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COMMON NURSING DIAGNOSES AND INTERVENTIONS IN PRIMARY HEALTH CARE FOR ADULTS

By

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ABSTRACT

COMMON NURSING DIAGNOSES AND INTERVENTIONS

IN PRIMARY HEALTH CARE FOR ADULTS

By

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This descriptive, cross sectional study sought to find the most frequently reported nursing diagnoses and nursing interventions utilized by Advanced Practice Nursing students in primary health care. Consistency between the nursing interventions and the nursing diagnoses was also examined. The framework used was based on Starfield's structure-process-outcome model for evaluating primary care. Records from a pre-existing database held at a college of nursing Mid-western state university was utilized. The sample consisted of 1587 cases, a convenience sample, of clients seen by student Advanced Practice Nurses. The three most frequent nursing diagnoses were: "Alteration in Comfort", "Appropriate Health Maintenance", and "Knowledge Deficit". The six most frequent nursing interventions were: "Patient/Family Teaching", "Anticipatory Guidance", "Nutritional Counseling", "Counseling", "Exercise", and "Patient Contracting". Consistency between the nursing interventions and the nursing diagnoses was not found using the Nursing Interventions Classifications system. However, consistency was obtained using Carpenito (1987, 1995). These findings may apply to the majority of the population residing in the Mid-western region of the country, but cannot be applied conclusively to the total population due to regional differences. Implications for this study are discussed relative to APN students, the impact of these results on APN education and curriculum, and assistance in developing guidelines for APN practice in primary health care.

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COMMON NURSING DIAGNOSES AND INTERVENTIONS IN PRIMARY HEALTH CARE FOR ADULTS

Introduction

Due to the increasing emphasis on primary health care and the decreasing number of resident physicians specializing in general and family practice, Advanced Practice Nurses (APN) may find themselves in greater demand to provide primary health care (Beard, Capan, & Mashburn, 1993). Sixty to eighty percent of activities that are performed by primary care physicians at this time could be performed by APNs (Beard et al., 1993). The health care industry is presently focused on cost-effective and high-quality care (Beard et al., 1993; Swehla, 1988). It has been demonstrated that APNs are able to provide unique, therapeutic, comprehensive, quality, cost-effective care (Beard et al., 1993; Callan, 1992; Draye & Pesznecker, 1979; Swehla, 1988). Part of this unique care includes development of nursing diagnoses and nursing interventions.

The use of nursing diagnoses allows the APN to identify and document nursing's unique role in primary health care and direct interventions (Beard et al., 1993; Bugle, Frisch, & Woods, 1990; Bulechek & McCloskey, 1990; Carpenito, 1995; McFarland & McFarlane, 1989; Swehla, 1988). The American Nurses' Association (ANA) and the North American Nursing Diagnosis Association (NANDA) agree that the "use of [nursing diagnoses] assists the nurse in assessment and treatment of nursing problems because it provides a framework, a nursing model, for practice that gives nurses a common frame of reference" (Bugle et al., 1990, p. 191). Nursing diagnoses offer a clear focus for development of health goals and nursing interventions (Bulechek &

McCloskey, 1992b; Carpenito, 1995; Gordon, 1982; McFarland & McFarlane, 1989). "Nursing diagnoses address the responses of clients, families and of groups to situations for which the nurse can prescribe interventions for outcome achievement" (Carpenito, 1995, p. 2). However, there is no research or documentation known to date on common nursing diagnoses and nursing interventions used by APNs in primary health care. Most research involving diagnoses and interventions focuses on individual patient problems or specific interventions, medical diagnosis, or acute care/hospital settings (Barkauskas, Chen, Chen, & Ohlson, 1981; Beard et al., 1993; Bugle et al., 1990). It is imperative that information on common nursing diagnoses and interventions be researched, discussed, and incorporated into APN education and training.

Statement of the Problem

For students to obtain an accurate depiction of types of patient problems they will encounter working in a primary health care setting and to learn what types of interventions will be useful in assisting patients in health maintenance, common nursing diagnoses and interventions in primary care need to be studied and documented. It is necessary for educators of Advanced Practice Nursing students to know this information in order to develop and evaluate the effectiveness of the curriculum being used. If the curriculum does not accurately reflect the types of health problems that the Advanced Practice Nurse will encounter, the education will be less than optimally effective. If APNs' practices are only seen from the perspective of medical diagnoses, no recognition of other services provided by APNs will be given, thus seeing the client only in terms of medical problems (Burns & Thompson, 1984).

The purpose of this study was to explore common nursing diagnoses and common nursing interventions in primary health care reported by APN students, and to examine the relationship of the interventions to the diagnoses.

Research Questions

This study addressed the following questions:

1) What are the three most common nursing diagnoses for adult clients reported by Advanced Practice Nursing students in primary care settings?

2) What are the six most common nursing interventions for adult clients reported by Advanced Practice Nursing students in primary care settings?

3) Are the nursing interventions consistent with the nursing diagnoses?

Conceptual Definitions

The two variables that were discussed in this study were nursing diagnosis and nursing intervention. Both were explored according to the available literature and are defined in terms of the purpose of this study. Primary health care was also defined.

Nursing Diagnosis

"Nursing diagnosis and care planning have been an integral part of nursing education for at least the past decade" (Bugle et al., 1990, 191). According to Bugle, et al. (1990), nursing diagnoses were introduced in 1953 . "Early conceptions focused on patient problems or conditions, sometimes expressed concretely as listings of strengths and liabilities" (Gordon, 1979, p. 487). The idea of classification was introduced in the 1960s (Bugle et al., 1990). The contemporary emphasis on nursing diagnoses began in the 1970s, when

nursing discovered the need for a common diagnostic classification system (Carpenito, 1995; Gordon, 1982; Sparks & Taylor, 1995). Diagnoses were viewed as "problematic states-of-the -client" (Gordon, 1979, p. 487).

In the 1970s, NANDA was developed to standardize the classification of nursing diagnoses (Bugle et al., 1990). These nursing diagnoses were generally accepted in the 1980s when the American Nurses' Association (ANA) published *Nursing: A Social Policy Statement*, that defined nursing as "the diagnosis and treatment of human responses to actual or potential health problems " (1980, p. 9), in which the professional nurse is licensed to "give independent, professional care" (Bugle et al., 1990, p. 191). The ANA has not offered a new policy statement since 1980; however, one is currently being drafted.

Gordon, in discussing the general topic of diagnosis, offered two definitions: (1) "a category name in a classification system" and (2) "a process leading to a judgement" (1982, p. 12). Feild describes nursing diagnosis as a "complex judgmental activity which requires the educational and experiential background of the professional nurse" (1979, p. 499). Gordon's second definition of diagnosis and Feild's definition of nursing diagnosis state that diagnosis is an activity or process. In reviewing the literature of the past three decades, nursing diagnosis is seen as a process. The process in which nursing diagnosis is a vital component is the nursing process. "Process, by definition, is dynamic and changing" (Weber, 1979, p. 535). The process of diagnosis is the process of identifying the health status of a client and evaluating influencing factors (Gordon, 1982).

Various authors have defined nursing diagnosis, trying to encompass all that a nursing diagnosis involves. Definitions have been reworked and revised, beginning with the idea that nursing diagnosis was "problematic states-of-the-patient" (Gordon, 1979, p. 487) to current definitions, that focus

on client behavior (Bulechek & McCloskey, 1990; North American Nursing Diagnosis Association, 1989). Specific authors have revised their definitions throughout the decades. Carpenito began with the definition a "nursing diagnosis is a statement describing one specific type of problem or situation that nurses identify" (1995, p. 6). Now she defines it as "a statement that describes the human response (health state or actual/potential altered interaction pattern) of an individual or group which the nurse can legally identify and for which the nurse can order the definitive interventions to maintain the health state or to reduce, eliminate, or prevent alterations" (1995, p. 5). This second definition allows for client behavior focus, and also states that nursing activities or interventions are to be derived from the diagnosis.

This type of definition development has become the accepted style of defining nursing diagnosis over the years, as seen in the following definitions, which are presented chronologically. In 1982, the Task Force of the National Group for the Classification of Nursing Diagnosis-Subcommittee on the Definition of Nursing Diagnosis devised the definition: "A nursing diagnosis is a word or phrase summarizing a set of empirical indicators linked to contributing factors or etiology, when possible, and representing actual or potential altered patterns of human functioning , which nurses are licensed to treat" (McFarland & McFarlane, 1989, p. 11).

In 1984, the Fifth National Conference on the Classification of Nursing Diagnosis offered this definition: "A nursing diagnosis is a clinical judgement about an individual, family, or community that is derived through a deliberate, systematic process of data collection and analysis. It provides the basis for prescriptions for definite therapy for which the nurse is accountable. It is expressed concisely and includes the etiology of the condition when known" (McFarland & McFarlane, 1989, p. 11). Also in 1984, Burns and Thompson

defined nursing diagnosis as "the statement of a person's response to a situation of illness which is actually or potentially unhealthy and which nursing intervention can help to change in the direction of health" (p. 411).

