

NURSING DIAGNOSES GENERATED FROM ASSESSMENT DATA  
IN A MEDICAL OR NURSING DATA BASE

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## DEDICATION

This research is dedicated to my parents, N. Bruce and Shirley A. Briggs and my grandparents, I. Lynn and Evelyn R. Briggs, for their constant support and influence in my life.

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## CHAPTER 1

### INTRODUCTION

Historically, nursing practice has evolved around medical practice. The theoretical based of medicine continues to guide nursing practice, education, and research through use of the medical model. Independent nursing practice will not exist until nursing distinguishes itself from the medical model (Fortin & Rabinow, 1979). Adoption of a nursing conceptual model for use as the framework for independent nursing practice may encourage an autonomous and accountable profession.

The effort to establish nursing as an independent and unique profession resulted in the development of the nursing process (Henderson, 1982). Nursing was first described as a process in 1955 in an address given by Lydia Hall to the New Jersey League for Nursing (de la Cuesta, 1983). Since that time, it has been described as the vehicle to independent nursing practice (Tatro & Gleit, 1983).

Two components of the nursing process, nursing assessment and nursing diagnosis, are frequently described in the literature. Ideally, nursing assessment should facilitate use of the other components of the nursing process.

In reality, however, nursing assessments may not be used "as a foundation for a nursing diagnosis and patient care plan" (de la Cuesta, 1983, p. 368). One reason may be due to the use of the medical model to collect nursing assessment data. According to de la Cuesta, written nursing care plans have been based on assessment data obtained to make a medical diagnosis and have reflected primarily the physical care required by the patient. It is important, therefore, to determine if organizing assessment data which reflects a nursing conceptual model into a nursing data format will facilitate the generation of better quality nursing diagnoses.

#### Problem of Study

The problem statement for this study was: Is there a difference in the number and quality of nursing diagnoses written by graduate-level nursing students between those who use a nursing data base and those who use a medical data base?

#### Justification of the Problem

Independent nursing practice is critical to the existence of nursing in the future. The nursing process is the methodology for independent nursing practice (Tatro & Gleit, 1983). Within the nursing process, nursing diagnosis is the component that describes what nurses can treat

independently. Nursing diagnosis may facilitate autonomy, accountability, and justification of nursing services (Dodge, 1975; Tatro & Gleit, 1983; Warren, 1983); therefore, research in the area of nursing process and nursing diagnosis may assist in delineating the independent practice of nursing.

Curtin (1984) stated that the nursing process offers discrete steps concerning the nurse's activities. She indicated, however, that nurses have difficulty deciding what to assess and describing "patient conditions that respond to nursing interventions" (p. 7). Guzzetta and Dossey (1983) also identified assessment as an area of confusion for nurses. They stated that use of a holistic and standardized nursing data base would facilitate identification of nursing diagnoses.

Even though use of a nursing data base has been recommended, the medical model continues to direct assessment data collected by the nurse in practice. Nurses, according to M. J. Kim (1983), use the conceptual framework of medicine in planning and implementing their care; therefore, medicine sets the tone, pace, and direction for nursing practice. Independent nursing practice cannot be described until nursing "disentangles itself from the medical model" (Fortin & Rabinow, 1979, p. 553). It is important, therefore, to determine if categorizing nursing data according to

unhealthful responses and possible causes versus the medical history and physical examination will facilitate the formulation of nursing diagnoses which reflect independent nursing practice.

### Conceptual Framework

The conceptual framework for this study contains three concepts important to nursing. They are independent practice, the nursing process, and nursing conceptual models.

According to Ziegler, Vaughan-Wrobel, and Erlen (in press), nurses have two categories of roles in which they function. These are the interdependent and independent roles. The interdependent role is the performance of activities under the direction of a physician, appropriate member of the health-care team, or a written protocol. Examples of activities in this role include giving medication and changing dressings. Within the interdependent role is the bureaucratic role. Nurses are required to meet certain standards of the institutions which employ them. For example, it is the nurse's responsibility to carry out the physician's orders before she plans and implements her own (Rosenow, 1983).

The independent role, however, is the initiation and performance of activities under the nurse's professional license. The nurse can diagnose and implement interventions

such as teaching, without direction from another health professional. Examples of independent activities include guidance and counseling, nurturing, teaching, and modifying the environment. Nurses diagnose patient responses to health problems which are amenable to change through nursing care; therefore, nursing diagnoses direct the independent role of the nurse.

The nursing process is the methodology for nursing practice (Stanton, 1980). The Nursing Process Model, developed by Ziegler et al. (in press), considers the five steps of the nursing process as assessing, diagnosing, planning, implementing, and evaluating. Each step is described as a process and a product. The process involves a series of systematically conducted actions necessary to accomplish the step. The product is the outcome of each step of the nursing process. The steps are interrelated, each step depending on the completion of the others.

The process of assessing is the collecting and organizing of information in order to determine the client's need for nursing care. Assessing serves as the foundation of the nursing process. Without assessment data, the nurse cannot diagnose patient responses to health problems. Assessing may occur in each of the other steps, but must occur initially to allow for progression to the other steps.

The product of assessing is the data base in which the nurse places the information in an organized format. The data collected, reflecting the nursing conceptual model used as the framework for nursing practice, may be categorized as unhealthful responses and possible causes or etiologies of the responses.

From the assessment data, the nurse makes a judgment about the client's response to health and possible causes for the responses. This is known as the process of diagnosing. The product of this step is the nursing diagnosis. Nursing diagnosis is the pivotal point of the nursing process because it is derived from assessment data and directs the plan, implementation, and evaluation of nursing care. The nursing diagnosis is a statement containing two components joined by the words, "related to." The statement is a potential or actual unhealthful response related to a possible cause or etiology. The nursing diagnosis directs the process of planning, the third step in the nursing process.

The process of planning is defined as determining a plan for meeting the client system's need for nursing care. There are four components of the plan of care: client goals, predicted outcomes, nursing interventions, and nursing actions. According to Ziegler et al. (in press):

Client goals are defined as the desired client response stated in the direction of health. Predicted client outcomes provide the variables to be measured to determine if the goals have been met. Nursing interventions are defined as nursing acts to prevent, modify, remove, or control the factors hypothesized to be the cause of the client's potential or actual unhealthful response. Nursing actions are those specific activities or interventions that are individualized to the client system. (n.p.)

The nursing diagnosis is the pivotal point of the nursing process because the first component, the potential or actual unhealthful response of the client system, gives direction to the goals and predicted outcomes for the client system. The second component, the related etiology or cause of the response, directs the nursing interventions and nursing actions. Planning is also dependent on assessing. The data collected during the assessment step is important because if inaccurate or inadequate information is obtained, the plan of care will not be specific or individualized to the client.

The nursing care plan, the product of the planning step, guides the implementing step. The process of implementing is the carrying out of the planned nursing interventions. The interventions and resultant client behaviors, the actual client outcomes, are documented in the nurse's record; therefore, the product of the implementing step

is the recorded change in the client system's behavior because of the intervention.

Evaluating occurs once actual outcomes are recorded. The nurse judges the effectiveness of the interventions by comparing actual outcomes with predicted outcomes to determine if the desired responses or goals were obtained. The product is a statement of the degree of client's goal achievement.

The Nursing Process Model suggests that nursing conceptual models be used in conjunction with the nursing process (Ziegler et al., in press). The nursing conceptual model chosen will direct the type of assessment data to be collected and the type of nursing intervention to be carried out (Stanton, 1980; Ziegler et al., in press).

Any nursing conceptual model could be used. Certain aspects were selected from the Health Care Systems Model (Neuman, 1980) to be used for the present study. The physiological, psychological, and sociocultural concepts were chosen to direct the subjective and objective assessment of the client.

The Nursing Process Model proposes that if the assessment data are collected according to a nursing conceptual model rather than the medical model and then organized according to response and etiology, the nursing diagnoses

made will be of higher quality. As a result, the nursing interventions, dependent upon the etiology component of the nursing diagnosis, will not reflect physician's orders or institutional policy but rather the independent nursing practice. This study determined if nursing diagnoses generated from nursing assessment data organized in the response and etiology format were of higher quality than nursing diagnoses generated from a medical model data base format.

#### Assumptions

The assumptions for this study were as follows:

1. The nursing process is the methodology for nursing practice.
2. All nurses who are students in the master's program have basic knowledge of nursing care regardless of their clinical area of study.
3. Nursing diagnoses are generated from client data.
4. Nursing conceptual models provide the framework for nursing practice.

#### Hypotheses

The following research, nondirectional hypotheses were tested in this study:

1. There is a difference in the number of nursing diagnoses written by graduate-level nursing students who

use a nursing data base and those who use a medical data base.

2. There is a difference in the quality of nursing diagnoses written by graduate-level nursing students who use a nursing data base and those who use a medical data base.

#### Definition of Terms

For the purposes of this study, the terms were defined as follows:

1. Medical data base--a written report of the history and physical examination of a client focusing on the pathological cause of a disease state and containing the following components: (a) chief complaint, (b) past medical history, (c) physical examination, and (d) laboratory data (Appendix A).

2. Nursing data base--a written report of subjective and objective data collected about a client using the Health-Care Systems Model and organized into potential or actual unhealthful responses and possible causes of the responses (Ziegler et al., in press) (Appendix B).

3. Nursing diagnosis--a statement of the client system's potential or actual unhealthful response and the hypothesized cause or etiology of that response (Mundinger & Jauron, 1975; Ziegler et al., in press).

(a) Number of nursing diagnoses--the frequency of the generated diagnoses that met the criteria as measured by Items 1, 2, and 13 on the Ziegler Criteria for Evaluating the Quality of the Nursing Process (ZCEQNP) tool (Appendix C). These read: (a) both the response and etiology component are present, (b) the components are joined by the phrase "related to," and (c) the activity required to modify is within the boundaries of nursing's independent function. The frequency was the number of diagnoses which met the criteria agreed upon by two of three judges.

(b) Quality of nursing diagnoses--the mean criteria score given to generated diagnoses. The score reflected the total number of criteria met as measured by Items 1-4 and 7-14 on the ZCEQNP tool based on the decision reached by two of three judges.

4. Graduate-level nursing students--those students who had completed the nursing theory and second clinical courses and who were enrolled in the university where data collection took place during summer semester, 1984.

### Limitations

The following limitations were identified for this study:

1. Individual nursing instructors may have influenced the graduate student's wording of nursing diagnoses in a way other than that taught in the nursing theory course.

2. The length of time between the nursing theory course and participation in this study may have influenced the recall of the appropriate wording of the nursing diagnosis.

3. The sample was nonprobability convenience sample from varied clinical areas.

4. Individual nurses may be uncertain as to what are independent functions of nursing practice.

### Summary

Independent nursing practice will not evolve until nursing separates itself from the medical model. Use of the nursing process within a nursing conceptual model may promote an autonomous profession. Within the nursing process, nursing diagnosis describes what nurses can treat independently; therefore, nursing diagnosis may facilitate delineation of independent nursing practice. Use of an assessment format based on a nursing conceptual model rather than the medical model may facilitate the generation of

nursing diagnoses of a higher quality. This experimental study proposed to investigate if organizing assessment data based on a nursing conceptual model generated nursing diagnoses of a higher quality than nursing diagnoses generated from assessment data based on the medical model.

## CHAPTER 2

### REVIEW OF LITERATURE

This chapter reviews literature related to independent nursing practice, nursing conceptual models, and nursing process. The purpose is to ascertain how nursing process is used to describe independent nursing practice. The review of literature is divided into three sections. The first section contains articles and research on independent nursing practice and nursing process. In the second section, literature on the use of nursing process within nursing conceptual models is described. Research and literature on the assessment and diagnosis steps of the nursing process is reviewed in the third section. The chapter concludes with a summary.

#### Independent Nursing Practice

Several authors have suggested that role confusion in independent nursing practice can be reduced through use of the nursing process (Bradley, 1983; Harris, 1979; Hickey, 1984; Mundinger, 1980). Mundinger (1980) ascertained that nursing diagnosis, a component of the nursing process, can facilitate delineation of the nurse's independent role. Autonomy occurs whenever nurses make independent judgments

about the patient's unhealthful responses to health problems. Based upon these judgments, resolution of the possible etiology occurs through nursing care. Discrete problem identification requiring independent nursing functions must occur for patients to receive autonomous nursing care. Mundingur surmised that nurses have difficulty with problem identification; thus, role confusion exists.

Hickey (1984) agreed that existing role confusion can be reduced through use of the nursing process. She described interdependent and independent roles in critical care nurses. The interdependent role is the initiation of sophisticated medical therapy according to hospital policy and collaboration with health care members to provide quality patient care. The independent role is the process of assessing and diagnosing patient problems which are amenable to change through nursing care and result in planning, implementing, and evaluating a plan of care. Hickey concluded that the nursing diagnosis, within the nursing process, helps identify the unique care nurses offer patients; therefore, the nursing diagnosis emphasizes nursing's independent role.

Harris (1979) warned that role confusion can be reduced only by nurses, not others. She asserted that the nursing process clarifies nursing practice. Harris' concern is

with the apparent disparity between what is taught in educational settings and what is transferred into practice. Harris warned that nursing students define nursing not from a professional aspect but rather from a technical aspect. Thus, skill performance is used as a tool for evaluation of the nurse. This attitude may be due to lack of role models in the practice setting, team- and task-oriented nursing, and confusion among nurses as to the definition of independent nursing functions. Changes in the health care delivery system require nurses to function independently with a clear knowledge base (Harris, 1979). Therefore, Harris believed that the nursing process facilitates a systematic and organized approach to patient care and is the way to separate nursing from medicine.

The research related to independent nursing practice is limited. Beason (1979) distinguished between bureaucratic and independent clinicians to describe how nurses integrate different roles into nursing practice. Using an exploratory design, she observed 17 meetings where bureaucratic and independent clinicians interacted. Beason found that bureaucratic clinicians were unclear as to the independent clinician's role. Bureaucrats reduced the independent clinician's power by ignoring clinical issues. Beason found that independent clinicians are not given power in hospital settings

and are not functioning independently. Furthermore, independent clinicians were asked to comply with bureaucratic policy leading to attitudes of helplessness and powerlessness.

