BENCHMARKING NURSE SENSITIVE QUALITY PATIENT OUTCOMES ACROSS THE CONTINUUM OF CARE

by

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DEDICATION

This dissertation is dedicated to my son, Kenneth. You are always in my heart.

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ABSTRACT

The impact that changes within the health care delivery system have on nursing and subsequently on the health of individuals, families, and the community are unknown to the nursing profession as well as the public. Delineation of patient outcomes sensitive to nursing care and their benchmarks would enable the nursing profession to evaluate the system changes being implemented. Establishing targets for patient outcomes will provide facilities with targets to measure themselves against.

The purposes of this study were first, to identify if the nurse sensitive patient outcomes identified by the AAN expert panel are appropriate and second, to establish benchmarks for these outcomes that are applicable across the continuum of care. The appropriateness and benchmarks were determined through a Delphi study with nurse experts identified from the health care continuum of primary health care providers, hospitals, home care, hospice, and long term care. The five patient outcomes are Appropriate Self Care Behaviors, Symptom Management, Health Promoting Behaviors, Perceptions of Being Well Cared For, and Health Related Quality of Life (HRQOL).

All patient outcomes were deemed appropriate for all healthcare settings. Two indicators of Health Related

Quality of Life were excluded by the panel from Acute Care. Consensus was reached for the majority of patient outcomes. There were only seven benchmarks out of 18 for each continuum of care (a total of 90) that did not achieve consensus. The acute care participants were not able to reach consensus on one indicator within Health Promoting Behaviors. The remaining six were from the Hospice participants: one indicator of Appropriate Self Care, all indicators of Health Promoting Behaviors and two within Health Related Quality of Life.

The majority of benchmarks were in the mid to high range. Long Term Care tended to have lower scores than the other settings. Patient self care behaviors were very low for hospice patients. The indicators that did not meet consensus criteria were stable indicating that scores were not changing between rounds.

Sample size of participants prevent citation of results for Home Care, Hospice and Long Term Care but preliminary targets were established. Benchmarks can be set and used to evaluate the effectiveness of nursing care and the impact of system or process changes.

CHAPTER I

Introduction

Increasing healthcare costs and the variability of care provided has lead to a national movement to manage the delivery of health care. The impact of changes within the health care delivery system has on nursing and subsequently on the health of individuals, families, and the community are unknown to the nursing profession as well as the public. These changes have created a need for a mechanism to evaluate what organizational changes within nursing practice have on patient outcomes (Lang & Marek, 1992). Delineation of patient outcomes sensitive to nursing care and their benchmarks would enable the nursing profession to evaluate the system changes being implemented.

One trend that has developed over the last decade has been the decreased amount of time that patients stay in the hospital. Care has become fragmented as a result of shortened acute care stays with care being shifted to long-term care settings and home care. Patients previously stayed in the hospital until they were able to care for themselves. Today, they are being discharged in such a weakened state that they require a stay in a long-term care setting or require skilled nursing care at home.

With health care reform driving changes to the delivery of health and nursing care such as shortened lengths of stay and differing levels of care, how does the nursing profession demonstrate that the quality of the care has not been affected? Have these changes improved or hindered patient welfare? With the different levels of care, what patient outcomes can be tracked across the continuum of care that will demonstrate the quality of nursing care being provided?

The goal of this project was to identify whether setting benchmarks for patient outcomes sensitive to nursing care can be established. Because of the differing levels of care delivery, the outcomes that will be utilized are ones that can be used in each care setting and be measured at the organizational level. In addition, system changes impact all types of patients; therefore the outcomes will be generic and important to different patient populations. Five patient outcomes believed to be applicable across the continuum of care have been identified by the American Academy of Nursing (AAN). They are appropriate self care behaviors, symptom management, health promoting behaviors, perceptions of being well cared for, and health related quality of life (HRQOL). Targets of achievement for each outcome were established as benchmarks for each care delivery level. Benchmarks enable organizations to evaluate the effectiveness of changes to

the delivery system by providing target measures to compare themselves to. By using these targets they can be ensured that the quality of care has not been jeopardized.

Quality and Outcomes

Health care outcomes are important to patients as well as providers and are used as a measure of quality of care. Quality has been defined as 'the presence of socially acceptable, desired attributes within the multifaceted holistic experience of being and doing' (Larrabee 1996, p.356). Using a model of quality that incorporates values and human experiences as well as the context of limited resources will help guide the evaluation of care and outcomes. These attributes of values and experiences are important considerations in today's health care environment and are the driving force in the outcomes movement.