NANDA had not officially devised a definition until 1990. NANDA states a "nursing diagnosis is a clinical judgement about individual, family, or community responses to actual or potential health problems/life processes. Nursing diagnoses provide the basis for selection of nursing interventions to achieve outcomes for which the nurse is accountable" (Carpenito, 1995, p. 5).

These definitions are essentially the same; however, they build upon the previous definitions until the latest definition encompasses the ideas of client behavior focus, actual vs. potential health problems, client as an individual, family or community, and how the diagnosis leads to the intervention(s).

For the purpose of this study, an adaptation of the NANDA definition of nursing diagnosis was used: *a nursing diagnosis is a label which represents a clinical judgement about individual, family, or community responses to actual or potential health problems/life processes. Nursing diagnoses provide the basis for selection of nursing interventions to achieve outcomes for which the nurse is accountable.*

Nursing Intervention

Just as the definition of nursing diagnosis has evolved through the recent history of nursing, so has the definition of nursing intervention. An organized approach to defining nursing intervention followed development of nursing diagnoses. Serious study of nursing intervention began to flourish in the 1980s. Bulechek and McCloskey have done much of the leading work concerning nursing intervention (Bulechek, Carter, McCloskey, & Moorehead, 1995; Bulechek, Cohen, et al., 1991; Bulechek, Cullen, & McCloskey, 1991; Bulechek, Daly, & McCloskey, 1994; Bulechek, Daly, Mass, & McCloskey, 1996;

Bulechek, Daly, McCloskey, & Moorehead, 1996; Bulechek, Denehy, McCloskey, & Titler, 1994; Bulechek & McCloskey, 1990, 1992a, 1992b, 1993, 1994a, 1994b, 1996; Bulechek, McCloskey, & Moorehead, 1993; Bulechek, McCloskey, & Steelman, 1994). Nursing intervention is a component of the nursing process and is referred to in many definitions of nursing diagnosis.

In nursing interventions, the focus of concern is with nursing actions (Bulechek & McCloskey, 1990, 1992b; North American Nursing Diagnosis Association, 1989). In 1989, NANDA briefly defined nursing intervention as "nurse-initiated treatments in response to nursing diagnoses" (p. 24). In 1985, Bulechek and McCloskey (1990) defined nursing intervention as an "autonomous action based on scientific rationale that is executed to benefit the client in a predicted way related to the nursing diagnosis and the stated goals" (p. 26). Bulechek and McCloskey (1992b) have since revised their definition to read: "a nursing intervention is any direct care treatment that a nurse performs on behalf of a client. These treatments include nurse-initiated treatments resulting from nursing diagnoses, physician-initiated treatments resulting from medical diagnoses, and performance of the daily essential functions for the client who cannot do these" (p. 6). The second definition allows for the interventions to be mandated by more than the nursing diagnoses. NANDA has adopted the second definition of nursing intervention suggested by Bulechek and McCloskey (North American Nursing Diagnosis Association, 1989).

Buchanan (1994) defined nursing intervention as "nursing actions and interventions, executed as part of the nursing process, with or for individuals and families, that are directed at influencing a measurable change in health status and quality of life" (p. 190). Buchanan (1994) goes on to state that

interventions are performed by expert clinicians in response to a diagnosis; the goal being to promote change in health status and quality of life issues.

For the purpose of this study, an adaptation of Bulechek and McCloskey's definition of nursing intervention was used: *a nursing intervention is any direct care treatment that a nurse performs on behalf of a client, involving nurse-initiated treatments resulting from nursing diagnoses.*

Primary Health Care

In relation to nursing diagnosis and nursing intervention, it is important to define primary health care. Starfield (1992) states "primary care is distinguished from other types of care by clinical characteristics of patients and their problems" (p. 7). Primary care involves a large variety of diagnoses, as well as health promotion, and has a large portion of it's population as previously established clients (Starfield, 1992; Yedidia, 1981). In the simplest terms, primary health care is seen as the setting in which the client has first contact with the health care system (Starfield, 1992; Yedidia, 1981). "It is the basic level of care provided equally to everyone. It addresses the most common problems in the community by providing preventative, curative, and rehabilitive services to maximize health and wellbeing" (Starfield, 1992, p. 4). Primary health care does not include specialty fields of health care. This study defined primary health care as: *those settings that involve family or general practices only.* Defining primary health care did not include OB-GYN or internal medicine practices even though some clients use these settings as their first contact with health care. These settings were viewed as specialty practices because they address specific areas of health.

Conceptual Framework

The conceptual framework that was used in this study is from Starfield (1992). Starfield adapted Donabedian's Structure-Process-Outcome model for the purpose of evaluating primary health care. As the title suggests, this model has three elements: structure, process, and outcome (See figure 1). The focus of this study was in the process section. However, the entire model will be examined so as to understand the process component in context. The process component includes
the actions of diagnosis and intervention, which are the focus of this study.

Starfield (1992) first addresses the element of structure, which involves nine components: personnel, facilities and equipment, range of services, organization, management and amenities, continuity, accessibility, financing, and population eligible. Each component will be briefly reviewed.

Personnel refers to those individuals involved in providing health care services, such as the APN, and their training. Facilities and equipment involve the physical elements involved in providing health care: buildings, instruments and available technology. Management and amenities include the manner in which care is provided. Range of services refers to the types of services available. Organization of services describes how the care is provided and who provides the care. This component also involves how accountability is determined. Continuity involves the mechanisms that allow for continuity of health care. Accessibility describes the way in which access of care for the client is provided, including time, geographical and psychosocial factors. Financing refers to the arrangements available for payment of services and how the personnel are paid. Population eligible describes the delineation of the clients to which these services are provided, including health and

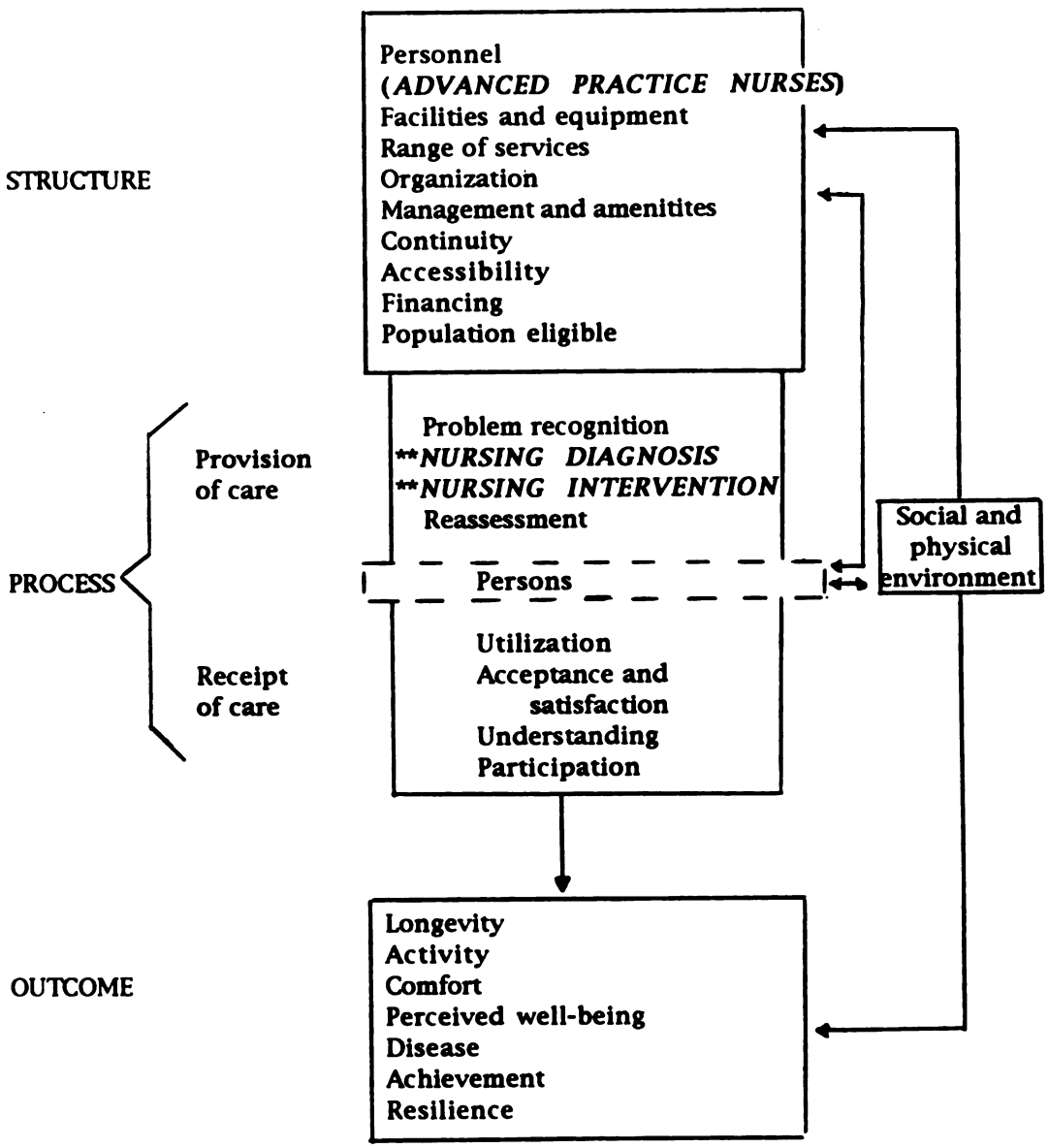

Figure 1. Structure - process - outcome model

(Adapted from Starfield, 1992, p. 13)

sociodemographic characteristics of the clients. These nine components are the resources needed to provide services (Starfield, 1992).