Nurses need to clearly differentiate the independent role of the nurse from the role of the physician. Weiss (1983) questioned consumers, nurses, and physicians to ascertain unique areas of nursing outside the realm of medicine. The majority of health care activities were viewed responsibilities shared by both nurse and physician. Weiss indicated that the major barrier to autonomous nursing is the uncertainty of nurses, physicians, and consumers regarding unique functions of nursing. She identified role confusion within nurses as resulting from a lack of clarity of the nurse's role. Additional confusion arises from the public's misperception of the nurse as a physician's handmaiden.

Bradley (1983) studied nursing's independent role by identifying five major dimensions of nursing practice: the utilization of the nursing process; the utilization of a unique body of knowledge and skills; research ability; leadership ability; and teaching, prevention, and maintenance. The results from 138 subjects revealed that nurses perceive nursing practice as independent behaviors which require

accountability. Utilization of the nursing process enhanced accountability; therefore, the nursing process was considered important to the independent practice of nursing. Bradley warned that the study did not investigate how nurses' role is actually implemented but rather what behaviors they value.

This section reviewed literature on independent nursing practice. In summary, it supported use of the nursing process to facilitate delineation of the independent practice of nursing. Nursing diagnosis, within the nursing process, is an important aid in describing nursing's independent role.

#### Nursing Conceptual Models

If nurses are to define and expand their scope of practice, then role confusion must be resolved. The greater the nurses' independence, the greater the need for an overall framework to guide them through the nursing process and to direct patient care (Riehl & Roy, 1980; Utz, 1980). Chance (1982) indicated that nursing models provide clarification of the nurse-client relationship; thus, models assist nurses in preparing for and practicing the independent role. Quality of care is enhanced through use of a nursing model as a framework for nursing practice. Nursing models facilitate the generation of nursing knowledge; therefore,

professional accountability is strengthened when a nursing model is used in practice, education, and research (Chance, 1982).

Increasing nursing knowledge and growing dissatisfaction with prevailing methods for providing quality care resulted in the development of nursing models (Baldwin, 1983).

A survey of special hospitals in Great Britain found three categories of models currently in use: medico-legal, moral-retributational, and educational models. Within the medico-legal model, the nurse's role is traditional and service-oriented. The major focus is to assist the physician with treatments. The role of the nurse in the moral-retributational model is custodial. Basic needs are addressed; while, teaching roles are ignored. The educational model promotes the nurse as an independent practitioner actively involved in teaching and training. Baldwin asserted that the educational model allows growth and development of the nurse leading to improved quality of patient care.

Nursing models are prevalent in nursing school curricula. Riehl (1980) sent questionnaires to 265 National League for Nursing (NLN) accredited schools of nursing to determine if nursing models were taughts in theory and practice. Forty-three percent of their questionnaires were returned; therefore, only 12% of all the NLN-accredited schools in

the United States were represented. Of the sample, the results showed that nursing models are taught in diploma, associate degree, and baccalaureate degree schools. Nursing models based on systems theory were the most popular. Schools which denied use of models stated that their curriculums were being revised to include them.

A balanced, integrated nursing curriculum can be achieved through use of a nursing model (Matejski, 1979). Matejski presented a conceptual framework for nursing practice which was used to teach medical-surgical graduate students for 3 years. She identified the concepts of living systems, stress, and health. The nurse's goal was to assist man to retain, attain, or regain health.

DeBack (1981) believed that a curriculum model based on systems theory would prepare nurses to generate nursing diagnoses better than models based on developmental or adaptation theories. Senior nursing students, however, were found to be deficient in their ability to formulate nursing diagnoses regardless of the curriculum model used.

Nursing models are often taken from the educational setting to be tested in the practice setting. Five graduate students conducted a study to determine the clinical usefulness of Roy's Adaptation Model (Wagner, 1976). The students had difficulties with the model since some of the concepts

were not well-defined for clinical use. The assessment tool was found to be lengthy and repetitive. The areas of self-concept, role function, and interdependence were not distinctly defined which contributed to difficulty in assessing these behaviors. The students cautioned that the Adaptation Model is difficult to implement in the intensive care units because of limited time to assess stimuli. However, the model was observed to have wide applicability to other settings, either episodic or distributive. The model's emphasis on positive and negative aspects of behavior provided greater information from which the nurse could assess patients and intervene.

Another study which took a nursing model from the educational setting to the practice setting was conducted by Carr (1979). Neuman's Health-Care Systems Model was used as the conceptual framework to study restlessness in patients. Carr proposed that restlessness could be used to evaluate the impact of stress. By identifying and reducing the stressor, the nurse would decrease the patient's restlessness. The study was conducted in a coronary care unit during the night shift. Fifty patients participated. Using the Motor Activity Rating Scale, the investigator determined that 21 of the patients were restless. Of these patients, however, only 7 were identified by the

nurses as "restless." Carr proposed that nurses evaluate a patient's quality of sleep by observing body movement; however, objective observation of body movement was found to be a poor predictor of quality of sleep. Subjective evaluation by questioning the patient may better predict quality of sleep.

Carr had attempted to use the Health-Care Systems Model to assess restlessness. The nursing model's use was shown to be limited because of the nurse's inability to assess the response, restlessness. However, Utz (1980) demonstrated the usefulness of the Neuman Health-Care Systems Model with application to hypertensive clients. The characteristics of the model were described, a case study presented, and a plan of care outlined. The Health-Care Systems Model focuses on the client's perception of illness; therefore, problems were prioritized according to these perceptions. The primary, secondary, and tertiary intervention modes aid the nurse in directing care from an acute illness setting to the rehabilitative phase and eventually to preventing potential problems.

In 1983, Roper, Logan, and Tierney described a model for nursing based on the activities of living. Twelve activities of living were identified. Examples of these activities include maintaining a safe environment,

communication, and breathing. The Roper et al. model is broad enough to be applied to any setting and focuses on promoting health, preventing illness, and caring for the sick. These authors ascertained that the nursing process is expected to achieve more than it actually can and it should not be used without a nursing model. The nursing conceptual model is a framework unique to nursing with the nursing process as the logical mode of thinking (Roper et al., 1983).

Another nursing model based on alterations in living patterns was developed to encourage consistent and systematic care of residents in a long-term care facility. Hardy (1983) described the model as containing four areas of concern: perception and communication, physiological needs, protection and security, and esteem and independence. These four areas were further divided into 15 alterations in living patterns unique to nursing intervention. The nursing model directs the assessment of these living patterns. When an alteration occurs, a nursing diagnosis can be made to facilitate a plan of care which is understood by all nurses caring for the patient. When this nursing model was used, the nursing staff noticed improvement in the continuity of care and development of positive attitudes toward use of the nursing process. The research indicates

that by developing a model which specifies nursing's independent functions, identification of nursing diagnoses can be facilitated. Furthermore, role confusion is reduced by using a nursing model which identifies nursing's independent functions.

Tatro and Gleit (1983) integrated concepts from Ardell's Components of High Level Wellness and the Robbins and Hall Level of Disease Prevention to describe a model of wellness. The nursing model views the client as an involved decision-maker who engages in health behaviors that promote wellness. The nursing process is used as the vehicle for independent nursing functions (Tatro & Gleit, 1983). Assessment of nutritional awareness, physical fitness, stress management, accountability, and environmental sensitivity provide the foundation for determining client care. The level of illness is assessed as primary, secondary, or tertiary. Strengths and limitations are identified leading to a nursing diagnosis. Tatro and Gleit used the nursing model to generate nursing diagnoses and plan care designed to promote wellness.

This section presented nursing conceptual models as a framework for independent nursing practice. Nursing conceptual models are used to guide nurses through the nursing process and to direct patient care. Literature

was reviewed on nursing models used in educational and practice settings.

### Nursing Process

The scope of independent nursing practice is being described as nursing models focus care and the nursing process guides the nurse in problem-solving (Gordon, 1982). Studies on the nursing process and its components have been conducted to determine its importance to nursing (de la Cuesta, 1983; Karioth, 1977; Lauris, 1982; Lynch, 1976; Topham, 1983).

The components of the nursing process were reviewed to develop a model to facilitate implementation of the nursing process into nursing practice (Lauris, 1982). Lauris indicated that the nursing process should be used within a nursing conceptual model. The nursing process directs the goals for nursing action and individualizes patient care. She supported that the nursing process will delineate independent nursing's role since nursing diagnoses describe independent nursing practice. The nursing diagnosis is viewed as independent of the medical diagnosis in that patients with the same medical diagnoses may have different nursing diagnoses. Additionally, patients may have similar nursing diagnoses, although, their medical diagnoses are different.

Topham (1983) investigated the relationship between nursing and medical diagnoses. She hypothesized that nurses must use the nursing process instead of the patient's medical diagnosis to formulate the nursing diagnosis. The sample consisted of 107 medical diagnoses and 319 nursing diagnoses. Topham found that there was no significant relationship between the medical diagnosis and the nursing diagnosis; therefore, formulation of nursing diagnoses was not facilitated by knowing the medical diagnosis.

In order to analyze the development of the nursing process and determine its contribution to nursing, de la Cuesta (1983) used content analysis of nursing literature and observation methods to study the use of the nursing process in hospitals. de la Cuesta described the nursing process as a teaching tool used in education to promote a methodological way of thinking. Nurses, upgrading their education, were exposed to nursing process in school; therefore, this facilitated its transfer from education to practice.

de la Cuesta (1983) found that the nursing process is not being used properly in nursing practice. Nurses have difficulty generating nursing diagnoses from assessment data and in identifying independent nursing functions. She suggested that nurses must be educated as to independent

nursing functions in order to properly use the nursing process.

To determine how professional nurses use the nursing process in caring for patients, Lynch (1976) observed 30 nurses at three hospitals. Her study attempted to define how nurses determine patient problems, plan and carry out care, and evaluate the effectiveness of that care. Lynch's study distinguished between baccalaureate-prepared and associate-degree and diploma-prepared nurses. The nursing process was used by 33.3% of all nurses. Baccalaureate-prepared nurses adhered to the nursing process model more often than associate degree and diploma-prepared nurses. The level of competence in use of the process varied as to the observation and interview skills of the nurses. Lynch also observed that the more administrative support available for use of the nursing process, the more frequently all nurses were found to use it.

A variation of the nursing process model was presented by Karioth (1977). Karioth offered a systematic method of giving care through the Design and Operation of Nursing Systems (DONS) model. The DONS process model contains seven steps similar to other nursing process models:

1. Identify the present state of affairs.
2. Identify the desired state of affairs.

3. Formulate a rationale to justify the desired state of affairs.
4. Concept classification of the present state of affairs.
5. Define "how" to control this class of events--placed in "if/then" format.
6. Plan of action.
7. Evaluate.

Karioth tested the DONS with 14 nursing students. The students were divided into two groups and given patient data in which to plan care. One group used the DONS model to plan care, while the other group used the Problem-Oriented Medical Recording (POMR) model to plan care. Karioth found that both groups identified problems without difficulty, but the DONS group had better quality care plans. She ascertained that use of the DONS model lead to more independent nursing interventions derived from a theory base. Karioth warned, however, that the DONS model is too lengthy to use in an emergency.

#### The Nursing Diagnosis

Within the nursing process, assessment is the collection of data from which a nursing diagnosis is derived. The nursing diagnosis labels phenomenon present in patients requiring nursing action (H. S. Kim, 1983). Gordon (1982)

ascertained that identification of nursing diagnoses will further clarify the scope of independent nursing practice.

H. S. Kim (1983) identified current issues regarding nursing diagnoses. She noted differences in how nurses view health problems. Some nursing diagnoses are written as signs and symptoms the patient is experiencing or impaired body functions of the patient. Others are written as unhealthful responses related to possible etiologies. The National Conference on Nursing Diagnoses adopted a global definition of nursing diagnosis to create a classification system: "Nursing diagnosis is a concise phrase or term summarizing a cluster of empirical indicators representing patterns of unitary man" (H. S. Kim, 1983, p. 139). This definition does not differentiate between the patient's response and possible etiology; therefore, this structure does not clearly guide the planning phase of the nursing process.

Dangers and implications of such a classification system were discussed by Hagey and McDonough (1984). These authors supported the nursing process as a problem-solving method. They emphasized that decreased interaction between nurse and patient can result in a loss of participation in decision-making leading to erroneous labeling. A label can prevent appropriate intervention leading to a decrease

in individualized care and autonomy in nursing (Hagey & McDonough, 1984). An example was given to the diagnostic label, noncompliance, used within the Canadian Indian culture. Individuality and privacy are important values within this culture; however, the nurses frequently labeled the Indians as noncompliant because of their reluctance to communicate health problems to the nurses.

The structure of the nursing diagnostic statement for the present study was developed by Mundinger and Jauron in 1975: "Nursing diagnosis is the statement of a patient's response which is actually or potentially unhealthful and which nursing intervention can help to change in the direction of health" (p. 97). This structure contains a two-part statement consisting of the unhealthful response and contributing factors. The statement is connected by the phrase "related to." The first component is the patient's response. The nurse identifies the behavior or response to actual or potential health problems of the patient. The goals and expectations are related to this component. The second component is the possible cause of the response or contributing factors. By identifying these contributing factors, the nurse gives direction for nursing intervention. The nursing diagnosis, therefore, is derived from assessing patient responses to health problems and contributing factors

to the responses; furthermore, the nursing diagnosis guides patient care planning.

Mundinger and Jauron (1975) introduced nursing diagnosis through a staff development program. They identified difficulties incurred during implementation as resistance to write nursing diagnoses and common errors when writing nursing diagnoses. Mallick (1983) asserted that nursing diagnoses remain difficult to write due to inadequate teaching about nursing diagnosis. Broad explanations are often given rather than the specific principles required by the beginning nursing student. Nurses need to develop their role as diagnosticians to characterize the difference between technical and professional nursing practice (Mallick, 1983).

