candidiasis PNP 3
Candida FNPS 1 PNP 1

14 Cardiac Arrhythmia T=4 F=3 A=1
Tachycardia FNPS 1
Atrial Fib FNPS 1 FNPP 1
Arrhythmia ANP 1

15 Cardiomyopathy

16 Cataracts

103 Cellulitis T=7 F=5 A=1 P=1
Cellulitis FNPP 4 FNPE 1 PNP 1 ANP 1

85 Cervicitis

17 Chest wall pain T=1 F=1
Costochondritis FNPP 1

18 Chronic ischemic ♥ dz

19 Chronic brain syndrome

20 Chronic obstructive Lung dz T=1 F=1
Emphysema FNPS 1

21 Colon Ca

22 CHF

104 Conjunctivitis T=14 F=9 P=5
Conjunctivitis FNPP 5 FNPE 4 PNP 5

23 Constipation

24 Contact dermatitis

25 Coronary artery disease

26 Cough

27 Debility and undue fatigue T=5 F=5 A=2 P=2
Fatigue FNPP 1 FNPS 2 PNP 2 GNP 1 ANP 1
Chronic fatigue syndrome FNPE 2

28 Degenerative Joint Dz

29 Depression T=5 F=4 A=1
Bipolar disorder FNPP 3 GNP 1
Dysthymia FNPS 1

105 Dermatitis T=65 F=33 A=5 P=27
Vulvar lichen sclerosis FNPP 1
Rash FNPP 7 PNP 4
Hives FNPP 2
Furunculosis FNPP 2 FNPS 1
Folliculitis FNPP 3 ANP 1
Papular urticaria FNPP 1
Impetigo FNPP1 FNPS 1 PNP 7 ANP 1
Rosachea FNPP 1 ANP 1
Dermatitis FNPP 2 FNPE 1
Lichen simplex chronicus FNPE 1
Eczema/Atopic derm FNPP 1 FNPS 2 FNPE 2 PNP 8 ANP 1
Pityriasis FNPE 1 FNPS 1 ANP 1
Sebborrhic derm. PNP 6
Neurodermatitis FNPE 1
Exanthema PNP 2

30 Diabetes Mellitus T=1 F=1
NIDDM FNPP 1

106 Diaper rash T=5 F=1 P=4
Diaper rash FNPE 1
Diaper candidiasis PNP 4

31 Diarrhea T=24 F=9 A=3 P=12
Gastroenteritis FNPP 3 PNP 12 ANP 1
Irritable bowel FNPP 3 FNPS 2 ANP 2
Inflammatory bowel disease FNPS 1

32 Dizziness T=11 F=8 A=3
Vertigo FNPP 4 FNPS 1 FNPE 1
Near syncope FNPE 1
Syncope FNPS 1 ANP 1
Fainting GNP 1
Labrynthitis ANP 1

33 Duodenal Ulcer

34 Dysmenorrhea

35 Dyspepsia T= 24 F=19 A=5
Giardia FNPP 1
GERD FNPP 7 FNPE 3 FNPS 6 ANP 4
Gastritis FNPP 1 FNPS 1 ANP 1

36 Dyspnea

37 ESRD Chronic renal failure FNPE 1	T=1	F=1		
107 Fracture Fracture FNPP 2 FNPE 1 FNPS 2 Hip fx GNP 1		T=6	F=5	A=1
38 Gestational Diabetes				
39 Goiter				
81 Gout				
40 Head and Neck cancer Oral cancer FNPP 1		T=1	F=1	
41 Headache Migraine FNPP 1		T=1	F=1	
42 Hodgkins disease				
43 Hypercholesterolemia				
88 Hyperlipidemia				
44 Hypertension Elevated BP FNPE 1	T=1	F=1		
89 Hyperthyroid Hyperthyroid FNPP 1	T=1	F=1		
90 Hypothyroid Hashimotos - FNPP 1 Rule out - FNPP 1	T=2	F=2		
45 Leukemia, chronic				
46 Leukemia, acute				
47 Low back pain Back pain - FNPP 3 FNPS 1 PNP 1 ANP 3	T=8	F=4	A=3	P=1
48 Lung Ca				
49 Lymphadenopathy Lympadenopathy FNPP 1	T=1	F=1		
50 Lymphoma, non hodgkins				
51 Malignant neoplasm Rectal ca FNPP 1 Cervical ca FNPP 1 Neoplasm ANP 1		T=3	F=2	A=1