Starfield (1992) explores the process component next. The process component involves two sections: health care provider activities and client activities.

The focus of this study was on a section of this component of the model. The activities for which the health care provider is responsible are problem recognition, diagnosis, management (or intervention), and reassessment. Problem recognition involves identification of an actual or potential alteration in health of an individual person, an entire population, or a subgroup. Problem recognition must occur if a diagnosis, the second step, is to be formulated. The APN is trained to identify a need or needs and to create a diagnosis or diagnoses accordingly. The next step of this process is the treatment strategy or management plan for the problem. The APN is also trained to identify ways in which intervention or treatment plans can be integrated accordingly to the needs of the patient. At this point, the problem must be reassessed to determine the efficacy and accuracy of the first three steps: problem recognition, diagnosis, and intervention. Reassessment of the problem may initiate a new cycle of process of care by the health care provider. In the case of health promotion and maintenance, areas of strengths that the client possesses need to be recognized and utilized. Many nursing diagnoses are health promotion and maintenance oriented, as are many nursing interventions. The APN is able to identify actual or potential health problems and create nursing diagnoses and implement nursing interventions accordingly. The diagnosis and intervention activities (as identified in figure 1) are the focus of this study.

The activities for which the client (an individual, population, or subgroup) is responsible are utilization, acceptance and satisfaction, understanding, and participation. Utilization involves the choice of using a health care service and when to do so. Assuming the client chooses to use a service, that client then must come to an understanding of the service obtained from the provider. If understanding has occurred, then the client chooses to accept or not accept the recommended treatment or management plan offered by the provider. The client may also choose to be or not to be satisfied with the service. Then the client chooses to participate in the management plan either fully, partially, or not at all.

Key components concerning these process of care elements of the client may impact the process of care offered by the health care provider (Starfield, 1992). The structure of health care and the process of care together result in the outcome of care. In order to attain the outcome, the structure must exist and the process (of care) must occur (see figure 1). Starfield (1992) examines the outcome section of the model last, including seven measurements of health status: longevity, activity, comfort, perceived well-being, disease, achievement, and resilience. Each factor is viewed by Starfield as being a continuum.

Longevity is viewed as the life expectancy of a client, ranging from normal life expectancy to death. Activity includes the type of activity in which a client is able to participate, with the continuum ranging from functional to disabled. Comfort refers to pain or any other feeling or sensation that may or may not disrupt pleasure or work, ranging from comfortable to uncomfortable. Perceived well-being refers to how the client views his/her own health, ranging from satisfied to dissatisfied. Disease involves actual or potential health problems, either mental or physical, ranging from not

detectable to permanent. Starfield (1992) addresses achievement as "the positive aspects of health that must be considered in achieving what the World Health Organization has defined as 'a state of well-being.' Achievement signifies the development or accomplishment and the potential for future development of better health" (p. 16). The continuum ranges from achieving to not achieving. Resilience refers to the state of well-being, or the ability to cope with actual or potential alterations of health, ranging from resilient to vulnerable (Starfield, 1992).

The structure and process of health care both have a degree of affect on each of these outcome measurements. The social and physical environment has an impact on each component of the structure, process and outcome of care. Societal norms and cultural differences, as well as geographic locations, are a few examples of environment which affect the structure, process and outcome of health care (Starfield, 1992).

In summary, this model nicely reflects how the activities of the APN relates to the total process of health care. The activities of forming a diagnosis and planning and implementing interventions are activities for which the APN is trained and is responsible. A complete structure must be present for the process of professional care giving to take place, and outcome is achieved as a result of the process of professional care giving and client activities.

Review of the Literature

In reviewing the literature and studies concerning nursing diagnoses and interventions, no studies were found specifically addressing common nursing diagnoses and interventions used by APNs in primary health care. The studies that were obtained concerning the use of nursing diagnoses and interventions in clinical practices are reviewed. This section is organized

according to the conceptual framework variables related to nursing diagnoses, nursing interventions, and the consistency between nursing diagnoses and nursing interventions.

Nursing Diagnosis

Many studies concerning nursing diagnosis and nursing intervention involve a strategy for implementation of nursing diagnoses or nursing interventions into a particular setting. Many of the studies were limited by the age of the study (Bruce, 1979; Buchanan, 1994; Feild, 1979; Parker & Rich, 1995; Weber, 1979). In the literature for commonly used diagnoses in primary health care, the majority of research studies focused on medical diagnoses, whether utilized by nurses, nurse practitioners (regardless of specialty), or physicians, and again most studies were not recent (Barkauskas et al., 1981; Cherkin, Hart, Rosenblatt, & Schneeweiss, 1983; Draye & Pesznecker, 1979; Marshland, Mayo, & Wood, 1976; "The Nurse Practitioner Survey Results", 1983; Swehla, 1988).

One study discussed the development of a nursing diagnosis classification system for Pediatric Nurse Practitioners (Burns & Thompson, 1984). This study reviewed the three most commonly occurring medical diagnoses in the field of pediatrics for Nurse Practitioners. However, this study did identify that much of a Pediatric Nurse Practitioner's practice focuses on health promotion which lends itself well to the use of nursing diagnosis and nursing intervention.

Only one study addressed the issue of commonly used nursing diagnoses in a primary health care setting (Bugle et al., 1990). The researchers studied the use of nursing diagnoses in a nurse-managed college health service at a mid-sized state university. One of the areas the researchers studied was the most commonly used nursing diagnoses used by the registered nurses, who were the primary health care providers at this setting. The researchers found

that in this health care setting, the most commonly used nursing diagnoses were "Alteration in Skin Integrity" and "Alteration in Comfort related to nasal/sinus congestion". These together comprised 54% of the nursing diagnoses. "Health Maintenance Management", "Knowledge Deficit related to treatment of the common cold", and "Alteration in Comfort related to symptoms other than nasal/sinus congestion" together comprised 37% of the nursing diagnoses; and "Alteration in Elimination: constipation", "Alteration in Sleep Patterns", "Alteration in Nutrition: less than body requirements", and "Fear related to exams" together comprised 9% of total nursing diagnoses. This study is limited in terms of the current study due to the fact that registered nurses, rather than APNs, were the providers of care. Also, this population was limited to a specific age group (young adults) and specific living conditions (dormitory living and daily classes). This situation differs from the general population, and therefore, the nursing diagnoses were very specific to this population. The study alluded to the use of nursing interventions, but did not describe them.

Most of these studies on diagnoses researched specific nursing diagnoses. One study did address nursing diagnosis use in an advanced practice nursing specialty; however, it discussed developing a classification system of nursing diagnoses specific for this specialty, and did not address commonly occurring nursing diagnoses (Burns & Thompson, 1984). Only one study researched commonly occurring nursing diagnoses in a non-acute setting, but was not conducted with APNs, and the common diagnoses could not be generalized to the entire population (Bugle et al., 1990). None of these studies addressed the issue of common nursing diagnoses used by APNs in primary care. The common nursing diagnoses are important to know for students and educators to understand what kind of needs of the adult client are most likely

going to be addressed in practice, and for existing APNs to better equip themselves for the needs of their adult clients.

Nursing Intervention

In 1992, a research team from the University of Iowa (Iowa Intervention Project) developed the Nursing Intervention Classification (NIC) system. This research project was designed to offer a standardized language of both nurse-initiated and physician-initiated nursing interventions for general and specialty nursing (Bulechek & McCloskey, 1993, 1994b). The first version included an alphabetical list of 336 nursing interventions. These interventions were labeled and validated through expert survey, focus groups and content analysis. Each intervention included a conceptual definition, a set of defining activities and background reading on the specific intervention (Bulechek & McCloskey, 1992a, 1993, 1994a). This system was compared to two other classification systems (Bulechek et al., 1993). The ANA has endorsed the NIC system (Bulechek & McCloskey, 1994b).