Gaines and McFarland (1984) evaluated baccalaureate programs to determine if nursing diagnosis is taught within either the classroom or clinical settings. Of 77 schools of nursing, 94% were found to include nursing diagnosis in the curriculum. Ability to differentiate between medical and nursing diagnoses was also investigated. In 45 of the schools, teachers stated that students show moderate-to-great difficulty in distinguishing between medical and nursing diagnoses. It was found, however, that in 71% of the schools, the medical diagnosis was used for planning patient care; therefore, independent nursing practice based on nursing

models and nursing diagnosis is not emphasized. In conclusion, nursing diagnosis may be taught, but teachers continue to use the medical model as the framework for planning patient care.

Burrows (1982) investigated the use of nursing diagnosis among nursing administrators in the southwestern United States. Burrows found 47% of the administrators never used nursing diagnoses and 70% reported inadequate understanding of nursing diagnosis as their rationale for omission. Nurses in large hospitals were found to use nursing diagnoses more frequently than nurses in small hospitals. These findings are important because understanding of nursing diagnosis by nursing administrators would facilitate its use in the practice setting. Further studies are needed to determine if use of nursing diagnosis by nursing administrators increases its use among staff nurses.

#### Formulation of Nursing Diagnosis

Difficulty in formulating nursing diagnoses was identified as a factor blocking use of nursing diagnoses (Burrows, 1982; Munding & Jauron, 1975). Many articles are written on assessment and patient care planning; however, literature on nursing diagnosis usually begins with the nursing diagnosis already formulated and focuses on finding the correct interventions (Aspinall, Jambruno, & Phoenix, 1977). Aspinall

et al. stressed the need for nurses to make differential diagnoses relating correctly the etiology with the response. They ascertained that nurses must be taught to differentially analyze assessment data in order to identify the nursing diagnosis.

Several studies have looked at the nurse's abilities to make differential diagnoses (Dougherty, 1977; Fatzer, 1978; Zuehls, 1979). Dougherty (1977) presented a data base to community health nurses to determine the cues selected to plan nursing action. The data base was organized according to the medical model. Dougherty concluded that nurses do not use a large percentage of available data to make clinical judgments.

Zuehls (1979) sought to identify and rank cues used by nurses in making a nursing diagnosis. A data base emphasizing physiological problems and organized according to the medical model was given to 71 registered nurses. The nurses were asked to write a nursing diagnosis, list the cues supporting the diagnosis, and rank the cues as to their value in making the diagnosis. The cues were identified and ranked similar by all the nurses regardless of their educational preparation or practical experience. Some of the nurses were unable to differentiate between a nursing and medical diagnosis. Although nurses can identify

and rank cues, further study is required to determine if nurses are also taught how to cluster the cues into patterns in order to derive a nursing diagnosis.

An attempt to determine the relationship between a nurse's logical reasoning and ability to formulate nursing diagnoses was the focus of a study done by Fatzer in 1978. She found that while nurses have logical reasoning ability, they were unable to differentiate medical diagnoses from nursing diagnoses. She further found that nurses were unable to use the assessment data they collected to formulate nursing diagnoses.

Grier (1981) described the difficulty nurses have in deriving nursing diagnoses. Grier stated nurses lack effective cognitive strategies for analyzing data; therefore, they have difficulty using the information obtained during assessment. Without the ability to analyze data, formulation of the nursing diagnosis cannot be achieved.

Studies to determine if assessment formats facilitate generation of nursing diagnoses have been done. Cassells (1975) used a checklist of physical signs and symptoms to determine consistent and effective methods for problem identification. Using an experimental design consisting of two groups, Cassells determined that the checklist was more effective in identifying patient's physical signs

and symptoms than a form in which subjective and objective data could be identified. However, Cassell's assessment tool considered only physiological data limiting the scope of nursing practice.

Fadden and Seiser (1984) developed and evaluated a new assessment form after complaints from the nursing staff that the existing nursing history hindered formulation of nursing diagnoses. The existing form had a medical focus. The new assessment form was devised from nine health-related categories. Both subjective and objective data were collected. Important cues were provided to guide differential diagnosis. Time studies determined that the same amount of time was required to complete the new form. Additionally, all the units were surveyed to determine if the form facilitated the formulation of nursing diagnoses. The medical nurses found the form the most valuable: 77% stated the form always helped, 22% stated it seldom helped, and 1% stated they had never used it.

Formulation of the nursing diagnosis has been studied most extensively in acute care settings. Thompson (1979) attempted to describe diagnoses generated by master's prepared nurses working in primary care settings. Of 180 different diagnoses, 113 were nursing diagnoses and 67 were non-nursing diagnoses. Biologically-oriented diagnoses

were identified most frequently. Thompson reported that primary care nurses identified different nursing diagnoses than those developed by the National Conference on Nursing Diagnoses.

Another study concerning community health nurses and nursing diagnoses investigated resistance to change when introducing new concepts (Cell, Peters, & Gordon, 1984). Community health nurses in New Jersey complained that the diagnostic labels provided by the National Conference on Nursing Diagnosis were found to be inappropriate for clients with chronic, social, and emotional problems. The Omaha Classification Scheme of 44 client problems developed by community health nurses was investigated for use. This scheme is divided into environmental, psychosocial, physiological, and health behaviors. To introduce this problem list and minimize resistance to change, a group of nurses devised an experimental study to test adaptability and appropriateness of the classification system. The nurses were given pretests and posttests after an inservice on the Classification Scheme. Medical diagnoses were written less on the posttest. It was concluded that the classification scheme increased the nurses' ability to identify client problems. The classification scheme gave structure to care planning and aided nurses in identifying unique nursing

functions. However, the nurses had greater difficulty recognizing actual problems than potential problems.

The Response Component of the  
Nursing Diagnosis

Studies on the quality of the diagnostic statement confirm the difficulty nurses have in writing nursing diagnoses. The response component of the diagnostic statement was investigated to determine congruence with predicted outcomes (Booher, 1983). Fifty-four nursing diagnoses were evaluated. The quality of the response component was evaluated as good; however, the quality and congruence of the predicted outcomes was poor. Goals and predicted outcomes measure the response component; therefore, Booher concluded that nurses are unable to determine problem resolution when the response component was incongruent with the predicted outcomes.

The Etiology Component of the  
Nursing Diagnosis

Glass (1983) asserted that nurses write task-oriented interventions because of their orientation toward dependent functions of nursing. She presented independent concepts for nurses to use in writing interventions: conservation of health, prevention of illness and trauma, restoration

of health, amelioration of health status, and promotion of health. By writing goal-oriented interventions, nursing can change the focus to independent nursing practice (Glass, 1983).

To emphasize the need to separate nursing from the medical model, Richardson (1984) sought to determine if independent nursing interventions were generated more frequently from nursing diagnoses than medical diagnoses. Using an experimental design and questionnaire, her study disclosed there was no difference in the frequency of independent interventions generated from nursing diagnoses than medical diagnoses. However, medical diagnoses generated a greater number of dependent nursing interventions. Topham (1983) had also concluded that knowing the medical diagnosis should not influence the nursing diagnosis or independent nursing care given. Therefore, Richardson's (1984) study emphasized that nursing diagnoses may aid in describing independent nursing practice.

Richardson's study had several limitations. The data collection tool was lengthy. The sample consisted of nurses who do not routinely work with nursing diagnoses. Therefore, their interventions may have been based on past experience, intuition, trial and error, or authority.

In 1982, Gartland investigated care plans to determine if the etiology component of the nursing diagnosis was congruent with the proposed interventions. Of 37 nursing diagnoses, only 11 had congruent etiologies and interventions. The better the quality of the etiology component, the greater congruence with the corresponding nursing intervention. Gartland ascertained that etiologies represent independent nursing functions and suggest specific nursing activity; therefore, they represent critical elements to the diagnostic statement.

This section reviewed literature on the nursing process to determine its contribution to independent nursing practice. The nursing diagnosis component was reviewed to determine difficulties in formulation of nursing diagnosis. The value of the nursing diagnosis in planning independent nursing care was also reviewed.

#### Summary

This chapter has presented a review of literature with an emphasis on independent nursing practice, nursing conceptual models, and the nursing process. Nurses' use of the nursing process has been supported by research to facilitate delineation of the independent practice of nursing. Nursing conceptual models are used to guide nurses through the nursing process and to direct patient care. Several nursing

models being used in practice and educational settings were reviewed. Nursing diagnosis, within the nursing process, aid in describing independent nursing practice. The nursing diagnosis directs the planning, implementing, and evaluating steps of nursing care. However, research showed that nurses have difficulty formulating nursing diagnoses.

## CHAPTER 3

### PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

An experimental approach for absolute evaluation was the design used to determine if there was a difference between the number and quality of nursing diagnoses derived from a nursing data base and a medical data base. Polit and Hungler (1983) described true experiments as the manipulation of the independent variables, the use of a comparison group, and the random assignment of subjects to groups.

The nursing students were randomly assigned into an experimental group and a comparison group. The experimental group received the nursing data base; the comparison group received the medical data base. Both groups were asked to write nursing diagnoses which were evaluated for number and quality. Absolute evaluation is the process of assessing the outcomes of a problem relative to established criteria (Polit & Hungler, 1978). The independent variable was the type of data base, nursing or medical. The dependent variables were the number and quality of the nursing diagnoses written from the data bases.

### Setting

The setting for this study was a university in the southwestern United States composed of multiple campuses which offer undergraduate and graduate degree programs in nursing. This study was conducted on a large metropolitan campus of the university. A well-lighted classroom was used to accommodate the subjects during the data collection.

### Population and Sample

The target population for this study was graduate-level nursing students in the United States. The accessible population consisted of the graduate-level nursing students enrolled in the university during the summer semester of 1984, who had completed nursing theory and the second clinical course. Nonprobability convenience sampling was used to obtain the subjects. The subjects were then randomly assigned using a table of random numbers to either a comparison or experimental group. The sample consisted of 26 graduate-level nursing students who volunteered to serve as subjects in this study.

### Protection of Human Subjects

Written permission to conduct this study was obtained from the university (Appendix D). The study met the Federal

and University guidelines for voluntary, informed consent; therefore, it fell under Category I. No review of Human Subjects Research Review Committee was required as this study involved the collection of diagnostic statements generated from given data bases and presented minimal risk to the subjects (Appendix E). No names of the subjects were required. The type of data base given to the subject was identified on the subject's worksheet; therefore, M represented the medical data base and N represented the nursing data base. The statement, "RETURN OF THIS PAPER WILL BE CONSIDERED TO BE YOUR CONSENT TO BE A RESEARCH SUBJECT IN THIS STUDY" appeared on the subject's worksheet. The generated diagnostic statements were identified by the data base used.

Participation in the study was voluntary; and participation, or refusal to participate, did not influence the student's grade or course outcome. The student could withdraw at any time. A verbal explanation of the study was given to the participants (Appendix F).

#### Instruments

The instruments used for this study were two data bases, a tool for evaluating the nursing process, and a demographic data form. The data from one client were organized into a nursing data base and a medical data base.

The data bases were used by the graduate-level nursing students to generate nursing diagnoses. The Ziegler Criteria for Evaluating the Quality of the Nursing Process (ZCEQNP) tool was used to rate the number and quality of the nursing diagnoses. A demographic form was used to determine the clinical area of the graduate-level nursing students and when the nursing theory course was taken (Appendix G).

#### Data Bases

Two data bases describing the same client were developed for the purposes of this study. A medical data base generated by a doctor with the patient's identity changed contained client information relating to chief complaint, past medical history, physical examination, and laboratory data concerning the pathology and treatment of disease. The nursing data base generated by the nurse investigator consisted of physiological, psychological, and sociocultural data concerning the potential or actual responses to health problems and their possible causes or etiologies. The Health-Care Systems Model and the Nursing Process Model were used as a guide for nurse assessment data collection.

In 1982, McInerny developed an assessment guide based on the Health-Care Systems Model. Her format for care planning was reviewed by the investigator and specific data items within the physiological, psychological, and

sociocultural concepts were selected to generate the nursing history used in this study. The data items from the nursing history were then determined to be subjective or objective and categorized as a response or an etiology. Therefore, the nursing data base contained subjective and objective data concerning the potential or actual responses to health problems and their possible causes or etiologies.

A panel of three experts was asked to evaluate the 34 items of information on the nursing data base as to the content validity and appropriateness of the categorization of information according to response or etiology and subjective or objective. The panel consisted of two master's prepared clinical specialists and one master's prepared nurse educator. Suggestions by two of the three judges resulted in recategorization of a data item (Appendix H). Data Items 9 and 10 were, therefore, recategorized from the sociocultural to psychological column.

#### Ziegler Criteria for Evaluating the Quality of the Nursing Process

The Ziegler Criteria for Evaluating the Quality of the Nursing Process (ZCEQNP) tool was used to evaluate the number and quality of the nursing diagnoses. If the nursing diagnosis is to direct the planning, implementing, and evaluating steps of the nursing process, then certain

criteria must be met. The ZCEQNP tool consists of 14 criteria separated into three sections: the general quality of the nursing diagnosis, Items 1 through 6, give the characteristics of the structure of the diagnostic statement; the quality of the response component is examined in Items 7 through 10; and the quality of the etiology component is examined in Items 11 through 14.

Reliability of the ZCEQNP tool has been determined in past studies. Reliability is the degree of consistency with which an instrument measures the attribute it is to be measuring (Polit & Hungler, 1983). Ziegler (1982) critiqued 115 nursing diagnoses taken from nursing literature. Interrater reliability on the entire instrument was reported as  $r = .78$ . The separate interrater reliabilities for each criteria are presented in Table 1.

In a study by Topham (1983), nursing and medical diagnoses were compared. The sample of 319 nursing diagnoses were generated by senior undergraduate nursing students. Items of asymmetry, Item 4; potentially modifiable response, Item 9; potentially changeable etiology, Item 12; and the nurse's independent function, Item 13, were used to evaluate the diagnoses. Items 1, 2, and 3 were combined into one additional criteria to read: "diagnosis is stated in the form of response related to etiology" (Topham, 1983, p.