The current national trend focusing on outcomes is a result of the rising cost of health care and the variability of treatment options for like conditions (The Outcome of Outcomes Research, 1999). From the late 1920s to the early 1950s, researchers came from the perspective that health care is a set of unique services that societies owe to their citizens in order to promote their well-being. Their research focused on the cost and utilization of health services. The perspective of researchers following the 1950s and into today is from an economical and

organizational one. There was agreement among the researchers that research could influence health policy by focusing on discrete questions, striving for objectivity, and being carefully grounded in theories and methods (Fox, 1990).

During the 1980s and today, investigators, sponsors, and most of the potential users of research results share fundamental ideas and values. Policy professionals use research not because it's there, but because the results help them promote priorities and agendas. "Research is more important in health policy-making in the United States today than it has ever been (Fox, 1989 p.497)". Preserving and/or enhancing quality while delivering services in a more efficient and cost-effective manner is the overriding concern in today's health care environment (Jones, 1993). Outcomes management joins the issues of costs, productivity and quality.

The creation of the federal, Agency for Healthcare Research and Quality (AHRQ), formerly known as the Agency for Health Care Policy and Research (AHCPR), was the result of the desire to reduce the unexplained variation in practice patterns and its effect on quality and cost of care (Mitchell & Durenberger, 1990). Patient Outcomes Research Teams (PORTs) were at the center of this program (Wennberg, 1992). The goals of a PORT project were to identify and

analyze, for a given clinical condition, the outcomes and costs of alternative interventions and to develop and test mechanisms for reducing inappropriate and unnecessary variations (Raskin & Maklan, 1991). Outcomes used for evaluation are functioning, symptomatic relief, clinical complications, costs, and patient utilities. An important component of PORTs was to learn what worked and what patients wanted (Wennberg, 1992).

While outcome research for specific conditions is important, outcomes from a system's perspective are equally important. The advantages of focusing on outcomes analysis are: 1) monitoring of the system can be accomplished while allowing providers to undertake their own quality improvement efforts, 2) systematic data can be collected and analyzed to inform the field how process components are related to outcomes, 3) it enables the focus to be across time and to appreciate the temporal and service linkages within episodes of care, and 4) it emphasizes the aspects of care that are most important to patients and society (Jones, 1993). Outcomes analysis focuses on the continuum of care and has included: hospital mortality, adverse events and complications during hospitalization, readmissions, prolongation of medical problems, decline in health status, or decline in quality of life. Hegyvary, as cited in Jones (1993) proposes four categories of outcomes: clinical,

functional, financial, and perceptual that allow for multiple perspectives of providers, consumers, and purchasers. The perspective of the patient needs to be the primary focus. Too often the health care provider has decided what is best for the patient.

Objective and systematic evaluation of quality nursing practice is not a new phenomenon. It has been a high priority and been documented since the early work of Florence Nightingale (Lang & Clinton, 1984; Lang & Marek, 1992). The identification of nursing standards as indicators of quality have been the focus of studies since the 1950's. Lang and Clinton (1984) reviewed the literature for indicators of quality of nursing care. Early work discussed the need to identify outcome criterion to assess the effect of nursing care on patients' well being. Subsequent work added structure and process indicators to outcome indicators. Attention to the relationships among structure, process, and outcomes has gained greater visibility since the work of Donabedian (Hinshaw, 1992). These relationships are important as research would exist in a vacuum if the causal relationships among structure, process and outcomes are not explained (Mark, 1995).

Benchmarking

The quality improvement focus, which has customer satisfaction as a central tenet, has supported the growing

process of benchmarking in the healthcare market. Benchmarking is defined as the process of measuring one's performance against another organization who performs it well so as to continuously improve practices, services, and products (Heidbreder, 1993). The benchmarking process identifies a goal and the methods to reach the goal based on past achievements internally and externally. The process involves setting a "benchmark" or target as it's goal.

Several distinguishing characteristics of benchmarking have made the process successful. First, the process deals with the how to's or processes as well as the outcomes. Second, it promotes creative thinking that results in quantum improvements. The benchmarking process accelerates the rate of improvement by building on the wisdom of others. Third, when performed correctly, the process is carefully structured and analytical. It leads to a clear understanding of the process under review, the structure that supports or enables the process and the outcomes achieved (Heidbreder, 1993; O'Dell, 1993). Finally, a customer orientation is the foundation of the improvement process, the largest paradigm shift in the quality movement. Identifying the outcomes that customers deem important will impact customer satisfaction and the future success of healthcare providers.