52 Menopause Menopause - FNPP 1 Perimenopause - FNPP 1		T=2	F=2	
53 Minor trauma Contusion FNPP 2 FNPS 1 PNP 2 Sprain FNPP 3 FNPE 2 FNPS 1 PNP 1 Laceration FNPP 2 FNPE 1 FNPS 3 PNP 2 Puncture wound FNPS 2	T=22	F= 17		P=5
54 Multiple myeloma Myeloma ANP 1	T=1		A=1	
55 Myelodysplastic syndrome				
79 MI				
56 Obesity				
57 Osteoarthritis				
108. Otits External otitis FNPP 4 FNPE 1 PNP 5 Eustacian tube dysfx FNPP 4 PNP 2 OM w/ effusion FNPP 1 OM resolved FNPP 2	T=19	F=12		P=7
58 Ovarian Ca				
59 Pancreatic Ca				
60 PID				
61 Peptic ulcer dz Gastric ulcer FNPS 1		T=1	F=1	
82 Perforated tympanic membrane				
62 Peripheral Vascular dz				
91 Pharyngitis Strep pharyngitis FNPP 1 FNPE 1 Pharangeal pus pocket FNPS 1	T=3	F=3		
92 Pneumonia Pulmonary infiltrates ANP 1	T=1	F=1		
63 Pregnant woman 6 wk post partum FNPP 2 FNPE 1 Prenatal care FNPE 1 Pregnancy FNPS 1	T=5	F=5		
64 PMS				

65 Prostate Ca

66 Psoriasis

67 Rheumatoid arthritis

68 Sarcoma (neoplasm) T=1 A=1
Bladder Cancer ANP 1

109 Scabies T=4 F=1 P=3
Scabies FNPP1 PNP 3

69 Seizure disorder T=1 A=1
Epilepsy ANP 1

70 Sinusitis

71 Stroke T=2 F=1 A=1
Post CVA ANP 1
CVA FNPE 1

72 Substance abuse T=11 F=10 A=1
Tobacco dependence FNPP 5 FNPS 5
Crack addiction ANP 1

73 SLE T=2 F=1 A=1
Lupus FNPP 1 ANP 1

110 Tendonitis T=16 F=14 A=2
Carpal tunnel - FNPP 4 FNPS 2 ANP 1
Epicondylitis FNPP 1 FNPS 1
Tendonitis FNPP 3 FNPE 2 ANP 1
Tenosynovitis FNPP 1

111 Tinea T=16 F=8 A=1 P=7
Fungal foot infection FNPP 1
Tinea pedis FNPP 3 PNP 4
Tinea cruris FNPE 1 FNPS 1
Tinea corporis FNPP 1 PNP 2 ANP 1
Tinea capitis PNP 1
Fungal rash FNPE 1

83 Tonsillitis T=1 F=1
Peritonsillar abcess FNPS 1

74 Urinary track infection I=11 F=7 A=3 P=1
Pyelonephritis FNPP 2 FNPE 1 FNPS 2 ANP 2
Urethritis FNPS 1 PNP 1 ANP 1
Interstitial cystitis FNPS 1

84 Uterine fibroids

75 Vaginitis T=1 F=1
Bact vaginosis FNPP 1

76 Valvular ♥ dz T=8 F=6 A=2
Mechanical valve FNPE 2
MVR FNPE 2 FNPS 1
Prosthetic heart valve ANP 1
Mitral valve prolapse FNPP 1
Mitral regurg ANP 1

77 Venereal disease T=3 F=1 A=1 P=1
Vaginal condyloma FNPE 1
Genital warts PNP 1
Neuro syphilis ANP 1

78 Weight loss

99 No med dx T=63 F=59 P=4
Well child FNPP 11 FNPE 1 FNPS 1 PNP 1
Sports PE FNPP 1 FNPE 2
Family planning FNPP 9 FNPE 1 PNP 2
Health promotion FNPP 11
Work PE FNPP 1
Annual Pap/Exam FNPP 1 FNPE 5
Birth Control annual FNPE 4
Well woman PE FNPE 2 FNPS 1 PNP 1
PE FNPS 4
School PE FNPS 2
Immunization needs FNPS 1
Contraceptive management FNPS 1

** Not specified
FNPP - 38
FNPE - 8
FNPS - 7
PNP - 22
GNP - 2

Others not categorizable

Abcess FNPP 1 FNPS 1 PNP 1 GNP 2 ANP 3
Abdominal aortic aneurysm FNPP 1
Abnormal pap FNPP 3 FNPE 2 FNPS 1 PNP 1
AC joint strain FNPS 1
Achilles tendon strain ANP 1
Actinic keratosis FNPP 1 ANP 1
Acute adjustment reaction FNPP 1 PNP 1
Adrenal Insufficiency FNPP 1
AIDS/HIV FNPP 1 FNPE 1 FNPS 3 ANP 2
Alopecia areata FNPP 1
Amblyopia PNP 1
Amenorrhea/irregular menses - FNPP 5 FNPE 2 FNPS 1 ANP 3