Table 1

Interrater Reliability Reported for the Ziegler Criteria for Evaluating  
Quality of the Nursing Process

| Item | Description                               | Ziegler | Gartland | Huff |
|------|-------------------------------------------|---------|----------|------|
| 1    | Both response/etiology present            | .98     |          |      |
| 2    | "Related to" phrase is present            | .90     |          |      |
| 3    | Response written first/etiology<br>second | .98     |          |      |
| 4    | Asymmetrical statement                    | .98     |          |      |
| 6    | Response is related to etiology           | .69     |          |      |
| 7    | Potential/actual unhealthful<br>response  | .56     |          |      |
| 8    | One response per statement                | .96     |          |      |
| 9    | Response potentially modifiable           | .86     |          |      |
| 10   | Response can generate goals               | .44     |          |      |
| 11   | One etiology per statement                | .91     | .95      | .97  |
| 12   | Etiology potentially changeable           | .52     | .85      | .71  |
| 13   | Nurse's independent function              | .70     | .81      | .67  |
| 14   | Etiology can generate inter-<br>ventions  | .66     | .91      | .43  |

33). The overall interrater reliability was  $\underline{r} = .71$ . Interrater reliability for each item was not reported.

Booher (1983) used the criteria with two additional items to determine if the predicted outcome was congruent with the response component of the nursing diagnosis. Booher's sample consisted of 54 nursing care plans. She reported interrater reliability of  $\underline{r} = .62$  for the entire ZCEQNP instrument. The interrater reliability for each criteria was not computed.

Gartland (1982) utilized the etiology component criteria to determine if nursing interventions were derived from the etiology component of the nursing diagnoses. Gartland reported an overall interrater reliability of  $\underline{r} = .83$ . Interrater reliabilities for Items 11-14 were also reported (Table 1). Huff (1983) replicated Gartland's study using a different population. The overall interrater reliability of the tool was  $\underline{r} = .70$ . Interrater reliabilities for Items 11-14 are reported in Table 1.

Validity refers to the degree to which an instrument measures what it is supposed to be measuring (Polit & Hungler, 1983). Polit and Hungler defined content validity as the representativeness of the items on the tool as compared to all the items that might be on the tool. The topics

of nursing process and nursing diagnosis were reviewed through the literature for content validity of this tool.

For the present study, the diagnoses met criteria Items 1, 2, and 13 which were used to determine the structure of nursing diagnosis. The total number of nursing diagnoses meeting the criteria is reported. Therefore, the criteria of (a) containing both the response and etiology components; (b) joined by the phrase "related to," and (c) the activity required to modify is within the boundaries of the nurse's independent function were used to determine the structure of the nursing diagnosis. The criteria Items 1-4 and 7-14 of the ZCEQNP criteria were used to determine the quality of the nursing diagnosis. Each criteria item received 1 point. Three judges determined if each nursing diagnosis met the criteria. The decision reached by two of the three judges determined whether or not the criteria were met. The minimum score for each nursing diagnosis was 3 because of meeting the criteria regarding structure of response and etiology; the phrase "related to," and nursing's independent function. The maximum score was 12 if all the criteria for quality were met as determined by the three judges. The higher the score, the better the quality.

### Demographic Form

A demographic form was given to the subjects to be completed and returned with the generated nursing diagnoses. These data were used to describe the sample.

### Data Collection

Permission to conduct this study was obtained from Texas Woman's University Graduate School (Appendix I). After the data bases were developed and reviewed by the panel of experts, the investigator approached the classes of graduate-level students to ask for subjects during the summer semester, 1984. The subjects were randomly assigned by a table of random numbers into two groups: the experimental group received the nursing data base and the comparison group received the medical data base. No names of the subjects were recorded in order to protect anonymity and confidentiality. The diagnostic statements were identified as to which data base was used: M represented the medical data base and N represented the nursing data base.

In order to prepare a master list of randomly ordered diagnoses, the diagnostic statements were assigned consecutive numbers as the subjects returned them to the investigator. After collection, a table of random numbers was used to randomize the order of the diagnoses in order that the diagnoses would not be identified as to the data base

by the judges. The investigator prepared a master list of the randomly ordered diagnoses and the data base used to derive the diagnosis.

All generated diagnostic statements were sent by mail to three panel members: one doctoral-prepared and two master's prepared nurses who had used the ZCEQNP tool in teaching or research. Each Panel member received a packet containing instructions, the ZCEQNP tool, the diagnostic statements, and a self-addressed return envelope. The instructions directed the panel to evaluate each diagnostic statement as to structure, criteria Items 1, 2, and 13. Each panel member received cards with the diagnostic statement and the ZCEQNP tool on each card (Appendix J). The panel members checked "Y" if the criteria was met and "N" if not.

Each panel member worked independently evaluating the diagnostic statements against the criteria. They were asked to complete the evaluation within 2 weeks. After each panel member assessed the quality of each nursing diagnosis, the cards were returned to the investigator who tabulated the results. Only those diagnostic statements which met the criteria for structure, Items 1, 2, and 13, were considered nursing diagnoses; therefore, a score of 3 from two of three judges determined if the diagnostic statement was a nursing diagnosis. The investigator then

determined the score for the quality of each nursing diagnosis as determined by the decision of at least two of three judges.

#### Treatment of Data

Descriptive statistics are used to describe and summarize data (Polit & Hungler, 1983). The demographic data were used to describe the sample.

Descriptive statistics were also used to determine the frequency of nursing diagnoses generated from the type of data base, nursing or medical. The total number of diagnostic statements given by the students was reported. The total number of nursing diagnoses which met the criteria for structure (Items 1, 2, and 13 on the ZCEQNP tool) was given. A summary table included the data base used to generate the nursing diagnosis, whether each criteria was met or failed, the criteria score of the nursing diagnosis, and the total number of each criteria item that was met (Appendix K). The frequency, ranges, and averages of the criteria scores of the nursing diagnoses were reported.

Inferential nonparametric statistics were used to test Hypothesis 1. Inferential statistics provide a method for drawing conclusions about a population from the data obtained from the sample (Polit & Hungler, 1983).

Nonparametric tests are used when data are characterized as nominal or ordinal.

The data were characterized as nominal; therefore, the chi-square was used to test Hypothesis 1. According to Polit and Hungler (1983), the chi-square is used to test the significance of the difference in frequencies in two or more groups. The frequencies of nursing diagnoses were tested as to the type of data base used, nursing or medical.

Inferential parametric statistics were used to test Hypothesis 2. According to Polit and Hungler (1983), parametric statistics require interval or ratio data, the estimation of a parameter, and a normal distribution of variables. The quality of the nursing diagnoses was represented by mean criteria scores ranging between 3 and 12; therefore, the data were characterized as interval. Hypothesis 2 was tested using the two-tailed  $t$ -test which tests the significance of differences between two means. The mean criteria scores for quality of the nursing diagnoses generated from a nursing data base and a medical data base were tested to determine if the type of data base was related to the quality of the nursing diagnoses.

The level of significance was .05. Analysis was performed on the Texas Woman's University computer.

The interrater reliability of the ZCEQNP tool was computed using the formula in Polit and Hungler (1983). This formula computes reliability as a function of agreements and determines how equivalent the different judges are measuring the nursing diagnoses against the ZCEQNP criteria. The total interrater reliability of the tool and of each item was reported.

## CHAPTER 4

### ANALYSIS OF DATA

This chapter describes the analysis of data collected from data bases designed by the investigator and given to 31 graduate-level nursing students to generate nursing diagnoses. This experimental study was designed to determine if the use of a data base focusing on a nursing conceptual model rather than the medical model influenced the number and quality of generated nursing diagnoses. The experimental group received a nursing data format, and the comparison group received a medical data format. The 83 generated diagnoses were evaluated by a panel of three experts. Results of the data gathered are presented, tabulated, and interpreted in this chapter. Additional findings are also presented.

#### Description of the Sample

The total number of subjects consisted of 31 graduate-level nursing students enrolled during summer semester of 1984. Of the 16 students who were randomly assigned to the experimental group, 2 students withdrew. Of the 15 students who were randomly assigned to the comparison group, 3 students were disqualified for failure to meet

the criteria of completion or current enrollment in the tertiary clinical course. Therefore, diagnostic statements were evaluated from 26 graduate-level nursing students.

The clinical areas of the subjects consisted of 17 (65%) medical-surgical, 6 (23%) maternal-child, 3 (12%) community health, and 0 (0%) psych-mental health. The clinical areas of the two groups are presented in Table 2.

When chi-square analysis was used to determine if the two groups varied significantly in clinical area of specialty, the findings supported that a significantly greater number of medical-surgical students were in the nursing data base group ( $\chi^2 (1) = 5.538, p > .02$ ).

Seven (27%) students took the nursing theory course in Fall of 1983, 3 (12%) in Summer of 1983, 4 (15%) in Spring of 1983, 3 (12%) in Fall of 1982, and 9 (35%) checked the other category. The semester in which the nursing theory course was taken and the group that the student was assigned is represented in Table 3.

#### Findings

The results of the study are organized according to the hypotheses identified at the onset of the investigation. The hypothesis is stated followed by the description of

Table 2

Clinical Areas of Subjects

| Clinical area       | Nursing data<br>base group |            | Medical data<br>base group |            |
|---------------------|----------------------------|------------|----------------------------|------------|
|                     | Frequency                  | Percentage | Frequency                  | Percentage |
| Medical-Surgical    | 12                         | 46         | 5                          | 19         |
| Community Health    | 0                          | 0          | 3                          | 12         |
| Psych-Mental Health | 0                          | 0          | 0                          | 0          |
| Maternal-Child      | <u>2</u>                   | 8          | <u>4</u>                   | 15         |
| Total               | 14                         |            | 12                         |            |

N = 26.

Table 3

Nursing Theory Course of Subjects

| Semester     | Nursing data<br>base group |            | Medical data<br>base group |            |
|--------------|----------------------------|------------|----------------------------|------------|
|              | Frequency                  | Percentage | Frequency                  | Percentage |
| Fall, 1983   | 4                          | 15         | 3                          | 12         |
| Summer, 1983 | 1                          | 4          | 2                          | 8          |
| Spring, 1983 | 3                          | 12         | 1                          | 4          |
| Fall, 1982   | 2                          | 8          | 1                          | 4          |
| Other        | <u>4</u>                   | 15         | <u>5</u>                   | 19         |
| Total        | 14                         |            | 12                         |            |

N = 26.

related data. Tables are included to facilitate clear interpretation.

#### Hypothesis 1

Hypothesis 1 stated: There is a difference in the number of nursing diagnoses generated by graduate-level nursing students who use a nursing data base and those who use a medical data base. Eighty-three diagnostic statements were generated from both data bases. Of these 83, the medical data base generated 33 and the nursing data base generated 50. Criteria Items 1, 2, and 13 of the ZCEQNP tool were used to determine if the diagnostic statements were considered nursing diagnoses. Of the 83 diagnostic statements, 60 (72%) of these met the criteria for nursing diagnosis. Of these 60 nursing diagnoses, 26 (78.7%) were generated from a medical data base and 34 (68.0%) were generated from a nursing data base (Table 4).

When the frequency categories were tested using a chi-square test, the hypothesis was rejected ( $\chi^2 (1) = 1.155, p = .283$ ). Thus, the findings did not support that there is a difference in the number of nursing diagnoses generated by a nursing data base or medical data base.

#### Hypothesis 2

Hypothesis 2 stated: There is a difference in the quality of nursing diagnoses written by graduate-level

Table 4

Diagnostic Statements Generated from Data Bases

| Data base used | Total diagnostic statements |            | Statements which qualify as nursing diagnoses |             |
|----------------|-----------------------------|------------|-----------------------------------------------|-------------|
|                | Frequency                   | Percentage | Frequency                                     | Percentage  |
| Medical        | 33                          | 44         | 26                                            | 78.7        |
| Nursing        | <u>50</u>                   | 60         | <u>34</u>                                     | <u>68.0</u> |
| Total          | 83                          |            | 60                                            | 72          |

nursing students who use a nursing data base and those who use a medical data base. The 60 nursing diagnoses were further evaluated by the panel of experts to determine the quality of the statement. Criteria Items 1-4 and 7-14 of the ZCEQNP tool were used. Each criteria item that was met received 1 point. All the nursing diagnoses had a minimal score of 3 for meeting criteria Items 1, 2, and 13 required for structure of a nursing diagnosis statement. Therefore, the criteria score could range between 3 and 12.

The criteria scores for the quality of the nursing diagnoses ranged between 8-12 from those generated from the medical data base and 9-12 from those generated from the nursing data base. Nursing diagnoses generated from the medical data base had a mean criteria score of 11.27; while nursing diagnoses generated from the nursing data base had a mean criteria score of 11.15. The frequencies of the criteria scores for the quality of the nursing diagnoses according to the data base used are represented in Table 5. A summary table in Appendix K presents the raw data for all the nursing diagnoses: the data base used to generate the nursing diagnosis, whether each criteria item was met or failed, the criteria score of the nursing

Table 5

Frequencies of the Criteria Scores for the Quality of the  
Nursing Diagnoses

| Number of<br>criteria met | <u>Data base used</u> |                   |                  |                   |
|---------------------------|-----------------------|-------------------|------------------|-------------------|
|                           | <u>Nursing</u>        |                   | <u>Medical</u>   |                   |
|                           | <u>Frequency</u>      | <u>Percentage</u> | <u>Frequency</u> | <u>Percentage</u> |
| 8                         | 0                     | 0                 | 1                | 4                 |
| 9                         | 1                     | 3                 | 2                | 8                 |
| 10                        | 7                     | 21                | 0                | 0                 |
| 11                        | 12                    | 35                | 9                | 35                |
| 12                        | <u>14</u>             | 41                | <u>14</u>        | 54                |
| Total                     | 34                    |                   | 26               |                   |

N = 60 nursing diagnoses.

diagnosis, and the total number of each criteria item that was met.