The Iowa Intervention Project team has studied the use of the NIC system in various areas in nursing: medical-surgical (Barry-Walker, Bulechek, & McCloskey, 1994), perioperative (Bulechek, McCloskey, & Steelman, 1994), long-term (Bulechek, Daly, & McCloskey, 1994), cardiac (Bulechek, Cullen, et al. , 1991), integument care (Bulechek, Cohen, et al., 1991), delegation of care (Bulechek, Daly, McCloskey, & Moorehead, 1996), and management (Bulechek et al., 1995). None of these studies discussed primary health care or APN involvement; each study was acute care oriented or management of acute care settings.

In attempting to validate the NIC system in clinical settings, the team did conduct a study using the NIC system in a variety of practices. The nurses involved were of varying specialties (hospital settings including intensive

care and other specialties, and non-hospital settings) and of varying educational backgrounds (baccalaureate degrees, graduate degrees and/or certifications for specialty practice). The researchers found that specialty practices reported active listening, emotional support, infection control, vital signs monitoring, infection protection, and medication management as the six most frequently used nursing interventions. The researchers also reported that nurses who worked outside hospital settings identified abuse protection, anticipatory guidance, attachment promotion, reminiscence therapy, and therapy group as some of their most commonly used nursing interventions (Bulechek, Denehey, et al., 1994). This study didn't describe "non-hospital" settings, nor did it specify that APNs were involved in the study.

These NIC studies primarily addressed the use of nursing interventions by nurses in acute care settings and generally by nurses holding baccalaureate degrees or less. One study did address nursing intervention use in non-hospital settings and also included nurses who held special certifications or graduate level degrees but did not offer information specifically on primary care settings or APNs. None of these studies addressed the issue of common nursing interventions used by APNs in primary health care.

Nursing Diagnosis and Intervention Consistency

In 1996, the Iowa Intervention Project team published a revision of the NIC system that also includes a linkage system of nursing interventions to nursing diagnoses. The team researched 433 nursing interventions that correlated with 137 nursing diagnoses. This linkage system has been validated in the research stage and is now being validated in actual clinical practice (Bulechek, Daly, Maas & McCloskey, 1996).

In summary, the studies that were obtained concerning the use of nursing diagnoses and interventions in clinical practices were reviewed. In reviewing the literature and studies concerning nursing diagnoses and interventions, no studies were found specifically addressing common nursing diagnoses and interventions used by APNs in primary health care.

It is evident that research has not addressed the questions of what are the most commonly occurring nursing diagnoses and the most commonly occurring nursing interventions reported by APNs in primary health care settings. As stated previously, these questions are important for education of the APN, so as to direct curriculum preparation and education of APNs. This appalling lack of research cannot be beneficial to the nursing profession and must be addressed. This study was an attempt to begin this process of documenting what diagnoses and interventions are being used by APN students in their practices.

Methods

Research Design

This study's research design was descriptive and cross sectional. This research was a secondary analysis of pre-existing data.

Original Data Collection Procedure and Recording

The original data were collected by APN students in a primary care nursing masters degree program at a large university in the midwest. Each APN student was expected to document information for each client or family visit. A worksheet was provided. Included on this worksheet was a section for nursing diagnoses and nursing interventions. Students entered codes of nursing diagnoses and nursing interventions on a bubble sheet worksheet

(Appendices A, B, and C) . The completed forms were returned for data entry and processing.

Instrument

A Caseload Data Worksheet was provided for each student to complete for each client seen during the entire clinical experience. The worksheet provided a place to record information concerning client demographics, reason and type of visit, medical and nursing diagnoses, nursing and pharmacological interventions, and any type of referral made (Appendix B).

Validity of Instrument

This database was the method of data collection used by the college of nursing. No traditional validity or reliability testing was established on the completed caseload worksheet. The tool to collect this data, the Caseload Data Worksheet, was constructed by the teaching faculty at Michigan State University; therefore, validity (in terms of the information collected intending to be reflective of practice) was obtained through expert panel. Measures to ensure accuracy of the instrument were taken by the college of nursing though providing instructions for completing the caseload worksheet (Appendix A).

Operational Definitions

The nursing diagnoses were those identified by code on the nursing diagnosis section (item #21) of the caseload data worksheet (Appendix B). A list of 154 coded nursing diagnoses were given to students (Appendix C). The students were to select up to three nursing diagnoses, by priority, applicable to the client seen and record the code number for the nursing diagnosis on the Caseload Data Worksheet. A special code was provided for any case in which a nursing diagnosis was not applicable. All nursing diagnoses were used in this study's data, regardless of priority.

The nursing interventions were those identified by code on the nursing interventions section (item #22) of the caseload data worksheet (Appendix B). The 23 nursing interventions were listed on the Caseload Data Worksheet for the students to choose according to the nursing intervention(s) provided during a client visit. The student was to choose the interventions used during the client visit. A space was provided if a nursing intervention wasn't applicable. The interventions were not specified to be prioritized, and were not specified to be correlated with any of the nursing diagnoses.

Sample

This study was a convenience sample of 1587 cases from the caseload data base from the spring semester of 1996 through the summer semester of 1997. Students were in either the family track or the gerontology track. The clinical sites were in rural and urban areas in Michigan. No other demographic information concerning the clients was obtained. Inclusion criteria for the sample selection were:

1) Clients seen at a Family or General Practice setting for a first or return visit regardless of reason for visit,

2) Clients at least 18 years of age.

Data Analysis

The records that conformed to sample criteria were the only records used in this study. In response to the research question of the three most commonly occurring nursing diagnoses recorded by APN students in primary health care, these were identified by frequency and percent and rank ordered by percent. The nursing diagnosis with the highest percentage of occurrence across all priorities was identified as the most commonly occurring diagnosis. The diagnosis that had the second highest percentage of occurrence was viewed as the second most commonly occurring nursing diagnosis. The same

process was applied for the third most commonly occurring nursing diagnosis. The same process of rank order was applied to determine the six most commonly occurring nursing interventions.

The third research question of consistency between the interventions and the diagnoses was evaluated through the NIC linkage system (Bulechek & McCloskey, 1996). The NIC system was used to evaluate whether one or more of the six nursing interventions were indicated for one of the three nursing diagnoses.

Procedure for Protection of Human Subjects

This database identified client, student and clinical site by identification number only. This researcher did not have access to this specific information. No direct contact to the subjects was made. The College of Nursing gave permission for use of this database after UCRIHS approval was obtained (see Appendix D). Confidentiality was maintained due to the fact that students did not report patient names to the College of Nursing or record patient names on the database worksheets. Also, this researcher did not have access to student identification numbers.

Assumptions and Limitations

One assumption this study has made is that the APN students were able to see clients who were representative of typical clients seen in primary care settings. Another assumption held was that the data from the caseload worksheets were correctly entered into the database.

Hungler and Polit (1987), in discussing limitations to secondary data analysis, state "one always takes a risk of obtaining data that are inaccurate or erroneous" (p. 175). This limitation may be applied in this case. If a student didn't complete the worksheet form in it's entirety, it was not entered into the database. In addition, not every client seen by a APN student was recorded.

Another limitation to this study is that regional differences exist in health care; therefore this study may provide information relative to the midwest states but may not apply to all states or other countries.

Results and Findings

Nursing Diagnoses

The 1587 cases included both first time visits and return visits. Those cases which were return visits were not differentiated from the first time visit cases. Of the total number of cases, 1481 cases provided one or more nursing diagnoses. There were 2,239 diagnoses reported across all three priority rankings. All diagnoses reported for this study sample were included. The most commonly occurring nursing diagnosis was "Alteration in Comfort" (not pain) (n=333, 14.9%). The second most commonly occurring nursing diagnosis was "Appropriate Health Maintenance" (n=257, 11.4%). The third most commonly occurring nursing diagnosis was "Knowledge Deficit" (n=213, 9.5%).

Nursing Interventions

Each of the 1587 records reported at least one nursing intervention. The most commonly occurring nursing intervention was "Family/Patient Teaching" (n=947, 59.7%). The second most commonly occurring nursing intervention was "Anticipatory Guidance" (n=407, 25.6%). The third most commonly occurring nursing intervention was "Nutritional Counseling" (n=172, 10.8%). The fourth most commonly occurring nursing intervention was "Counseling" (n=167, 10.5%). The fifth most commonly occurring nursing intervention was "Exercise" (n=164, 10.3%).The sixth most commonly occurring nursing intervention was "Patient Contracting" (n=93, 5.9%).