Anal fissure PNP 1
Anticoagulation therapy FNPS 1
Aphthous ulcer FNPP 1 ANP 2 PNP 1
Apnea of prematurity PNP 1
Arthralgia r/t Rheum Fv FNPP1
Ascaris FNPP 1
Atopy PNP 1
Attention deficit disorder FNPP 2 PNP 2
Atypical Nevi/Nevi removal FNPE 2
Balanitis PNP 1
Bartholin's cyst/ excision FNPP 1 FNPS 1 ANP 1
Basal cell Carcinoma FNPE 1
Behavioral problem FNPS 1
Bells palsy FNPP 1 FNPS 1
Bleeding disorder ANP 1
Blepharitis ANP 3
Blindness FNPE 1
Blocked lacrimal duct FNPP 1 FNPS 1
Blood dyscrasia ANP 1
Bone spur FNPS 2
BPH FNPP 1 FNPS 1 ANP 1
Breast lump FNPP 1 FNPS 2 ANP 4
Breast pain FNPP 1
Breath holding PNP 1
Bronchospasm ANP 1
Bulimia FNPP 1 FNPS 1
Burn FNPP 2 FNPE 1 ANP 1
Bursitis FNPP 2 FNPS 2 ANP 1
Callous ANP 1
Cat bite GNP 2
Central language disorder PNP 1
Cerebral palsy PNP 3
Cerumen impaction FNPP 4 FNPE 1 FNPS 2 PNP 2 GNP 1 ANP 2
Ceruminosis FNPP 2 PNP 1
Cervical dysplasia ANP 1
Cervical neck pain FNPP 2
Cervical nerve compression ANP 1
Chalazion FNPP 2 FNPS 1 ANP 1
Change in ♥ murmur FNPP 1
Chest pain FNPP 1 GNP 1
Chicken pox PNP 1
Cholecystitis FNPE 1
Chondromalachia FNPE 1
Chondromyalgia ANP 1
Chronic upper resp disease GNP 1
Cirrhosis FNPP 2 FNPS 1 GNP 1
Colic FNPP 1
Condrocalcinosis AANP 1
Congenital nevi FNPE 1
Congestion FNPS 1
Conjunctival hemorrhage FNPP 1
Connective tissue disorder ANP 1
Corn FNPP 1

Corneal abrasion FNPP 2
Coxsackie FNPP 1 PNP 2
Crohn's disease FNPS 1
Cyst FNPP 1 FNPS 1 PNP 2 ANP 3
Dacryocystitis PNP 1
Dacryostenosis FNPS 1 PNP 1
Dehydration FNPE 1 PNP 1
Dementia ANP 2
Dental abscess FNPP 1 FNPE 2 PNP 1
Dental caries FNPS 1 PNP 4
Dental cavity FNPP 1 PNP 1
Dental concern PNP 1
Dermatofibroma FNPP 1
Developmental delay PNP 3
Diplopia FNPS 1
Diverticulosis ANP 1 FNPS 1
Domestic abuse FNPP 2
Down's syndrome FNPS 1
Drug reaction FNPP 1
Dry eyes FNPP 1 ANP 1
DUB - FNPP 1 FNPE 1 FNPS 1 ANP 3
Dupuytren's contracture ANP 2
DVT FNPP 1 FNPE 1 FNPS 3 ANP 1
Dyshydrosis FNPP 1
Dysmenorrhea FNPS 1
Dyspareunia FNPP 3 FNPS 1
Dysphagia ANP 1
Dysuria FNPP 1
Ecchymoses FNPP 1
EIA PNP 1
Elevated LFTs FNPP 4 FNPS 1
Encopresis PNP 1
Endometriosis FNPP 1
Endometritis FNPP 1
Enuresis FNPP 4
Epistaxis PNP 1 ANP 1
Esophagitits FNPE 1 ANP 1
Eye lesion FNPS 1
Facial numbness FNPP 1
Family history of diabetes FNPP 1
Femoral anteversion FNPP 1
Fever/ FUO FNPP 1 FNPE 2 PNP 2
Fibromyalgia FNPP 1 FNPS 3 ANP 9
Fifth disease PNP 1
Flu/Influenza FNPP 4 FNPS 1
Foot callous FNPE 1
Foot drop FNPS 1
Foot pain FNPP 1 ANP 1
Foreign body - ear FNPS 1
Foreign body - eye FNPP 2
Foreign body - nose PNP 1
Fungus FNPE 1
Galactorrhea ANP 1
Ganglion cyst/ ganglion finger FNPP 1 ANP 1