When the mean criteria scores were tested using the two-tailed  $t$ -test, the hypothesis was rejected ( $t$  (58) =  $-.49$ ,  $p = .627$ ). Therefore, the findings did not support that there is a difference in the quality of nursing diagnoses generated from a nursing data base or a medical data base.

#### Additional Findings

##### Interrater Reliability of ZCEQNP Tool

Interrater reliability was computed on the ZCEQNP tool used by the panel of judges for determining the number and quality of the nursing diagnoses. Interrater reliability was calculated according to the following formula which is found in Polit and Hungler (1983, p. 392).

$$\frac{\text{Number of agreements}}{\text{Number of agreements and disagreements}}$$

Agreement included situations where consensus was obtained on the category by the judges. Disagreements were situations where less than consensus was obtained on the category by the judges.

The interrater reliability for the entire instrument was  $r = .71$ . The interrater reliability for each criteria item is reported in Table 6.

Table 6

Interrater Reliability of ZCEQNP Tool

| Criteria<br>item | Description                            | Correlation<br>coefficient(r) |
|------------------|----------------------------------------|-------------------------------|
| 1                | Both response/etiology are present     | .76                           |
| 2                | "Related to" phrase is present         | .78                           |
| 3                | Response written first/etiology second | .74                           |
| 4                | Asymmetrical statement                 | .78                           |
| 7                | Potential/actual unhealthful response  | .63                           |
| 8                | One response per statement             | .78                           |
| 9                | Response potentially modifiable        | .78                           |
| 10               | Response can generate goals            | .78                           |
| 11               | One etiology per statement             | .73                           |
| 12               | Etiology potentially changeable        | .66                           |
| 13               | Nurse's independent function           | .63                           |
| 14               | Etiology can generate interventions    | .61                           |

The following additional findings were noted while interpreting the data:

1. Criteria Item 13 which states that the activity required to modify is within nursing's independent function was unmet in all of the 23 diagnostic statements which failed to qualify as a nursing diagnosis. Seven (21%) of the diagnostic statements were generated from a medical data base and 16 (32%) were generated from a nursing data base. One (1.2%) of the diagnostic statements failed to meet criteria Item 1 which states that both the response and etiology components are present as well as criteria Item 13.

2. Criteria Item 14 which states the etiology can generate interventions was unmet in 20 (33%) of the nursing diagnoses; while criteria Item 7 which states the response is actually or potentially unhealthy was unmet in 19 (32%) of the nursing diagnoses. This resulted in a lower criteria score for quality in these nursing diagnoses. Criteria Item 10 which states the response can generate goals was unmet in 3 (5%) of the nursing diagnoses. Criteria Item 11 which states that only one etiology is identified for each statement was unmet in 2 (3%) of the nursing diagnoses. Criteria Item 12 which states the etiology is potentially changeable was unmet in 4 (7%) of the nursing diagnoses.

Therefore, these criteria lowered criteria scores for quality less frequently in the nursing diagnoses. Criteria Items 7 and 10 refer to the response component; while criteria Items 11, 12, and 14 refer to the etiology component.

The patterns of unmet criteria in the nursing diagnoses are presented with the frequencies and percentages of the pattern according to the data base used (Table 7). Criteria Items 7 and 14 had similar percentages of failure regardless of the data base used. Fourteen of the 34 nursing diagnoses generated from a nursing data base and 14 of the 26 nursing diagnoses generated from a medical data base met all the criteria for a nursing diagnosis. Therefore, these nursing diagnoses had a criteria score for quality of 12.

3. Criteria Items 1, 2, 13, 4, 8, and 9 were met in 100% of all the nursing diagnoses. Criteria Items 1, 2, and 13 were required in order to be considered a nursing diagnosis. These read: both the response and etiology components are present, the components are joined by the phrase "related to," and the activity required to modify is within the independent functions of nursing. Criteria Items 3, 4, 8, and 9 refer to the structure and response component of the nursing diagnosis statement. These read: the response is written first and the etiology is written second, the statement is asymmetrical, only one response

Table 7

Pattern of Unmet Criteria for Nursing Diagnoses

| Criteria                                                                                                                         | Nursing<br>Data Base |            | Medical<br>Data Base |            |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|----------------------|------------|
|                                                                                                                                  | Frequency            | Percentage | Frequency            | Percentage |
| All Criteria Met.                                                                                                                | 14                   | 23         | 14                   | 23         |
| #7: Potential/actual unhealthful response                                                                                        | 7                    | 12         | 5                    | 8          |
| #14: Etiology can generate interventions                                                                                         | 5                    | 8          | 4                    | 7          |
| #7 &<br>#14: Potential/actual unhealthful response; Etiology can generate interventions                                          | 6                    | 10         | 0                    | 0          |
| #12 &<br>#14: Etiology potentially changeable; Etiology can generate interventions                                               | 1                    | 2          | 0                    | 0          |
| #7,<br>#12 &<br>#14: Potential/actual unhealthful response; Etiology potentially changeable; Etiology can generate interventions | 1                    | 2          | 0                    | 0          |
| #10,<br>#11,&<br>#14: Response can generate goals; Etiology potentially changeable; Etiology can generate interventions          | 1                    | 2          | 0                    | 0          |
| (table continues)                                                                                                                |                      |            |                      |            |

Table 7

| Criteria                                                                                                                                                                  | Nursing<br>data base |            | Medical<br>data base |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|----------------------|------------|
|                                                                                                                                                                           | Frequency            | Percentage | Frequency            | Percentage |
| #10,<br>#12,&<br>#14: Response can generate goals;<br>Etiology can generate inter-<br>ventions                                                                            | 0                    | 0          | 1                    | 2          |
| #10,<br>#11,<br>#12,&<br>#14: Response can generate goals;<br>One etiology per state-<br>ment; Etiology potentially<br>changeable; Etiology can<br>generate interventions | 0                    | 0          | 1                    | 2          |

is identified per statement, and the response is potentially modifiable.

4. The response and etiology components of the nursing diagnoses were tabulated to determine the frequency of concepts used in writing the diagnoses. "Anxiety" was identified as a response in 23 (38%) of the nursing diagnoses and as an etiology in 3 (5%) of the nursing diagnoses. "Alteration in comfort/chest pain" and "potential for increased cardiovascular problems" were both identified as a response in 9 (15%) of the nursing diagnoses.

The nursing data base generated only one response of the following: "increased stress," "denial," "feelings of dependency," "isolation," "depression," "alteration in cardiovascular system," and "at risk for continued health problems." The medical data base generated only one response of the following: "delayed medical attention," "potential diminished coronary blood flow," "inadequate lung ventilation," "obesity," and "immobilization."

Within the etiology component, "lack of knowledge" was identified in 22 (37%) of the nursing diagnoses, "personal habits/risk factors" in 14 (23%) of the nursing diagnoses, and "inadequate coping skills" in 7 (12%) of the nursing diagnoses. The nursing data base generated only one etiology of the following: "unknown etiology of chest

pain," "sleep deprivation," and "feelings of insecurity." The medical data base generated only one etiology of the following: "recent alteration in health status" and "chest pain."

The frequencies and percentages of the frequently reported responses are given in Table 8. Table 9 presents the frequencies and percentages of frequently reported etiologies.

5. The etiology component of the diagnostic statements which failed to qualify as a nursing diagnosis were evaluated as to the data base used, nursing or medical. Of the 33 diagnostic statements generated from a medical data base, 7 were rejected as nursing diagnoses. Of these 7, 5 (15%) had medical diagnoses identified as the etiology. The other 2 (6%) of these 7 diagnostic statements had etiologies that were not within the independent functions of nursing.

Of the 50 diagnostic statements generated from a nursing data base, none of the diagnostic statements had a medical diagnosis identified as the etiology. These diagnostic statements were not used in the data because the etiology identified was not within the independent functions of nursing. Chi-square analysis was performed on this data to determine if there was a significant difference in the

Table 8

Frequently Reported Responses in the Nursing Diagnoses

| Response Component                                 | Data Base Used | Frequency | Percentage |
|----------------------------------------------------|----------------|-----------|------------|
| Anxiety/Fear                                       | Medical        | 11        | 42         |
|                                                    | Nursing        | 12        | 35         |
|                                                    | Both           | 23        | 38         |
| Alteration in comfort/<br>Chest pain               | Medical        | 4         | 15         |
|                                                    | Nursing        | 5         | 15         |
|                                                    | Both           | 9         | 15         |
| Potential for increased<br>cardiovascular problems | Medical        | 6         | 23         |
|                                                    | Nursing        | 3         | 9          |
|                                                    | Both           | 9         | 15         |
| Poor self care/Poor<br>health habits               | Medical        | 0         | 0          |
|                                                    | Nursing        | 5         | 15         |
| Guilt                                              | Medical        | 0         | 0          |
|                                                    | Nursing        | 2         | 6          |

Note. Only the concepts reported more than once in the nursing diagnoses are listed (N = 48; Medical--n = 21; Nursing--n = 27).

Table 9

Frequently Reported Etiologies in the Nursing Diagnoses

| Etiology component                               | Data base used | Frequency | Percentage |
|--------------------------------------------------|----------------|-----------|------------|
| Lack of knowledge                                | Medical        | 10        | 38         |
|                                                  | Nursing        | 12        | 35         |
|                                                  | Both           | 22        | 37         |
| Personal habits/<br>Risk factors                 | Medical        | 6         | 23         |
|                                                  | Nursing        | 8         | 24         |
|                                                  | Both           | 14        | 23         |
| Inadequate coping skills<br>of family/Individual | Medical        | 3         | 12         |
|                                                  | Nursing        | 4         | 12         |
|                                                  | Both           | 7         | 12         |
| Dependency                                       | Medical        | 1         | 4          |
|                                                  | Nursing        | 4         | 12         |
|                                                  | Both           | 5         | 8          |
| Unfamiliarity with<br>hospital                   | Medical        | 1         | 4          |
|                                                  | Nursing        | 3         | 9          |
|                                                  | Both           | 4         | 7          |
| Fear/Anxiety of unknown                          | Medical        | 3         | 11         |
|                                                  | Nursing        | 0         | 0          |

Note. Only those concepts reported more than once in the nursing diagnoses are listed (N = 55; Medical--n = 24; Nursing--n = 31).

frequency of medical diagnoses identified in the etiology generated from a medical or nursing data base ( $\chi^2 (2) = 14.064, p = .001$ ). The findings supported that there was a significantly greater number of medical diagnoses identified in the etiology component of the nursing diagnosis generated from a medical data base than from a nursing data base.

6. Actual and potentially unhealthful responses were compared between the data base used. The nursing data base had 30 (50%) actual unhealthful responses and 4 (7%) potentially unhealthful responses identified. The medical data base had 19 (32%) actual unhealthful and 7 (12%) potentially unhealthful responses identified. However, when chi-square analysis was used to test the data, the findings did not support that a nursing data base generates a greater number of actual problem identification than a medical data base ( $\chi^2 (1) = 2.261, p = .133$ ).

#### Summary of Findings

Two data bases were developed by the investigator to collect diagnostic statements to determine if use of a nursing data base generated a greater number and higher quality of nursing diagnoses than from use of a medical data base. Eighty-three diagnostic statements were generated by the sample of 26 graduate-level nursing students.

This chapter contained the analysis of data collected from the evaluation of the diagnostic statements by a panel of judges.

No significant difference was found in the number and quality of nursing diagnoses generated from a nursing data base and a medical data base. Therefore, the research hypotheses were rejected.

Interrater reliability on the ZCEQNP tool was adequate with  $r = .71$ . Interrater reliability for each criteria item was also computed and reported.

The additional findings are summarized in terms of the percentage that the criteria items were unmet in the nursing diagnoses. Criteria Item 13 which is the independent function of nursing was consistently unmet in the diagnostic statements which failed to qualify as nursing diagnoses. The criteria items which lowered the criteria scores for quality were identified by the judgment of the panel of experts as the statement did not have a potentially changeable etiology or that the etiology could generate interventions. The ability to write the response as potentially or actually unhealthful or that the response could generate goals also lowered the criteria scores. The concepts used in the response and etiology components of the nursing diagnoses were presented as to frequency, percentage,

and data base used. The responses were: "anxiety," "alteration in comfort," "potential for increased cardiovascular problems," "poor health/self-care habits," and "guilt."

The etiologies were: "lack of knowledge," "personal habits," "inadequate coping skills," "dependency," "unfamiliarity with hospital," and "anxiety." The medical data base generated a significantly greater number of medical diagnoses identified in the etiology than the nursing data base.

There was no significant difference in actual or potential unhealthful response identification and the data base used.

## CHAPTER 5

### SUMMARY OF THE STUDY

This study addressed the problem: Is there a difference in the number and quality of nursing diagnoses written by graduate-level nursing students between those who use a nursing data base and those who use a medical data base? This chapter discusses the implications and conclusions based on the data and findings in Chapter 4 of this study. Recommendations for further research conclude this chapter.

#### Summary

This study was conducted to determine if organizing assessment data which reflects a nursing conceptual model into a nursing data format facilitated the generation of better quality nursing diagnoses. The conceptual framework for this study was the Nursing Process Model developed by Ziegler et al. (in press). Two research hypotheses were formulated for the study:

1. There is a difference in the number of nursing diagnoses generated by graduate-level nursing students who use a nursing data base and those who use a medical data base.

2. There is a difference in the quality of nursing diagnoses written by graduate-level nursing students who use a nursing data base and those who use a medical data base.

The present study was conducted in a southwestern state-supported university in a large metropolitan area. Eighty-three diagnostic statements were generated by 26 graduate-level nursing students. An experimental group of 14 subjects generated 50 diagnostic statements from a nursing data base; while a comparison group of 12 subjects generated 33 diagnostic statements from a medical data base.

A panel of three judges evaluated the diagnostic statements using the Ziegler Criteria for Evaluating the Quality of the Nursing Process (ZCEQNP) tool. Diagnostic statements which met criteria Items 1, 2, and 13 were classified as nursing diagnoses. Criteria scores for quality based on Items 1-4 and 7-14 of the ZCEQNP tool were derived for each nursing diagnosis.