Consistency between Nursing Interventions and Nursing Diagnoses

The results of the data analysis of the third research question was not definitive. In the NIC system, the linkage system did not include the diagnoses "Alteration in Comfort" or "Appropriate Health Maintenance". It did offer the intervention "Comfort Support through environmental management", "Pain Management", and "Touch (therapeutic)", but offered no linkage between the diagnosis of "Alteration in Comfort" with specific interventions. The NIC system did have a linkage between the diagnosis of "Altered Health Maintenance" and interventions, and between the diagnosis "Health Seeking Behavior" and interventions; however, it did not provide any specific linkage between the diagnosis "Appropriate Health Maintenance" with specific interventions.

The NIC system did provide a linkage between the diagnosis of "Knowledge Deficit" with specific interventions. The main intervention reported was "Family/Patient Teaching". "Exercise" and "Nutrition" were included within the intervention "Teaching". The intervention "Anticipatory Guidance" was alluded to through the sub-intervention of "Preparatory Sensory Information" of the intervention "Family/ Patient Teaching". Based on the NIC system, poor consistency between nursing interventions and nursing diagnoses was found.

Discussion

Conceptual Framework

These findings reflect well upon the use of the structure-process-outcome model in this study. As previously stated, the activities of diagnosing and implementing interventions are activities for which the APN is responsible. The APN is trained to identify actual or potential health problems,

form an appropriate nursing diagnosis or diagnoses (such as "Alteration in Comfort", "Appropriate Health Maintenance" and "Knowledge Deficit"), implement necessary nursing interventions (such as "Family/Patient Teaching", "Anticipatory Guidance", "Nutritional Counseling", "Counseling, " "Exercise", and "Patient Contracting"), and reassess the problem or treatment plan for accuracy and efficacy.

Nursing Diagnoses

It is not surprising that the nursing diagnoses of "Alteration in Comfort", "Appropriate Health Maintenance" and "Knowledge Deficit" were the most common nursing diagnoses found. These diagnoses are most likely to be frequently used in most populations due to the fact that most people seek out health care because of discomfort or health screening. Also, the APN is seen as a source of health information of which the client can utilize. Primary health care involves a variety of diagnoses, including health promotion (Starfield, 1992; Yedidia, 1981). Primary health care "addresses the most common problems in the community by providing preventative, curative, and rehabilitative services to maximize health and wellbeing" (Starfield, 1992, p. 4). The APN in primary health care focuses on health promotion as a large part of the role of nursing, as evident by the APN roles addressed earlier. An emphasis on health promotion would generally lead to these common diagnoses, due to the very nature of these diagnoses. Each implies a need for health promotion or maintenance.

It was very interesting to find low frequencies among these nursing diagnoses. Even though these were the most frequent diagnoses, the percentages were small, indicating the variety of diagnoses, some of which may be similar to the diagnoses identified in this study, however, and may have been approached differently by each student. Also, a need identified

through evaluating these diagnoses is that the diagnoses need qualifiers to give them merit. Diagnoses are generally written with the main diagnosis preceding and a qualifier following, for example: "Alteration in Comfort due to diarrhea" or "Knowledge Deficit due to inability to properly self-administer an inhaler".

The one study found with common nursing diagnoses in primary care used by RNs in a college health care setting reported "Alteration in Comfort related to nasal/sinus congestion" as one of the most commonly occuring diagnoses, with "Health Maintenance Management" and "Knowledge Deficit related to treatment of the common cold" occurring somewhat less (Bugle et al., 1990). This can be loosely compared with the common nursing diagnoses found in this study: "Alteration in Comfort" (unspecified), "Appropriate Health Maintenance", and "Knowledge Deficit" (unspecified). In both the study by Bugle et al. (1990) and this study, "Alteration in Comfort" was found to be one of the most frequently used nursing diagnosis. Comparatively, "Health Maintenance" and "Knowledge Deficit" were found to be a frequently used nursing diagnoses, but not the most frequently used in both studies.

The study by Burns & Thompson (1984) which discussed the development of a nursing diagnosis classification system for Pediatric Nurse Practitioners reviewed the common medical diagnoses for the pediatric population (Burns & Thompson, 1984). However, the study did emphasize the health promotion that the APN provides to this age group. This can be easily correlated with the nursing diagnosis of "Appropriate Health Maintenance" found in this study.

Nursing Interventions

Similar to the nursing diagnoses found in this study, it is not surprising that the nursing interventions "Family/Patient Teaching", "Anticipatory

Guidance", "Nutritional Counseling", "Counseling, " "Exercise", and "Patient Contracting" were the most common interventions found. These interventions are integral parts of the role of nursing. The ability of an APN to provide these types of interventions is what creates the uniqueness of nursing. One of the roles of the APN is that of educator (Given, 1993). "Family/Patient Teaching" can be used with all areas of primary health care, as well as health promotion and maintenance, which directly relates to the APN role of educator. "Anticipatory Guidance" involves education of the client as well. "Nutritional Counseling" and "Exercise" are interventions that the APN is equiped and trained to provide through the APN role of change agent (Given, 1993). The APN role of counselor (Given, 1993) directly correlates with the intervention of "Counseling". And the APN role of client advocate (Given, 1993) incorporates the intervention of "Patient Contracting".

It was interesting to find the high frequency of the intervention of "Family/Patient Teaching", as compared to the lower frequencies of the common nursing diagnoses. This is most likely due to the major role the educator has in the field of nursing, especially Advanced Practice Nursing. Similar to the common nursing diagnoses, these most common nursing interventions also need qualifiers to provide further merit. Specifically, for example, what was the content of the family or patient teaching?

Similar to the nursing diagnosis literature, only one study addressed nursing interventions utilized by nurses (with varying educational levels) practicing in out-of-hospital settings; however, these settings were unspecified (Bulechek, Denehey, et al., 1994). Of the six interventions identified by Bulechek, Denehey, et al. (1994), one correlated with the interventions identified in this study: "Anticipatory Guidance".

It was interesting to find that all 1587 cases used at least one nursing intervention; however, only 1481 cases reported at least one nursing diagnosis. Two possible reasons may explain the 106 case discrepency. First, it could be due to student error of not including the nursing diagnosis on the database worksheet. Second, the nursing interventions could have been utilized in response to medical diagnoses. If this is the situation, this study's conceptual definition for nursing intervention needs to be more inclusive of other sources for diagnoses (ie. medical diagnoses). The conceptual definition could be redefined to read: *a nursing intervention is any direct care treatment that a nurse performs on behalf of a client, involving nurse-initiated treatments resulting from diagnoses (nursing or medical).*

Nursing interventions utilized by APNs in primary health care address both nursing and medical problems. As a APN in primary health care, nursing care and medicine are blended together for appropriate patient care. This blending adds depth to APN care.

Consistency between Nursing Interventions and Nursing Diagnoses

Concerning the linkage system, it was unexpected to find that the NIC system did not include two of the three most commonly occurring nursing diagnoses identified by this study as part of the linkage system. Also, it was unexpected to find that the NIC system did not offer a single definition of the interventions "Counseling" and "Exercise". The NIC system claims to be comprehensive, including "the full range of nursing interventions from general practice and specialty areas . . . [and] can be used in any practice setting . . . " (Bulechek & McCloskey, 1996, p xiii). However, the NIC system is actually geared for acute care. This system has a poor adaptation to APN practice in primary health care.

In reviewing nursing diagnoses by Carpenito (1987, 1995), she offered many interventions. For the diagnosis "Alteration in Comfort", interventions included or alluded to "Family/Patient Teaching", "Anticipatory Guidance", "Nutritional Counseling", "Counseling", "Exercise", and "Patient Contracting". For the diagnosis "Appropriate Health Maintenance", interventions included or alluded to "Family/Patient Teaching", "Anticipatory Guidance", "Nutritional Counseling", "Counseling", and "Exercise". After reviewing Carpenito as a source for linkage, a strong consistency was found between the nursing diagnoses and interventions identified in this study.

In using this caseload database, specific limitations were identified. First, congruency between nursing diagnoses and nursing interventions was not utilized. Second, congruency between medical diagnoses and nursing interventions was not identified. Third, qualifiers for nursing diagnoses and nursing interventions were not recorded. It is the recommendation of this study that these limitations be corrected through providing opportunity to demonstrate congruency between nursing diagnoses and nursing interventions, medical diagnoses and nursing interventions, and provide opportunity to record nursing diagnosis and nursing intervention qualifiers.