Gastroparesis ANP 1
Geographic tongue FNPP 1
GI bleed/rectal bleeding FNPS 2 ANP 3
Glaucoma FNPS 1
Glomerulonephritis FNPP 1 FNPE 1
Hand lesion PNP 1
Head injury PNP 1
Hearing loss FNPP 1 FNPS 1
Heart murmur FNPP 1 FNPS 1 PNP 2
Hematoma ANP 1
Hematospermia ANP 1
Hematuria FNPP 2 FNPS 3 ANP 2
Hemiparesis PNP1
Hemochromatosis (R/O) FNPS 1
Hemoptysis FNPP 1
Hemorrhoids FNPP 2 FNPE 1 ANP 3
Hepatitis FNPP 4 FNPS 1 FNPE 1 ANP 3
Hernia ANP 1
Herpes simplex/Herpes FNPP 1 FNPE 1 FNPS 1 ANP 1
Herpes zoster/ Shingles FNPP 3 FNPE 6 FNPS 2 PNP 1
Herpetic gingivostomatitis PNP 1
Hip pain FNPP 2 PNP 1
Hip spur FNPE 1
Hoarseness ANP 1
Hordoleum ANP 1
Hormone imbalance FNPS 1
Hydrantitis superativa FNPP 2 FNPS 1
Hydrocele PNP 1
Hyperbilirubinemia FNPE 1 PNP 1
Hypercoagulable state ANP 15
Hypomenorrhea FNPP 1
Imbedded earring PNP 2
Impending SAB/SAB ANP 2
Impotence FNPS 2
Incontinence FNPP 1
Infection of toe ANP 1
Infertility/ Delayed fertility FNPP 4 ANP 1
Ingrown toenail/Infected FNPP 5 FNPE 1 PNP 1 ANP 1
Inguinal hernia ANP 2 FNPS 1
Insect bite/Tick bite FNPP 3 FNPS 5
Insomnia / Sleep disturbance FNPP 6 ANP 1
ITP FNPP 2
IUD insertion FNPP 1
Joint pain FNPP 1 ANP 1
Keratosis pilaris FNPS 1
Knee Injury FNPS 1
Knee pain ANP 4
L thyroid lobectomy FNPP 1
Lacrimal duct FNPP 1
Leg pain ANP 1
Leg ulcers GNP 1
Leukoplakia/ Oral thrush FNPP 1 PNP 1
Lipoma FNPP 5
Low blood pressure FNPP 1 PNP 1

Lumbar mass ANP 1
M/S weakness ANP 1
Malaria FNPP 1
Malnutrition ANP 1
Mastitis FNPP 1 FNPS 1
Mastoiditis FNPP 1
Meatitis PNP 1
Median nerve injury FNPP 1
Melasma ANP 1
Menorrhagia - FNPP 2
Microcephaly PNP 1
Microhematuria FNPP 1 FNPS 2
Molluscum contagiosum PNP 3
Mono FNPP 1
Multiple sclerosis FNPP 4 GNP 2
Mural thrombosis ANP 1
Muscle abscess ANP 1
Muscle cramps FNPP 1
Muscle spasm FNPP 1 PNP 1
Musculoskeletal strain/sprain FNPP 11 FNPE 6 FNPS 5 PNP 8 ANP 10
Myalgia FNPP 1
Myesthenia gravis FNPP 1
Myofascial pain ANP 1
Myositis /(r/o) GNP 1 ANP 1
Nasal congestion ANP 1
Nausea FNPP 1
Neck pain /cervical strain FNPP 3 FNPE 3 ANP 4
Nephrotic syndrome PNP 2
Neuralgia FNPE 1 ANP 1
Nocturia ANP 1
Nosebleed FNPS 1
Obstructive sleep apnea PNP 1
Ocular pain ANP 1
Olecranon cyst GNP 1
Oligohydramnios FNPP 1
Oligomenorrhea FNPS 1
Oral candida/Thrush PNP 2
Oral lesions FNPP 1
Osgood schlatters syndrome(R/O) ANP 1
Osteomalacia ANP 1
Osteomyelitis FNPP 1
Osteoporosis ANP 1
Ovarian cyst FNPS 2 ANP 1
Parasitic infection FNPP 1
Parkinson's disease GNP 2
Paronychia PNP 3
Parotitis FNPE 1
Patellar femoral syndrome FNPP 1 PNP 1
Pediculosis FNPP 4 FNPE 4 FNPS 2 PNP 2
Pelvic mass FNPS 1
Perineal tear PNP 1
Periorbital edema FNPP 1
Pertussis chemoprophylaxis FNPP 1
Peyronies disease ANP 1