Descriptive statistics were used to describe the 26 graduate-level nursing students and the diagnostic statements generated by the type of data base used, nursing or medical. Seventeen (65%) medical-surgical nursing students, 6 (23%) maternal-child nursing students, and 3 (12%) community health nursing students participated. Chi-square analysis

was used to test the significance of the difference in frequencies of nursing diagnoses and the type of data base used, nursing or medical. Level of significance was set at .05. Data analysis revealed no significant difference in the number of nursing diagnoses generated from a nursing or medical data base ( $\chi^2 (1) = 1.155, p = .283$ ).

The inferential parametric, two-tailed  $t$ -test was used to test the significance of differences between the mean criteria scores of the nursing diagnoses and the type of data base used, nursing or medical. Data analysis revealed no significant difference in the quality of nursing diagnoses and the type of data base used to generate the diagnoses ( $t (58) = -.49, p = .627$ ).

Chi-square analysis was performed on the data to determine if there was a significant difference in the frequency of medical diagnoses identified in the etiology component generated from a medical or nursing data base. Data analysis supported that there was a significantly greater number of medical diagnoses identified in the etiology component of nursing diagnosis generated from a medical data base than from a nursing data base ( $\chi^2 (2) = 14.064, p = .001$ ).

Frequently used concepts in the response component were: "anxiety," "alteration in comfort," "potential for increased cardiovascular problems," and "poor health

self-care habits." Frequently used concepts in the etiology component were: "lack of knowledge," "personal habits," and "inadequate coping skills."

#### Discussion of Findings

The findings of this study suggested that there was no difference in the number and quality of nursing diagnoses that can be generated from a nursing or medical data base. This section discusses the findings of this study with the literature reviewed in Chapter 2. Possible explanations of the findings are also presented.

Several authors indicated that use of a nursing model which specifies nursing's independent functions would facilitate the formulation of nursing diagnoses (Hardy, 1983; Roper et al., 1983; Tatro & Gleit, 1983). However, no research was found comparing the number and quality of nursing diagnoses from a nursing data format based on a nursing model and a medical data format based on the medical model. This study determined that of 83 generated diagnostic statements, 60 (72%) were judged to be nursing diagnoses and 23 (28%) were judged to be non-nursing diagnoses. In Thompson's (1979) study of 180 diagnostic statements generated by practicing primary care nurses, 113 (67%) were judged to be nursing diagnoses and 67 (37%) were judged to be non-nursing diagnoses. While Thompson noted more

biologically-oriented diagnoses being made, the current study had a greater number of psychologically-oriented diagnoses. Both studies had a comparable percentage of rejected diagnostic statements.

Some of the reasons for the findings of the present study can be found in the literature. Lynch (1976) determined that the nurse's competence in using the nursing process was dependent on the nurse's assessment skills for collecting data. In the present study, the assessment data were given; therefore, this variable should not have influenced the nurse's competence in generating nursing diagnoses. Other authors, however, have stated that nurses have difficulty using the assessment data they collect to generate nursing diagnoses (de la Cuesta, 1983; Fatzer, 1978; Grier, 1981). Furthermore, Aspinall et al. (1977) and Mallick (1983) ascertained that nurses must develop their differential diagnostic skills in order to generate nursing diagnoses. These authors indicated that the nursing process should not be taught with broad explanations but rather with specific steps. The nurses in the present study may not have well-developed differential diagnostic skills; therefore, they may have had difficulty using the assessment data to generate nursing diagnoses.

Zuehls (1979) studied identification and ranking of cues by nurses making a nursing diagnosis. Although nurses were consistent in ranking pertinent cues, the ability to derive patterns from the cues was not studied by Zuehls. Some of the subjects in the present study may have had difficulty using assessment data to generate nursing diagnoses because of their inability to cluster cues into patterns and make differential diagnoses as to unhealthful responses and possible causes.

In 1984, Fadden and Seiser developed a nursing data format in which cues were added to nine health-related categories to aid nurses in identifying nursing diagnoses. Their nursing data format was not based on a nursing model. Although Fadden and Seiser reported subjective findings that the format aided the nurses in formulating nursing diagnoses, they did not compare the number and quality of the nursing diagnoses with those from the old form. In the present study, the number and quality of nursing diagnoses generated from different formats were compared. The nursing assessment format was based on the Neuman Health-Care Systems model. This study determined that cues did not facilitate generation of nursing diagnoses.

In the current study, the placing of subjective and objective cues into the response and etiology format for

the nursing data base may have confused subjects; therefore, the format of the nursing data base may have hindered the generation of nursing diagnoses. One of the subjects who withdrew from the experimental nursing data base group stated she did not understand the format. It is also suggested that nurses are more familiar with use of the medical data base in deriving nursing diagnoses.

The limitation that individual nurses are uncertain as to what are independent functions of nursing was identified at the onset of the current study. According to de la Cuesta (1983) and Weiss (1983), nurses have shown confusion as to their independent functions. Harris (1979) hypothesized this confusion influences the use of the nursing process. Of the diagnostic statements which failed to qualify as nursing diagnoses, all failed to meet the criteria of the activity required to modify is within the boundaries of the independent nursing function. de la Cuesta ascertained that nurses should be taught independent nursing functions.

At the onset of the present study, the limitations that the influence of individual instructors and the length of time between the nursing theory course and participation in this study may have influenced the appropriate wording of the nursing diagnoses. Gartland (1982) investigated

care plans to determine if the etiology component of the nursing diagnosis was congruent with the proposed interventions. Gartland stated that etiologies of higher quality had interventions that were more congruent. She also noted that etiologies of higher quality had interventions that were within the independent functions of nursing. Teaching of nursing diagnosis has become more specific since 1982. However, regardless of the data base used in the current study, the subjects had difficulty writing the response as actually or potentially unhealthful and an etiology that generated specific interventions. Since 9 (35%) of the subjects were noted to have taken the nursing theory course before Fall of 1982, they may not have received specific instruction on the writing of nursing diagnosis.

These same limitations can explain why the etiology was not written as potentially changeable (criteria 12) and only one etiology identified for each statement (criteria 11). An example from the data in which these criteria were not met is the diagnosis, "at risk for cardiovascular problems related to multiple risk factor." This nursing diagnosis also failed criteria 10 which stated the response can generate goals. Booher (1983) in her study to determine predicted outcome congruence to the response component stated that the response must be able to generate goals

to evaluate actual outcomes of the nursing intervention. . Criteria 10 which stated the response can generate goals and criteria 11 which stated one etiology per statement is identified were not met in the present study only in nursing diagnoses generated from a medical data base; while criteria 12 which stated the etiology is potentially changeable was failed in nursing diagnoses generated from both data bases.

Criteria Items 1-4, 8, 9, and 13 were consistently met in all of the nursing diagnoses regardless of data base used. These criteria state: the structure of the nursing diagnosis is response related to etiology, a potentially modifiable response is written first, an etiology requiring independent nursing activity is written second, and the written statement is asymmetrical. This structure is consistent with that of Mundinger and Jauron (1975). The findings of the current study revealed that nurses are having less difficulty writing nursing diagnoses according to this structure than those nurses in Mundinger and Jauron's study. All except one of the diagnostic statements met criteria Items 1 and 2.

In 1984, Cell et al. determined that community health nurses recognized more potential problems than actual problems. Although not statistically significant, the present

study had more actual problems than potential problems identified from a nursing data base than from a medical data base.

"Anxiety" ranked first among both data bases as a response. "Alteration in comfort" and "poor health/self-care habits" were identified as a response more frequently from the nursing data base; whereas the response of "potential for increased cardiovascular problems" ranked fourth. Furthermore, "poor health/self-care habits" were never identified from the medical data base. The response of "potential for increased cardiovascular problems" ranked second from a medical data base; whereas "alteration in comfort" ranked third.

Lauris (1982) indicated that nursing diagnoses should be viewed as independent of the medical diagnosis. In 1983, Topham found that knowledge of the medical diagnosis did not help in formulating the nursing diagnosis. However, nurses continue to have difficulty in differentiating between a medical and nursing diagnosis (Gaines & McFarland, 1984; Zuehls, 1979). In the present study, five medical diagnoses were identified in the etiology component of the nursing diagnoses:

1. Decrease cardiac output related to arrhythmias.

2. Potential alteration in ADL's related to chest pain.
3. Alteration in comfort related to chest pain.
4. Chest pain related to decrease oxygen to heart (myocardial hypoxia).
5. Recurring chest pain related to increased energy expenditure of myocardium to meet metabolic needs for oxygen (myocardial hypoxia).

Nurses cannot independently treat arrhythmias, chest pain, and myocardial hypoxia. The results of the present study revealed that use of a nursing data base may help in differentiating between medical and nursing diagnoses because there were significantly fewer medical diagnoses identified in the etiology generated from a nursing data base than a medical data base.

#### Conclusions and Implications

The conclusions listed below are drawn from the findings of this study:

1. Use of a nursing data format based on a nursing model in this sample did not facilitate generation of a greater number and quality of nursing diagnoses than use of a medical data format; however, multiple extraneous variables were identified.

2. Some individual nurses are uncertain as to what are independent nursing functions.

3. Use of a nursing data format appears to aid nurses in differentiating between medical and nursing diagnoses.

An implication of this study is that nurses need specific instruction on using the nursing process. Nurses should be taught how to identify and rank cues from assessment data and then cluster these cues into patterns of unhealthful responses and possible etiologies. If nurses are to write nursing diagnoses for their independent functions, then they must be taught to identify independent functions. If nurses have difficulty in writing nursing diagnoses of actually or potentially unhealthy responses and a potentially changeable etiology, then they must be taught the skill of formulating quality nursing diagnoses. Furthermore, nurses must become more familiar with nursing models. Nurse clinicians and educators should promote understanding and use of a nursing model with the nursing process in practice and educational settings.

#### Recommendations for Further Study

The following recommendations for further research were offered:

1. Conduct a study to further analyze the nursing diagnoses generated for this study to determine the validity of the nursing diagnoses formulated from the data base.
2. Conduct a study to determine if cues placed in response and etiology format facilitate pattern determination leading to formulation of nursing diagnoses.
3. Conduct a study to determine if the response is related to the etiology using data from the present study.
4. Replicate the study using practicing nurses who use a nursing model to guide their assessment data collection.
5. Replicate the study using the data in the Nursing History Format.

## APPENDIX A

## MEDICAL ASSESSMENT FORMAT

Mr. W. D. is a 40-year old businessman who developed chest pain radiating to his left arm yesterday. He was admitted to MCCU for further evaluation when the pain returned this afternoon. He has no known medical allergies and is on no current medications. The medical diagnosis is acute inferior myocardial infarction.

## CHIEF COMPLAINT

Chest pain.

This 40-year old white male with previous symptoms of "indigestion and hiatus hernia pain" noted slight chest discomfort and left elbow pain yesterday afternoon. This subsided spontaneously after 30 minutes. About 12 midnight, he awoke with retrosternal chest discomfort and radiation to both arms. This concerned him and he presented to the Emergency Room for evaluation. He was admitted to MCCU for further evaluation.

He denied orthopnea, paroxysmal nocturnal dyspnea, cough, hemoptysis, ankle edema, and syncope.

## PAST MEDICAL HISTORY

Usual Childhood Diseases.

No history of rheumatic fever, scarlet fever, diphtheria, or jaundice.

No known medical allergies.

No routine medications.

No recent trauma.

No past hospitalization.

Father died at age 47 of a myocardial infarction. Mother is alive with cervical cancer and glaucoma. Denies family history of HTN or DM.

## SOCIAL HISTORY

Currently, separated from his wife of 20 years. Has two children in apparent good health. Works as a sales representative for his own company. Smokes 1½ packs per day for the last 20 years. Drinks 3 beers per day. Drinks 5 cups of coffee per day.

## PHYSICAL EXAMINATION

General

This is a pleasant, well-developed, obese, white male, complaining of chest and arm discomfort during the examination. Nitroglycerin was given x 3, and this resulted in a drop in his blood pressure from 170/100 to 124/80, with relief of this chest and arm pain but his back pain persisted. He was able to lie flat without discomfort.

Head, Eyes, Ears, Nose, and Throat

Pupils are contracted and there is a fair amount of glare. The arterioles appear somewhat narrowed and the fundi are incompletely

visualized. No gross hemorrhages or exudates are visible. Ears, nose, and throat is otherwise clear.

Neck

Supple, no jugular venous distention or masses.

Chest

Symmetrical. No bony abnormalities.

Lungs

Clear to percussion and auscultation.

Heart

Point of maximal impulse is inside the midclavicular line, left fifth intercostal space, normal intensity, no lifts, thrills, or heaves are palpable.  $S_1$  is single.  $S_2$  splits physiologically. No  $S_3$ . There is a very soft  $S_4$  at the apex. No murmur, no rub, no click, no adventitious sounds.

Abdomen

Soft without organomegaly or masses. Bowel sounds are normoactive. No bruits are present.

Genitalia

Not examined.

Rectal

Not examined.

Extremities

Symmetrical without clubbing, cyanosis, edema, tenderness, or Homan's sign. Pulses are present and equal bilaterally with normal duration and contour. No bruits over any major vessel.

Neurological

Grossly intact.

LABORATORY DATA

EKG: Regular Sinus Rhythm with frequent PVC's. Q waves in Leads II, III, and avF.

|                   |     |           |      |      |                    |
|-------------------|-----|-----------|------|------|--------------------|
| Na :              | 141 | (135-145) | WBC: | 7.6  | (7.8 plus/minus 3) |
| K :               | 4.4 | (3.5-4.5) | RBC: | 5.2  | (5.2 plus/minus 9) |
| Cl :              | 107 | (98-108)  | HBG: | 16   | (15 plus/minus 3)  |
| CO <sub>2</sub> : | 26  | (24-34)   | HCT: | 46.6 | (45 plus/minus 7)  |

Serial Cardiac Enzymes

|         | <u>Admission</u> | <u>10 hour</u> | <u>24 hour</u> | <u>Normals</u> |
|---------|------------------|----------------|----------------|----------------|
| CPK     | 102              | 953            | 817            | (0-155)        |
| MB-Band | +                | +              | +              | ( - )          |
| LDH     | 146              | 267            | 558            | (<285 )        |
| Isos    | -                | +              | flipped        | ( - )          |

## APPENDIX B

## NURSING ASSESSMENT FORMAT

Mr. W. D. is a 40-year old businessman who developed chest pain radiating to his left arm yesterday. He was admitted to MCCU for further evaluation when the pain returned this afternoon. He has no known medical allergies and is on no current medications. The medical diagnosis is acute inferior myocardial infarction.