Implications

For Advanced Practice Nursing Education

The main implication of this research is to impact APN education. For APN students to be well equiped to practice in primary health care, they need to understand a typical client's potential or actual health problems and how to create an appropriate plan for interventions. The diagnoses and interventions need to be fully integrated into curriculum, for example, through a specific nursing diagnosis and intervention course. The diagnoses need to be presented

as very common diagnoses in primary health care and specifically studied in depth. Also, the interventions need to be presented as frequently used interventions in primary health care and studied in detail. The APN needs to know when to use these diagnoses and interventions and how to use them appropriately and effectively. By being aware of this information, the APN can then practice unique, high-quality care. This type of care can be provided as a result of the APN fully utilizing the role of nursing through these diagnoses and interventions. The client benefits by receiving cost-effective, quality care. The client also benefits by utilizing the APN as a source of health information, thus allowing the client to make appropriate decisions concerning his/her health.

Educators can use this study's findings to evaluate the effectiveness of the curriculum for the optimization of APN education. If the curriculum does not emphasize these diagnoses and interventions, then the APN students are not receiving an accurate depiction of the types of patient problems, and are not learning the types of interventions needed to provide quality care. Specifically, classes can focus on these nursing diagnoses and interventions throughout the curriculum, and integrate and compare the nursing diagnoses and interventions with medical diagnoses and interventions. Also, a specific class on nursing diagnoses and interventions for APNs in primary health care can be developed to optimize the use of these nursing diagnoses and interventions by future APNs.

For Primary Health Care Practice

An implication for the use of this study in primary health care is that the use of these nursing diagnoses and interventions assist in developing guidelines for APNs in primary health care. Specifically, the consistency found between the nursing diagnoses and interventions can be utilized

effectively in practice. If a client has a diagnosis of "Alteration in Comfort", the intervention(s) of "Family/Patient Teaching", "Anticipatory Guidance", "Nutritional Counseling", "Counseling", "Exercise" and/or "Patient Contracting" can be implemented. And, if a client has a diagnosis of "Appropriate Health Maintenance", the intervention(s) of "Family/Patient Teaching", "Anticipatory Guidance", "Nutritional Counseling", "Counseling", and/or "Exercise" could be utilized. Likewise, if a client is diagnosed with "Knowledge Deficit", then the intervention(s) "Family/Patient Teaching", "Anticipatory Guidance", "Nutritional Counseling", and/or "Exercise" could be implemented appropriately.

Guidelines can be formed for linking nursing diagnoses, nursing interventions and outcomes, thus further advancing the APN practice in primary health care. Also, these guidelines would assist in offering the primary health care patient the most cost effective, comprehensive, unique, consistent care available.

For Further Research

This study focused on adult primary health care nursing diagnoses and interventions. The rationale for this was that the pediatric population, even though it is a part of family practice, has specific routine health needs (ie. health promotion and maintenance diagnoses and interventions) and has specific health problems which do not typically occur in the adult population. As a part of the pediatric population, the adolescent population even has it's own separate set of health needs and problems, thus requiring different nursing diagnoses and, especially, nursing interventions than the adult population or the younger pediatric population. Therefore, since the pediatric population, including adolescents, were not included in this study's sample, it is recommended that future research focus on common nursing diagnoses and

interventions of the pediatric and adolescent populations. The study would utilize the same database and focus on the age group of 0-18 years.

Another suggested study would be utilizing the same method format as this study for certified APNs to complete. Since this data was collected by APN students, it may not reflect true APN practice. This research would ask the same questions and use the same worksheet to collect information. A comparison could even be made between the findings of the practicing APN and this study's findings from APN students.

Also, this method format of data collection could be utilized by other APN students in other geographical regions of the country. The results could be compared to the results of this study.

Lastly, it is recommended that the NIC system be made more applicable to primary health care as well as adapted for APN use. Specifically, it could include the diagnoses "Alteration in Comfort" and "Appropriate Health Maintenance" in the linkage system, as well as creating more activities for interventions which could be readily utilized in primary health care by APNs.

Summary

In summary, the purpose of this study was to explore common nursing diagnoses and common nursing interventions in primary health care reported by APN students, and to examine the relationship of the intervention to the diagnoses. This information was found to be important for students to obtain an accurate depiction of types of patient problems they may encounter working in a primary health care setting and to learn what types of interventions could be useful in assisting patients. This information was also found to be useful for educators of Advanced Practice Nursing students for development and evaluation of the effectiveness of the current curriculum.

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Appendix A

MICHIGAN STATE UNIVERSITY
COLLEGE OF NURSING

CASELOAD DATA

The purpose for recording information about the patients and families whom you are seeing during your clinical experience is fourfold. One is to help you and your campus clinical instructor evaluate your performance and make suggestions for other experiences or changes in your client care approach. The second is to provide you with documentation of the depth and breadth of your clinical practice. Many of you will be seeking employment in primary care in the near future and this information will be useful to you in your negotiations. The third aspect is curriculum evaluation. The faculty are responsible for documenting the extent to which curriculum objectives are met. Aggregate data from students' practice should reflect, for instance, that the clients of students in the family track are from all age levels and that some nursing diagnoses and interventions deal with health promotion. Then finally this data will demonstrate the service to the community provided by MSU graduate nursing students.

You will code and record your data on Caseload Data Forms. Once you are familiar with the process, it should only take a few minutes to complete each case. You can use your write-ups as the data base for completing the scan sheets. Most students recommend completing the scan sheets while doing write-ups or very soon after completing the write-up of the client/family visit. A printout with descriptive statistics will be provided for you and your clinical faculty at the following points in the semester:

A. Midterm evaluation - cases entered up to this point.

B. Final evaluation - all cases for the semester.

C. At the end of the two clinical courses you will receive a summary printout with your data from both courses.

DIRECTIONS FOR RECORDING DATA ON SCAN SHEETS

1. Question 1 — Record your MSU student ID number.

2. Question 2 — The faculty ID number is a unique 3 digit number for each faculty member. Your course faculty will provide this information to you. Example: 004; 102; 040.

3. Question 3 — The patient ID number is a four digit number which you assign to your case. . Use the last four (4) digits of the client's social security number as that client's ID number. If the client does not have a social security number assign a number. Start with 0001. If the visit is a family visit, code the patient ID number as 9999. You will have to keep a record of client identification since you should assign the same number to the client every time you enter data about that client

4. Question 4 — The family ID number is a four digit number which you assign to the family. Every member of that family should have the same family ID. You must, therefore, keep a record of your family ID numbers as well.

5. Question 8 — After you submit a Letter of Intent, a site code will be assigned by the Office of Student Clinical Placements. Your individual codes will be provided to you within the first 2 weeks of the semester on a placement summary list.

6. Question 9 — Enter the age, ex: 2 years = 002.

7. Question 20 — Items a through d Medical Diagnosis codes are in Appendix B. Assign a medical diagnosis if it is appropriate to the visit, that is, if the reason for the visit has to do with a medical diagnosis or, if you plan an intervention based on an existing or new diagnosis. Not all visits will have a medical diagnosis. These should be coded in priority order. There are Entry codes and ICDA codes on the medical codes list. The entry code is the one that you should put in your data.

8. Question 21 — Items A through C. Nursing Diagnosis codes are located in Appendix C. Enter the code as it appears on the sheet. These should be coded in priority order. It is anticipated that all visits will have at least one nursing diagnosis. Not all visits will have more than one nursing diagnosis.

9. Question 24 **Codes for pharmacological agents that require a prescription are listed in Appendix D. These codes are entered only if you prescribe, change or discontinue the client's medications. If you enter a code for a pharmacological agent, specify the type of pharmacologic management in item (b).**

10. Question 26 **The codes for over the counter (OTC) pharmacological agents, i.e., agents that do not require a prescription, are listed in Appendix E. These codes are entered only if you prescribe, change, or discontinue the client's OTC medications. If you enter a code for a pharmacological agent, specify the type of pharmacologic management in item (b)**

11. Question 30 **For the total cost of visit enter the charge by the health care provider who saw the client. This is the charge for the provider's (your) services.**

Response item four should read $76-$100.

caseload.win27.dir7
3/5/1996

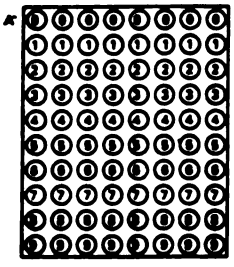
Appendix B

MICHIGAN STATE UNIVERSITY
COLLEGE OF NURSING

CASELOAD DATA WORKSHEET

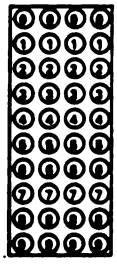
Instructions: Please, use a number 2 lead pencil to fill in the circle that corresponds to your data.