Phlebitis FNPP 1
Pinguecula FNPS 1
Pinworms FNPP 2 PNP 1
Pituitary adenoma FNPP 1
Plantar fasciitis /fasciitis FNPP 6 FNPE 1 ANP 2
Plantar wart FNPS 1 ANP 1
Pleural effusion ANP 1
Pneumothorax ANP 1
Polymyalgia rheumatica ANP 1
Polyposis coli FNPS 1
Pressure Ulcer FNPP 1
PROM FNPE 1
Prostatitis FNPP 2 FNPE 1 ANP 2
Proximal hypotonia PNP 1
Pruritis FNPP 1
Pterygium FNPE 1
Ptosis FNPP 1
Pulled muscle PNP 1
Pyruvate kinase deficiency FNPP 1
Quadraplegia GNP 2
R/O child abuse PNP 1
R/O melanoma FNPS 1
R/O TB/ TB / Positive PPD FNPP 4 ANP 6 GNP 1
Rape FNPP1
Raynaud's ANP 1
Rectal fissure ANP 1
Rectocele FNPP 1
Related to Methotrexate interaction FNPE 1
Renal calculi FNPP 1 ANP 1
Renal transplant FNPP 1
Restless leg FNPS 1
Retinal hemorrhage ANP 1
Retinal vein occlusion ANP 1
Rhinitis FNPP 1 FNPS 2 FNPE 1 PNP 1 ANP 2
Roseola PNP 1
Rotator cuff pull FNPS 1 PNP 1
S/P AAA repair/r/o AAA FNPP 1 FNPS 1
Sarcoidosis FNPP 1 ANP 1
Scabies FNPP 2
Schizophrenia FNPE 1 FNPS 1 ANP 1 GNP 3
Sciatica pain ANP 1
Scleral hemorrhage FNPE 1
Scoliosis FNPP 3 PNP 2
Scrotal mass ANP 1
Sebaceous cyst FNPP 3 FNPS 1 FNPE 1 PNP 1
Sexual abuse FNPP 1 FNPS 1 PNP 1
Short stature PNP 1
Shoulder dislocation FNPP 1
Shoulder impingement FNPS 1
Shoulder pain ANP 1
Situational stress FNPS 1
Sjogren syndrome ANP 1
Skin changes ANP 1
Skin lesion/r/o cancer FNPP 1 FNPS 3

Skin Tags FNPP 2 FNPS 1
Sleep apnea FNPP 1
Soft tissue injury PNP 1
Solar keratosis ANP 1
Speech & language disorder PNP 2
Speech delay FNPP 1
Spider bites ANP 1
Spina bifida FNPP 1
Spondylitis ANP 1
Staph infection - nares PNP 1
Stomatitis FNPP 6
Strep Scarlet fever PNP 1
Sty PNP 1
Submaxillary nodule ANP 1
Suicidal knife wound FNPE 1
Teething PNP 2
Testicular pain FNPP 1
Thoracic back pain FNPP 1
Thoracic strain FNPP 1
TIA FNPS 1
Tinnitus FNPP 1 FNPS 1 ANP 1
TMJ FNPP 5 PNP 1
Toe discoloration ANP 1
Toe pain FNPS 1
Toothache FNPE 1
Torn meniscus FNPP 1
Torn shoulder capsule FNPS 1
Torticollis PNP 1
Trigger thumb PNP 1
Typhoid fever ANP 1
Ulnar nerve compression/neuritis FNPS 1 ANP 1
Umbilical infection FNPP 1
Urinary incontinence/Incontinence FNPP 1 FNPS 1
Uterine prolapse FNPS 1
Vaginal bleeding FNPP 2
Varicella FNPP 3
Varicocele ANP 1
Varicose veins FNPP 1
Venous stasis ulcer FNPS 1
Viral illness ANP 1
Viral syndrome FNPP 1 FNPS 1 PNP 5
VSD PNP 1
Vulvodynia FNPP 1
Warts FNPP 12 PNP 1
Wound FNPP 4
Wound care FNPS 1
Wound infection ANP 1

Total # of others not characterized - Priority 1+2+3 = 330
Not specified = 58 + 8 = 66