## R E S P O N S E S

|               | Subjective Data                                                                                                                                                                                                                                                                                                               | Objective Data                                                                                                                                                                                                              |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHYSIOLOGICAL | Substernal chest pain radiating to left arm.                                                                                                                                                                                                                                                                                  | Vital signs: T-97.4; P-80; R-16.<br>EKG: RSR with frequent PVC. Q waves in Leads II, III, & avF.<br>Heart tones: S <sub>1</sub> , S <sub>2</sub> , S <sub>4</sub> .<br>No rub, murmur, or S <sub>3</sub> .<br>Lungs: clear. |
| PSYCHOLOGICAL | States he is anxious and scared.<br><br>Has handled stress through avoiding and denying it. Smokes 1½ ppd x 20 years. Drinks 3 beers/day. Has recently separated from wife. Talks to minister about his marital problems.<br><br>States he feels isolated from his wife.<br><br>States he feels guilty about being dependent. | Minister visits daily at patient request.                                                                                                                                                                                   |
| SOCIOCULTURAL | States he is concerned about his job.                                                                                                                                                                                                                                                                                         | Decreasing finances.                                                                                                                                                                                                        |

## E T I O L O G I E S

|               | Subjective Data                                                                                                                                                                                                                                                                              | Objective Data                                                                                                                                                                                                                                                                                                                               |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHYSIOLOGICAL | <p>Interrupted sleep pattern - 8 hours; takes over-the-counter sleeping med.</p> <p>Smokes 1½ ppd x 20 years.</p>                                                                                                                                                                            | <p>Vital signs: BP-170/100.</p> <p>Height: 5' 10"</p> <p>Weight: 190 lbs.</p> <p>EKG: RSR with frequent PVC's. Q waves in Leads II, III, &amp; avF.</p> <p>Father died at age 47 of MI.</p> <p>Diet: Servings/day -<br/> 2 meat, 0 fish, 3 eggs,<br/> 1 veg., 2 fruit, 2 milk,<br/> 2 c. coffee, ¼-lb. butter,<br/> all foods are fried.</p> |
| PSYCHOLOGICAL | <p>Identified sources of stress: family, job, and health.</p> <p>First time in hospital.</p> <p>Expectations of self: wants to return to work, reconcile with wife, learn better health habits.</p>                                                                                          |                                                                                                                                                                                                                                                                                                                                              |
| SOCIOCULTURAL | <p>Describes relationship with children as good.</p> <p>States daughter has taken over duties for his work/family.</p> <p>Sedentary lifestyle: likes to hunt, fish, sail, and watch T.V.</p> <p>States wife doesn't have good relationship with him.</p> <p>States travels when working.</p> | <p>Currently separated from wife of 20 years.</p> <p>Owns door-manufacturing company. Is responsible for meeting with future customers to demonstrate product.</p> <p>Works 40 hours/week.</p> <p>Education: some college.</p> <p>Daughter: Sara-19. Visits.</p> <p>Son: Jeff-10. Visits.</p> <p>Presbyterian religion.</p>                  |

## APPENDIX C

ZIEGLER CRITERIA FOR EVALUATING THE  
NURSING PROCESS

General Characteristics

1. Both the response and etiology component are present.
2. The components are joined with a "related to" phrase.
3. The response component is written first and the etiology component is written second.
4. The statement is asymmetrical, that is not circular.

Characteristics of the  
Response Component

7. The response is clearly unhealthy or written as a potentially unhealthful response.
8. Only one response is identified for each diagnosis statement.
9. The response is potentially modifiable.
10. The response is concrete enough to generate specific client goals.

Characteristics of the  
Etiology Component

11. Only one etiology is identified for each diagnosis statement.
12. The etiology is potentially changeable.
13. The activity required to modify is within the boundaries of nursing's independent function; nurse is capable, and is legally and ethically expected to treat.
14. Etiology is concrete enough to generate specific nursing interventions.

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Note. From Nursing process, nursing diagnosis, nursing knowledge by Ziegler, S. M., Vaughan-Wrobel, B., & Erlen, J., in press, Englewood Cliffs, NJ: Prentice-Hall.

## APPENDIX D

TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE \_\_\_\_\_

GRANTS TO Lynne L. Briggs, R.N., B.S.  
a student enrolled in a program of nursing leading to a  
Master's Degree at Texas Woman's University, the privilege  
of its facilities in order to study the following  
problem.

Nursing Diagnoses Generated From Assessment

Data in Medical or Nursing Data Base

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other \_\_\_\_\_

Date July 16, 1984

Signature of Agency Personnel \_\_\_\_\_

Lynne L. Briggs  
Signature of Student

Beth C. Laughman-Walsh R.N., F.I.D.  
Signature of Faculty Advisor

\*Fill out & sign 3 copies to be distributed: Original-student; 1st copy-Agency; 2nd copy-TWU School of Nursing

## APPENDIX E

TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING

PROSPECTUS FOR THESIS/DISSERTATION/PROFESSIONAL PAPER

This prospectus proposed by: Lynne L. Briggs, R.N., B.S.

\_\_\_\_\_ and entitled:

NURSING DIAGNOSES GENERATED FROM ASSESSMENT DATA IN  
MEDICAL OR NURSING DATA BASE

Has been read and approved by the member of (~~XXX~~/hers)  
Research Committee.

This research is (check one):

X Is exempt from Human Subjects Review Committee  
review because it involves informed voluntary consent.  
subjects will be anonymous, and it involves the collection  
of diagnostic statements.

\_\_\_\_\_ Requires Human Subjects Review Committee review  
because \_\_\_\_\_

Research Committee:

Chairperson, Luck C. Laughon-Wrobel

Member, Shirley M. Ziegler

Member, Estelle D. Kurtz

Date: June 13, 1984

Dallas Campus X Denton Campus \_\_\_\_\_ Houston Campus \_\_\_\_\_

## APPENDIX F

### Verbal Presentation to Participants

Hello, my name is Lynne Briggs. I am a graduate student at Texas Woman's University and am currently conducting a research study on the nursing process. The purpose of my study is to gain further knowledge about the nursing diagnoses derived from different data formats.

I am asking for your help as research in this area may define the independent practice of nursing. If you want to participate, read the data base given to you and write as many nursing diagnoses as possible on the attached sheet. You will be given a medical data base or a nursing data base. The nursing data base is divided into responses and etiologies. Also, complete the demographic data form. Please do not disclose your name on any of the papers. Take as much time as you need. The length of time to complete the study is approximately 15-20 minutes.

Participation is voluntary and there are no risks. Your participation or non-participation will not influence your grades or standing in school. You may withdraw at any time. Also, your name will not be recorded.

Thank you for your attention.

## APPENDIX G

## Demographic Data

Have you taken, or are you currently enrolled in, your  
tertiary clinical course:

\_\_\_\_\_ Yes

\_\_\_\_\_ No

What is your clinical area:

\_\_\_\_\_ Medical-Surgical

\_\_\_\_\_ Community Health

\_\_\_\_\_ Psych-Mental Health

\_\_\_\_\_ Maternal-Child

When did you take the nursing theory course (PONT):

\_\_\_\_\_ Fall, 1983

\_\_\_\_\_ Summer, 1983

\_\_\_\_\_ Spring, 1983

\_\_\_\_\_ Fall, 1982

\_\_\_\_\_ Other

## APPENDIX H

May 31, 1984

Dear

My name is Lynne Briggs. I am a graduate student at Texas Woman's University, and I am writing to ask you to validate assessment data categorization in a nursing assessment data base.

I am studying the first two steps of the nursing process: assessment and nursing diagnosis. Assessment is the foundation of the nursing process, and nursing diagnosis is the pivotal point of the nursing process as it is derived from assessment data and directs the plan, implementation, and evaluation of nursing care.

Even though use of a nursing data base has been recommended, many nurses continue to use a medical data base. Therefore, my research is to determine if use of a nursing data base facilitates the formulation of a greater number and better quality of nursing diagnoses than nursing diagnoses formulated using a medical data base.

The medical data base includes a patient history, physical examination, and laboratory data. In contrast, the nursing data base reflects a nursing conceptual model and is categorized as to unhealthful responses and possible causes or etiologies of the responses. It includes subjective and objective data for both the unhealthful responses and possible causes or etiologies.

I used the Health-Care Systems Model for data collection. Subjective and objective data were collected according to the physiological, psychological, and sociocultural subsystems. The subjective and objective data were further categorized into unhealthful responses or possible etiologies of the responses. It is hypothesized that given this assessment format, graduate nursing students will be able to write nursing diagnoses in a greater number and of better quality than if given a medical data base.

In order to determine the content validity and appropriate categorization of the data, I am asking you to read the Nursing History and judge whether the information is appropriately placed in the Nursing Assessment Format. There are 35 items of assessment data. It will take approximately 1 hour of your time. Instructions for evaluating the data base and the data bases are included.

Thank you,

Lynne L. Briggs, R.N.  
Graduate Student, Texas Woman's University

## DIRECTIONS FOR EVALUATING DATA BASE

1. Read the Nursing History (form 1).
2. Read the Nursing Assessment Format (form 2).

The assessment format is divided into a response section and etiology section. Physiological, psychological, and sociocultural data are categorized as to whether it is subjective or objective and placed in either the response section or the etiology section. Each data item is numbered.

3. Data Evaluation Sheet (form 3).

The data evaluation sheet is divided into 3 columns. Column 1 contains the numbered data item which corresponds to the information found in the nursing assessment format. The second column asks if the data is appropriately placed in the assessment format. If the answer in Column 2 is yes, check Y and proceed to the next data item in Column 1. If the answer is no, check N and proceed to Column 3. Column 3 contains all the possible categories of the nursing assessment format. If you checked N in the second column, check the categories in which you believe the data item would be more appropriate. There should be 3 checks in Column 3 for each item that you have checked N in Column 2.

For example:

## NURSING ASSESSMENT FORMAT

ResponsesSubjective DataObjective Data

Physiological

1. Unemployed.

## EVALUATION OF DATA BASE

| <u>Column 1</u> | <u>Column 2</u>    |   | <u>Column 3</u> |   |   |   |   |   |   |   |
|-----------------|--------------------|---|-----------------|---|---|---|---|---|---|---|
| Item            | Data appropriately |   | R               | E | S | O | P | P | S |   |
|                 | Placed             |   | E               | T | U | B | H | S | O |   |
|                 | Y                  | N | S               | I | B | J | Y | Y | C |   |
| 1. Unemployed   |                    |   |                 | ✓ |   |   | ✓ |   |   | ✓ |

## NURSING HISTORY (form 1)

Name: W. D.-  
Age: 40  
Sex: Male  
Medical Diagnosis: Acute Inferior Myocardial Infarction

## PHYSIOLOGICAL

What symptoms are you currently having: substernal chest pain  
radiating to L arm.

Allergies: NKMA

Vital Signs: T - 97.4; P - 80; R - 18; BP - 170/100

Height: 5' 10"

Weight: 190 lbs.

EKG Rhythm: RSR with frequent PVC's. Q waves in Leads II, III,  
& avF.

## Past Health History

Illnesses: normal childhood diseases

Hospitalizations: none

Smoking History: 1½ ppd x 20 years

Family History: father died at age 47 of M.I.

Use of alcohol: 3 beers/day

Current medications: none

## Head-to-toe Assessment

Eyes, ears: wears glasses, normal hearing

Nose, mouth: wears upper partial plate

Neck, throat: no problem

Heart: S<sub>1</sub>, S<sub>2</sub> with S<sub>4</sub>. No S<sub>3</sub>, murmur, or rub

Lungs: Clear

Abdomen, bowel sounds: flat with bowel sounds in all 4  
quadrants

Genitourinary: no problem

Back: no problem

Extremities; motor strength: equal strength x 4

Pulses: +2/4 (all)

Diet, eating habits: Regular, eats 3 meals/day

How much of the following do you eat each day:

|                |                   |                        |
|----------------|-------------------|------------------------|
| <u>2</u> meat  | <u>1#</u> butter  | <u>all</u> fried foods |
| <u>0</u> fish  | <u>3</u> eggs     | <u>1</u> vegetables    |
| <u>2</u> fruit | <u>5</u> c.coffee | <u>2</u> milk products |

Sleeping habits: sleeps 8 hours; however, wakens frequently.  
Takes over-the-counter sleeping medication.

#### PSYCHOLOGICAL

Level of consciousness and orientation: alert and oriented x 3

Identified sources of stress: family, job, health

How do you handle stress: smoking, increased drinking, talks with  
minister about his marital problems, and  
avoids confronting wife by leaving.

How have you coped with illness in the past: has never been ill  
in past that required hospitalization.

How do you feel about being hospitalized: scared, anxious.

Expectations of self: wants to return to work as soon as possible,  
reconcile with wife, and learn better health  
habits.

Locus of control: Internal; feels he controls his life.

Nonverbal behavior (hand in fist, avoiding eye-contact, foot-  
tapping): none

#### SOCIOCULTURAL

Marital status: separated from wife of 20 years

Relationship with spouse: wife has not come to visit. States  
they have poor relationship.

Family members: Son - Jeff, 10. Daughter - Sara, 19.

Relationship: states good relationship with both. States  
feels guilty about Sara taking over his duties.

Occupation: Owns door manufacturing company

Major responsibilities: meets with potential customers to  
arrange demonstration of product.

Hours/week worked: over 40.

Major concerns: Inability to return to work, finances  
decreasing.