1. STUDENT ID NO.

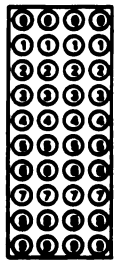


2. FACULTY ID NO.

3. PATIENT ID NO.



4. FAMILY ID NO.



5. Visit Date:

MONTH

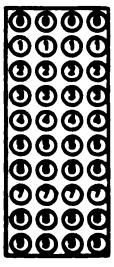
- ○ January
- ○ February
- ○ March
- ○ April
- ○ May
- ○ June
- ○ July
- ○ August
- ○ September
- ○ October
- ○ November
- ○ December

YEAR (Last two digits)

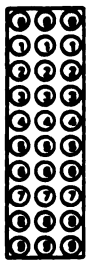
6. Is this the first visit to the clinical site for this client: ○ Yes ○ No

7. Have you seen this client for health care before? ○ Yes ○ No

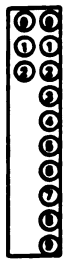
8. Practice setting location (enter code from list)



9. Age if ≥ 2 years (in years)



10. Age if < 2 years (in months)



11. Client gender:

- ○ Female
- ○ Male

12. Race/ethnicity of client:

- ○ Asian
- ○ Black/African American
- ○ Hispanic
- ○ Native American
- ○ White (Non-Hispanic)
- ○ Other (Specify) _____

13. Time spent with client:

- ○ 01-20 Minutes
- ○ 21-40 Minutes
- ○ 41-60 Minutes
- ○ 61-80 Minutes
- ○ 81-100 Minutes
- ○ 101 + Minutes

14. Primary reason for visit:

- ○ Acute problem, first visit
- ○ Acute problem, follow up
- ○ Chronic problem, first visit
- ○ Chronic problem follow up
- ○ Health maintenance/promotion well visit
- ○ Prenatal—routine
- ○ Screen history & physical (employment, sports, preschool, etc).
- ○ Case management

15. Visit setting:

- ○ Office/clinic
- ○ Private home
- ○ Foster care home
- ○ Nursing home
- ○ Phone call
- ○ Hospital
- ○ School
- ○ Work site
- ○ Mobile site
- ○ Other (list)

16. Type of visit:

- ○ Individual
- ○ Group
- ○ Family

17. Type of exam:

- ○ Complete history & physical
- ○ Complete history & physical with pelvic
- ○ Partial history & physical
- ○ Complete history alone
- ○ Partial history
- ○ Partial history & physical with pelvic exam
- ○ Partial physical alone
- ○ Complete physical alone
- ○ Telephone assessment
- ○ Only special assessment done

18. Indicate if any of these special non-routine assessments were done? These are specific in-depth assessments not part of a routine visit.

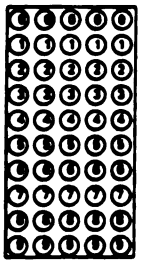
- ○ Developmental
- ○ Family
- ○ Financial resources
- ○ Functional status
- ○ Home
- ○ Mental status
- ○ Nutritional analysis
- ○ Risk appraisal
- ○ Fertility
- ○ Social resources
- ○ Social or role functioning
- ○ Other (keep list)
- ○ Not applicable

19. Indicate if any of these diagnostic tests were done/ordered?

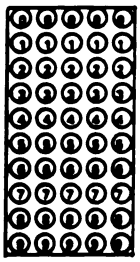
- ○ Blood type
- ○ CBC Hgb/Hct
- ○ Chem profile
- ○ Cholesterol
- ○ Coombs
- ○ Echo
- ○ EKG
- ○ Fetal non-stress test
- ○ FSH/LH
- ○ Glucose screen
- ○ Hearing
- ○ Hemocult
- ○ Hepatitis panel
- ○ HIV
- ○ Lead levels
- ○ Lipid profile
- ○ Mammogram
- ○ MSAFP
- ○ OGTT
- ○ Other electrolytes
- ○ PAP smear
- ○ Potassium
- ○ Pregnancy HCG test
- ○ Pregnancy test-urine
- ○ Pro time
- ○ PSA
- ○ Pulmonary function
- ○ Rubella titer
- ○ Sed rate
- ○ Serology-VDRL/rpr
- ○ Serum HGG
- ○ Sickle cell
- ○ Sigmoidoscopy
- ○ Strep screen
- ○ TB skin test
- ○ Therapeutic drug titer
- ○ Throat/nose culture
- ○ Thyroid panel
- ○ Triglycerides
- ○ Tympanogram
- ○ Ultrasound
- ○ Urethral culture
- ○ Urine analysis/culture
- ○ Vaginal culture
- ○ Vision
- ○ Wet mount
- ○ X-ray (Specify) _____
- ○ Other (keep list)
- ○ Not applicable

20. Refer to lists to enter medical diagnosis codes.

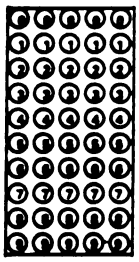
a. Priority 1 medical dx



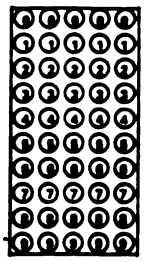
b. Priority 2 medical dx



c. Priority 3 medical dx

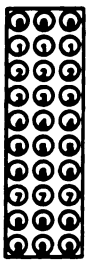


d. Priority 4 medical dx

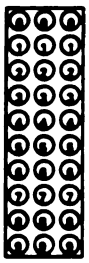


21. Refer to lists to enter nursing diagnosis codes:

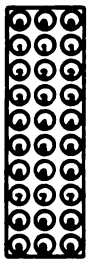
a. Priority 1 nursing dx



b. Priority 2 nursing dx



c. Priority 3 nursing dx



22. Indicate ALL interventions used and documented in the patient record based on all priority nursing diagnoses.

- ○ Anticipatory guidance
- ○ Assertiveness training
- ○ Case management
- ○ Cognitive therapy
- ○ Counseling
- ○ Crisis intervention
- ○ ETOH/drug counseling
- ○ Exercise
- ○ Humor
- ○ Imagery
- ○ Nutritional counseling
- ○ Patient contracting
- ○ Patient/family teaching
- ○ Relaxation training
- ○ Reminiscence therapy
- ○ Role supplementation
- ○ Self-modification
- ○ Sexual counseling
- ○ Smoking cessation
- ○ Stress management
- ○ Support groups
- ○ Therapeutic touch
- ○ Values clarification
- ○ Other (keep list)
- ○ Not applicable

13. Indicate ALL interventions used based on PRIORITY 1 nursing diagnosis.

- ○ Anticipatory guidance
- ○ Assertiveness training
- ○ Case management
- ○ Cognitive therapy
- ○ Counseling
- ○ Crisis intervention
- ○ ETOH/drug counseling
- ○ Exercise
- ○ Humor
- ○ Imagery
- ○ Nutritional counseling
- ○ Patient contracting
- ○ Patient/family teaching
- ○ Relaxation training
- ○ Reminiscence therapy
- ○ Role supplementation
- ○ Self-modification
- ○ Sexual counseling
- ○ Smoking cessation
- ○ Stress management
- ○ Support groups
- ○ Therapeutic touch
- ○ Values clarification
- ○ Other (keep list)

14. Refer to list to enter correct code for pharmacological agents requiring a prescription:

(1a) Pharmacologic agent

(1b) Type of pharmacologic management

- ○ New prescription
- ○ Renew existing prescription/refill
- ○ Change dose/frequency
- ○ Discontinue

(2a) Pharmacologic agent

(2b) Type of pharmacologic management

- ○ New prescription
- ○ Renew existing prescription/refill
- ○ Change dose/frequency
- ○ Discontinue

(3a) Pharmacologic agent

(3b) Type of pharmacologic management

- ○ New prescription
- ○ Renew existing prescription/refill
- ○ Change dose/frequency
- ○ Discontinue

(4a) Pharmacologic agent

(4b) Type of pharmacologic management

① New prescription
② Renew existing prescription/refill
③ Change dose/frequency
④ Discontinue

25. Refer to list to enter correct code for non-prescription pharmacological agents.

(1a) Pharmacologic agent

(1b) Type of pharmacologic management

① New prescription
② Renew existing prescription/refill
③ Change dose/frequency
④ Discontinue

(2a) Pharmacologic agent

(2b) Type of pharmacologic management

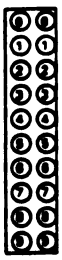
① New prescription
② Renew existing prescription/refill
③ Change dose/frequency
④ Discontinue

(3a) Pharmacologic agent

(3b) Type of pharmacologic management

① New prescription
② Renew existing prescription/refill
③ Change dose/frequency
④ Discontinue

(4a) Pharmacologic agent



(4b) Type of pharmacologic management

① New prescription
② Renew existing prescription/refill
③ Change dose/frequency
④ Discontinue

26. Indicate all treatment procedures done?

- ○ Allergy series
- ○ Assisted Medical devices
- ○ Bladder retraining
- ○ Breathing treatment
- ○ Breathing retraining
- ○ Broviac/PICC
- ○ Catheter care
- ○ Cerumen removal
- ○ Drains
- ○ Dressing/wound care
- ○ Exercise/rehab
- ○ Foot care
- ○ Gait training
- ○ Heat/cold therapy
- ○ Immunization injection
- ○ Massage/back rub
- ○ Medication review
- ○ Oxygen
- ○ Postural drainage/percussion
- ○ Suturing
- ○ Suturing removal
- ○ Wart removal
- ○ Other (keep list)
- ○ Not applicable