Education: some college

Religious preference: Presbyterian

Hobbies, personal interests, lifestyle: occasional sailing,  
hunting, fishing, and watching T.V.

Personal travel: frequently for work

Effect of illness on your role: unable to handle many of old  
responsibilities. Daughter has been handling work/family  
situations that arise.

Do you have a significant other or close friend to talk with: No.

## NURSING ASSESSMENT FORMAT (form 2)

Mr. W. D. is a 40-year old businessman who developed chest pain radiating to his left arm yesterday. He was admitted to MCCU for further evaluation when the pain returned this afternoon. He has no known medical allergies and is on no current medications. The medical diagnosis is acute inferior myocardial infarction.

## R E S P O N S E S

|               | Subjective Data                                                                                                                                                                                                             | Objective Data                                                                                                                                                                  |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHYSIOLOGICAL | 1. Substernal chest pain radiating to left arm                                                                                                                                                                              | 2. Vital signs: T-97.4; P-80; R-16<br>3. EKG: RSR with frequent PVC's. Q waves in Leads II, III, & avF.<br>4. Heart tones: S1, S2, S4. No S3, murmur, or rub<br>5. Lungs: clear |
| PSYCHOLOGICAL | 6. States he is anxious and scared.<br>7. Has handled stress through avoiding and denying it. Smokes 1½ ppd x 20 years. Drinks 3 beers/day. Has recently separated from wife. Talks to minister about his marital problems. | 8. Minister visits daily at patient request                                                                                                                                     |
| SOCIOCULTURAL | 9. States he feels isolated from his wife<br>10. States he feels guilty about being dependent<br>11. States he is concerned about his job                                                                                   | 12. Decreasing finances                                                                                                                                                         |

## E T I O L O G I E S

|               |                                                                                                         |                                                              |
|---------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| PHYSIOLOGICAL | 13. Interrupted sleep pattern-8 hrs; takes over-the-counter sleeping med.<br>14. Smokes 1½ ppd x 20 yrs | 15. Vital signs: BP-170/100<br>16. Ht.: 5' 10"; Wt.: 190 lbs |
|---------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|

## Etiologies (continued)

|               | Subjective Data                                                                                                                                                                                                                                                                                              | Objective Data                                                                                                                                                                                                                                                                                                                                   |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHYSIOLOGICAL |                                                                                                                                                                                                                                                                                                              | <p>17. EKG: RSR with frequent PVC's. Q waves in Leads II, III, &amp; avF.</p> <p>18. Father died at age 47 of MI</p> <p>19. Diet: Servings/day -<br/> 2 meat, 0 fish, 3 eggs,<br/> 1 veg., 2 fruit, 2 milk,<br/> 5 c. coffee, <math>\frac{1}{4}</math> lb. butter,<br/> all foods are fried.</p>                                                 |
| PSYCHOLOGICAL | <p>20. Identified sources of stress: family, job, health.</p> <p>21. First time in hospital</p> <p>22. Expectations of self: wants to return to work, reconcile with wife, learn better health habits</p>                                                                                                    |                                                                                                                                                                                                                                                                                                                                                  |
| SOCIOCULTURAL | <p>23. Describes relationship with children as good</p> <p>24. States daughter has taken over duties for his work/family</p> <p>25. Sedentary lifestyle: likes to hunt, sail, fish, and watch T.V.</p> <p>26. States wife doesn't have good relationship with him</p> <p>27. States travels when working</p> | <p>28. Currently separated from wife of 20 years</p> <p>29. Owns door-manufacturing company. Is responsible for meeting with future customers to demonstrate product</p> <p>30. Works 40 hours/week</p> <p>31. Education: some college</p> <p>32. Daughter: Sara-19. Visits</p> <p>33. Son: Jeff-10. Visits</p> <p>34. Presbyterian religion</p> |

Evaluation of Data Base

| Column 1                                                                                                                                                                                                 | Column 2                        | Column 3                                  |                                                |                                                |                                           |                                                               |                                                               |                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Item                                                                                                                                                                                                     | Data<br>Appropriately<br>Placed | R<br>E<br>S<br>P<br>O<br>N<br>S<br>E<br>S | E<br>T<br>I<br>O<br>L<br>O<br>G<br>I<br>E<br>S | S<br>U<br>B<br>J<br>E<br>C<br>T<br>I<br>V<br>E | O<br>B<br>J<br>E<br>C<br>T<br>I<br>V<br>E | P<br>H<br>Y<br>S<br>I<br>O<br>L<br>O<br>G<br>I<br>C<br>A<br>L | P<br>S<br>Y<br>C<br>H<br>O<br>L<br>O<br>G<br>I<br>C<br>A<br>L | S<br>O<br>C<br>I<br>O<br>C<br>U<br>L<br>T<br>U<br>R<br>A<br>L |
|                                                                                                                                                                                                          |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 1. Substernal chest pain radiating to left arm.                                                                                                                                                          |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 2. Vital signs: T-97.4; P-80; R-16.                                                                                                                                                                      |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 3. EKG: RSR with frequent PVCs. Q waves in Leads II, III, avF.                                                                                                                                           |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 4. Heart tones: S1, S2, S4. No S3, murmur, or rub.                                                                                                                                                       |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 5. Lungs: clear                                                                                                                                                                                          |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 6. States he is anxious and scared.                                                                                                                                                                      |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 7. Has handled stress through avoiding and denying it. Smokes 1½ packs per day for 20 years. Drinks 3 beers per day. Has recently separated from his wife. Talks to minister about his marital problems. |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 8. Minister visits daily at patient's request.                                                                                                                                                           |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 9. States he feels isolated from his wife.                                                                                                                                                               |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 10. States he feels guilty about being dependent.                                                                                                                                                        |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 11. States he is concerned about his job.                                                                                                                                                                |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 12. Decreasing finances.                                                                                                                                                                                 |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 13. Interrupted sleep pattern-8 hrs.; takes over-the-counter sleep medication.                                                                                                                           |                                 |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |

(table continues)

Evaluation of Data Base

| Column 1                                                                                                                                 | Column 2                                       | Column 3                                  |                                                |                                                |                                           |                                                               |                                                               |                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Item                                                                                                                                     | Data<br>Appropriately<br>Placed<br>Yes      No | R<br>E<br>S<br>P<br>O<br>N<br>S<br>E<br>S | E<br>T<br>I<br>O<br>L<br>O<br>G<br>I<br>E<br>S | S<br>U<br>B<br>J<br>E<br>C<br>T<br>I<br>V<br>E | O<br>B<br>J<br>E<br>C<br>T<br>I<br>V<br>E | P<br>H<br>Y<br>S<br>I<br>O<br>L<br>O<br>G<br>I<br>C<br>A<br>L | P<br>S<br>Y<br>C<br>H<br>O<br>L<br>O<br>G<br>I<br>C<br>A<br>L | S<br>O<br>C<br>I<br>O<br>C<br>U<br>L<br>T<br>U<br>R<br>A<br>L |
| 14. Smokes 1½ packs per day for 20 years.                                                                                                |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 15. Vital signs: BP-170/100.                                                                                                             |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 16. Height: 5'10"; Weight: 190 lbs.                                                                                                      |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 17. EKG: RSR with frequent PVCs. Q waves in Leads I, II, III, avF.                                                                       |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 18. Father died at age 47 of MI.                                                                                                         |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 19. Diet: Servings/day-<br>2 meat, 0 fish, 3 eggs, 1 vegetable, 2 fruit, 2 milk,<br>5 cups of coffee, ¼ lb. butter, all foods are fried. |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 20. Identified sources of stress: family, job, health.                                                                                   |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 21. First time in hospital.                                                                                                              |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 22. Expectations of self: wants to return to work, reconcile<br>with wife, learn better health habits.                                   |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 23. Describes relationship with children as good.                                                                                        |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 24. States daughter has taken over duties for his work/<br>family.                                                                       |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 25. Sedentary lifestyle: likes to hunt, sail, fish, and<br>watch T.V.                                                                    |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 26. States wife doesn't have a good relationship with him.                                                                               |                                                |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |

(table continues)

Evaluation of Data Base

| Column 1                                                                                                      | Column 2                                  | Column 3                                  |                                                |                                                |                                           |                                                               |                                                               |                                                               |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Item                                                                                                          | Data<br>Appropriately<br>Placed<br>Yes No | R<br>E<br>S<br>P<br>O<br>N<br>S<br>E<br>S | E<br>T<br>I<br>O<br>L<br>O<br>G<br>I<br>E<br>S | S<br>U<br>B<br>J<br>E<br>C<br>T<br>I<br>V<br>E | O<br>B<br>J<br>E<br>C<br>T<br>I<br>V<br>E | P<br>H<br>Y<br>S<br>I<br>O<br>L<br>O<br>G<br>I<br>C<br>A<br>L | P<br>S<br>Y<br>C<br>H<br>O<br>L<br>O<br>G<br>I<br>C<br>A<br>L | S<br>O<br>C<br>I<br>O<br>C<br>U<br>L<br>T<br>U<br>R<br>A<br>L |
| 27. States travels when working.                                                                              |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 28. Currently separated from wife of 20 years.                                                                |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 29. Owns door-manufacturing company. Is responsible for meeting with future customers to demonstrate product. |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 30. Works 40+ hours per week.                                                                                 |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 31. Education: some college.                                                                                  |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 32. Daughter: Sara-19. Visits.                                                                                |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 33. Son: Jeff-10. Visits.                                                                                     |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |
| 34. Presbyterian religion.                                                                                    |                                           |                                           |                                                |                                                |                                           |                                                               |                                                               |                                                               |

## APPENDIX I

**TWU**  **Texas Woman's University**  
P.O. Box 22479, Denton, Texas 76204 (817) 383-2302, Metro 434-1757, Tex-An 834-2133  
THE GRADUATE SCHOOL

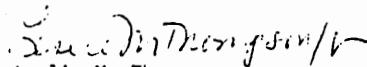
July 26, 1984

Ms. Lynne Briggs  
1810 Inwood Rd., #464  
Dallas, TX 75235

Dear Ms. Briggs:

I have received and approved the Prospectus for your research project. Best wishes to you in the research and writing of your project.

Sincerely yours,

  
Leslie M. Thompson  
Provost

tb

cc Dr. Beth Vaughan-Wrobel  
Dr. Anne Gudmundsen

## APPENDIX J

Nursing Diagnosis: Stress Related to Ineffective Coping Mechanisms

| Yes | No | Ziegler Criteria for Evaluating the Quality of the Nursing Process                                                                                                |
|-----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |    | 1. Both the response and etiology component are present.                                                                                                          |
|     |    | 2. The components are joined with a "related to" phrase.                                                                                                          |
|     |    | 13. The activity required to modify is within the boundaries of nursing's independent function; nurse is capable, and is legally and ethically expected to treat. |
|     |    | 3. The response component is written first and the etiology component is written second.                                                                          |
|     |    | 4. The statement is asymmetrical, that is not circular.                                                                                                           |
|     |    | 7. The response is clearly unhealthy or written as a potentially unhealthy response.                                                                              |
|     |    | 8. Only one response is identified for each diagnosis statement.                                                                                                  |
|     |    | 9. The response is potentially modifiable.                                                                                                                        |
|     |    | 10. The response is concrete enough to generate specific client goals.                                                                                            |
|     |    | 11. Only one etiology is identified for each diagnosis statement.                                                                                                 |
|     |    | 12. The etiology is potentially changeable.                                                                                                                       |
|     |    | 14. Etiology is concrete enough to generate specific nursing interventions.                                                                                       |

## APPENDIX K

## Summary Table

## Nursing Diagnoses Generated From Medical or Nursing Data Base

| Data Base Used | Criteria Items Met = (X) |   |    |   |   |   |   |   |    |    |    |    |   |    | Score |
|----------------|--------------------------|---|----|---|---|---|---|---|----|----|----|----|---|----|-------|
|                | 1                        | 2 | 13 | 3 | 4 | 7 | 8 | 9 | 10 | 11 | 12 | 14 |   |    |       |
| M              | X                        | X | X  | X | X | X | X | X |    |    | X  |    |   | 9  |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  |   | 11 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  |   | 11 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 11 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| M              | X                        | X | X  | X | X | X | X | X |    |    | X  |    |   | 9  |       |
| M              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  | X | 11 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| M              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  |   | 11 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 11 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 11 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  |    |    |   | 9  |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  |   | 11 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| M              | X                        | X | X  | X | X | X | X | X |    |    |    |    |   | 8  |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| M              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  | X | 11 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  | X | 11 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  |    |   | 11 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  |   | 12 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  | X  |   | 11 |       |
| N              | X                        | X | X  | X | X |   | X | X | X  | X  | X  |    |   | 10 |       |
| M              | X                        | X | X  | X | X | X | X | X | X  | X  | X  | X  | X | 12 |       |
| N              | X                        | X | X  | X | X | X | X | X | X  | X  | X  |    |   | 10 |       |

(table continues)

Summary Table

| Data Base Used | Criteria Items Met = (X) |     |     |     |     |    |     |     |    |    |    |    |       |
|----------------|--------------------------|-----|-----|-----|-----|----|-----|-----|----|----|----|----|-------|
|                | 1                        | 2   | 13  | 3   | 4   | 7  | 8   | 9   | 10 | 11 | 12 | 14 | Score |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  |    | 11    |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| N              | X                        | X   | X   | X   | X   |    | X   | X   | X  | X  | X  | X  | 11    |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 11    |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 11    |
| M              | X                        | X   | X   | X   | X   |    | X   | X   | X  | X  | X  | X  | 11    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| M              | X                        | X   | X   | X   | X   |    | X   | X   | X  | X  | X  | X  | 11    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 11    |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 11    |
| M              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 12    |
| N              | X                        | X   | X   | X   | X   | X  | X   | X   | X  | X  | X  | X  | 11    |
| Total:         | 60                       | 60  | 60  | 60  | 60  | 41 | 60  | 60  | 57 | 58 | 56 | 40 |       |
| % met          | 100                      | 100 | 100 | 100 | 100 | 68 | 100 | 100 | 95 | 97 | 93 | 67 |       |

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