27. Indicate referrals made:

- ○ Advanced practice nurse (ex: CNS, NP, CNM)
- ○ Case manager
- ○ Clergy
- ○ Dental
- ○ Diabetes education
- ○ Dietician/nutritionist
- ○ Foster care
- ○ Home care
- ○ Home health aide or chore service
- ○ Hospice
- ○ Legal
- ○ Long term care
- ○ Mental health professional
- ○ Nurse
- ○ Occupational therapy
- ○ Pharmacist
- ○ Physical therapy
- ○ Physician-specialist
- ○ Podiatrist
- ○ Primary care physician
- ○ Public health
- ○ Social worker
- ○ Support group
- ○ Visiting nurse
- ○ Other (keep list)
- ○ Not applicable

28. Indicate all sources of payment.

- ○ Prepaid managed health plan (ex: HMO, PPO, Capitated)
- ○ Medicaid
- ○ Medicare
- ○ Private insurance
- ○ CHAMPUS
- ○ Private pay fee for service
- ○ Children's Special Health Care Services (CSHCS)
- ○ Other (specify) _____

29. Indicate level of visit (refer to service codes)

- ○ Brief (i.e., BP check) 99201, 99211
- ○ Minimal (recheck of simple acute/chronic stable) 99202, 99212
- ○ Limited (evaluation of simple acute/chronic stable) 99203, 99213
- ○ Expanded (multiple and/or complicated) 99204, 99214
- ○ Comprehensive: (high complexity) 99205, 99215

30. Total cost of visit:

- ○ 00 - $25
- ○ $26 - $50
- ○ $51 - $75
- ○ $75 - $100
- ○ > $100
- ○ Unknown

31. Next scheduled visit/contact:

- ○ <1 wk
- ○ 2-3 wk
- ○ 4-6 wk
- ○ 7 wk-5 mo
- ○ 6 mo-1 yr
- ○ > 1 yr
- ○ Prn
- ○ Admit to hospital

32. Student level of responsibility:

- ○ Pt examined by student and preceptor: decision 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

Appendix C

Nursing Diagnosis Codes
1992-1993
1993-1994

dx	Description
1	Activity intolerance
2	Activity intolerance, potential
127	Activity tolerance
3	Adjustment, impaired
4	Airway clearance, ineffective
100	Altered protection
5	Anxiety
131	Anxiety, anticipatory
128	Anxiety, mild
129	Anxiety, moderate
130	Anxiety, severe
101	Aspiration: potential for
132	Attachment, weak mother(parent)/infant
6	Bladder elimination, adequate
7	Body image, positive
104	Body image disturbance
133	Body image, realistic
8	Body temperature, potential altered
105	Bowel incontinence
9	Bowel elimination, adequate
102	Breastfeeding: effective
103	Breastfeeding: ineffective
13	Breathing pattern, ineffective
14	Cardiac functioning, effective
15	Cardiac output, decreased
135	Cognitive impairment, potential
134	Conflict, dependence/independence, unresolved
16	Comfort, adequate
997	Comfort, altered (not pain)
19	Communication, impaired: verbal
106	Constipation, colonic
107	Constipation, perceived
136	Constipation, intermittent pattern
108	Coping avoidance
109	Coping, defensive
20	Coping, effective family
21	Coping, effective individual
22	Coping, family: potential for growth
23	Coping, ineffective family: compromised
24	Coping, ineffective family: disabling
138	Coping, ineffective individual
26	Crisis resolution, effective
110	Decisional conflict
139	Decubitus ulcer

111 Denial, ineffective
140 Depression, reactive (situational)
27 Developmental progression, efficient
112 Diarrhea
113 Disuse syndrome, potential
28 Diversional activity, deficit
114 Dysreflexia
141 Exercise level appropriate
142 Family processes productive
143 Family functioning, satisfactory
29 Family process, altered
115 Fatigue
30 Fear
147 Fluid intake, adequate
146 Fluid volume, adequate
144 Fluid volume deficit, actual 1 (failure of regulatory mechanism)
145 Fluid volume deficit, actual 2 (active loss of body fluid)
33 Fluid volume deficit, potential
31 Fluid volume excess
34 Gas exchange, impaired
35 Grieving, anticipatory
36 Grieving, dysfunctional
37 Growth and development, altered
148 Growth and development altered: communication skills
149 Growth and development altered: self-care skills
150 Growth and development altered: social skills
38 Health maintenance, altered
39 Health maintenance, appropriate
151 Health management deficit: total
152 Health management deficit (specific)
153 Health seeking behaviors (specific)
40 Home maintenance management, effective
41 Home maintenance management, impaired
42 Hopelessness
43 Hyperthermia
44 Hypothermia
45 Immune response, effective
46 Incontinence, functional
47 Incontinence, reflex
48 Incontinence, stress
49 Incontinence, total
116 Incontinence,urge
50 Infection, potential for
51 Injury, potential for: (poisoning: suffocation: trauma)
154 Joint contractures, potential
52 Knowledge deficit
155 Memory deficit, uncompensated short term
156 Mobility level adequate
53 Mobility, impaired physical
54 Noncompliance
157 Noncompliance, potential
55 Nutrition, alteration in: less than body requirement (or nutritional deficit)

56 Nutrition, alteration in: more than body requirement (or exogenous obesity)
57 Nutrition, alteration in: potential for more than body requirement (or potential obesity)
58 Nutritional status, optimal
117 Pain
118 Pain, chronic
119 Pain, self-management deficit
59 Oral mucous membrane, altered
120 Parental role conflict
60 Parenting, altered
61 Parenting, potential for altered
121 Personal identity disturbance
62 Physical fitness, optimal
63 Post trauma response
64 Potential for successful satisfaction of developmental needs
65 Powerlessness
66 Rape trauma syndrome
158 Rape trauma syndrome: compound reaction
159 Rape trauma syndrome: silent reaction
67 Respiratory function, effective
122 Role performance, disturbance
160 Self bathing-hygiene deficit
68 Self-care, independence
69 Self-care deficit, total
71 Self-concept, positive
161 Self dressing-grooming deficit
162 Self feeding deficit
163 Self toileting deficit
123 Self-esteem disturbance
124 Self-esteem, chronic low
125 Self-esteem, situational low
164 Self esteem, positive
165 Sensory functioning adequate
166 Sensory deficit, uncompensated (specific)
167 Sensory-perceptual alteration: input deficit (or sensory deprivation)
168 Sensory-perceptual alteration: input excess (or Sensory overload)
73 Sexual dysfunction
170 Sexual function adequate
171 Sexual expression appropriate
75 Sexuality patterns, altered
169 Skin integrity adequate to support body requirements
77 Skin integrity, impaired
78 Skin integrity, impaired: potential
79 Sleep pattern disturbance
80 Sleep pattern, adequate
81 Social interaction, impaired
82 Social interaction, satisfactory
83 Social isolation
84 Spiritual distress
85 Swallowing, impaired
126 Trauma, potential for

86 Thermoregulation, ineffective
87 Thought process, alteration in
88 Tissue integrity, impaired
89 Tissue perfusion, alteration in: cerebral, cardiopulmonary, renal
90 Unilateral neglect
91 Urinary elimination, altered patterns
92 Urinary retention
93 Violence, potential for

9/3/92 c:a:\caseload\ncodes92.alf

Appendix D

MICHIGAN STATE
UNIVERSITY

July 11, 1997

TO: Rachel F. Schiffman
A230 Life Sciences

RE: IRB#: 97-430
TITLE: COMMON NURSING DIAGNOSES AND INTERVENTIONS IN PRIMARY HEALTH CARE
REVISION REQUESTED: N/A
CATEGORY: 1-E
APPROVAL DATE: 07/08/97

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project and any revisions listed above.

RENEWAL: UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Investigators planning to continue a project beyond one year must use the green renewal form (enclosed with the original approval letter or when a project is renewed) to seek updated certification. There is a maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB # and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.

PROBLEMS/ CHANGES: Should either of the following arise during the course of the work, investigators must notify UCRIHS promptly: (1) problems (unexpected side effects, complaints, etc.) involving human subjects or (2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of any future help, please do not hesitate to contact us at (517)355-2180 or FAX (517)432-1171.

Sincerely,

David E. Wright, Ph.D.
UCRIHS Chair

DEW:bed

cc: Debra Warren

OFFICE OF
RESEARCH
AND
GRADUATE
STUDIES

University Committee on
Research Involving
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