Key to the process is comparing an outcome to one's previous achievements or to an outside entity who has demonstrated success with that process and outcome. Meeting or surpassing these targets or benchmarks are the results that a facility is hoping to achieve.

Because of the focus on quality improvement using benchmarks of selected outcomes, the creation of report cards and consistent databases as been growing. The Health Plan Employer Data and Information Set (HEDIS) is an example of this. HEDIS is a set of standardized performance measures designed to enable purchasers and consumers to have the data they need to compare the performance of managed health care plans (\www.NCQA.HEDIS). The domains within the database of the HEDIS are effectiveness of care, access/availability of care, satisfaction with the experience of care, health plan stability, use of service, and cost of care.

Current Work in Nursing

While HEDIS built a database that includes quality indicators from a health plan perspective there is also work being done within the nursing profession. Quality indicators believed to be sensitive to nursing care have been identified by the expert panel on quality of the American Academy of Nursing (AAN) and by the American Nurses' Association (ANA).

The American Academy of Nursing (AAN) held an invitational conference the summer of 1996, bringing together health service researchers, nursing investigators, health care purchasers, and policy makers to: 1) "identify and clarify outcome indicators currently shown to be sensitive to organizational factors in care delivery; 2) identify promising indicators for further measurement development or incorporation into studies of care delivery systems; and 3) develop research and policy recommendations regarding measurement development and incorporation of measures into existing data sources" (Mitchell, Heinrich, Moritz, & Hinshaw, 1997, p. NS1). The work of this conference has provided a framework for future work from a systems perspective. The AAN expert panel on quality identified 5 patient outcomes believed to be sensitive to nursing intervention and are mediated from system characteristics. Included are appropriate self care behaviors, symptom management, health promotion, perceptions of being well cared for and health related quality of life (HRQOL). These outcomes are believed to be applicable across the continuum of care.

Another body of work has been done by the American Nurses' Association (ANA). The goal was to identify structure, process and outcome indicators that would demonstrate nursing's contribution to acute inpatient

hospital care. Their work is a summary of a review of the literature and consultation with experts to identify linkages between nursing care and patient outcomes (ANA, 1995). The ANA has identified 21 structure, process, and outcome indicators that are proposed to be sensitive to nursing intervention and can be collected in a report card format. While the Nursing Report Card is a beginning framework for evaluating patient care, it has only an acute care focus. A broader scope of outcomes that are important and sensitive to different care settings are needed.

Statement of the Problem

To determine cost effectiveness of the health care market, the public and payers are demanding outcomes research and management. Consistent measures of patient outcomes that are sensitive to nursing intervention that span the continuum of care have not been studied. Nor are there benchmarks for these global outcomes. The ANA Nursing Report Card is a step in the right direction because it brings to light nursing's effect on the health of the community, however, the outcomes identified have only an acute care focus. The delivery of nursing care is performed in many other settings: home care, ambulatory care, hospice, skilled nursing facilities and long term care. A framework for evaluating and measuring outcomes that include the

continuum of care is necessary in the current health care environment. The Quality Health Care Model is such a framework.

AAN, Quality Health Care Model

With the rapid changes happening within the healthcare arena, health care facilities have placed greater emphasis on the evaluation of care from a systems perspective. In response to the demand, the AAN Expert Panel on Quality Health Care created a Quality Health Outcomes Model for the study of nursing's impact on patient outcomes from a system's perspective (Mitchell, Ferketich, & Jennings, 1998). The model specifies reciprocal relationships among the structure, process, and outcome triad from the work of Donabedian (Mayberry & Gennaro, 2001). This triad is what forms the basis of the Quality Health Outcomes Model.

The components of this model are structure, which includes system and client aspects; processes or interventions; and outcomes (Figure 1). System characteristics include agency size, ownership, skill mix, RN staff qualifications, total nursing care hours per patient, client demographics, and technology. System indicators are measured at the facility and unit levels. Client characteristics which include the individual, family and community, have been delineated because of the need to risk adjust. Process represents indirect and direct

interventions delivered by nursing. Outcomes, measured at the individual, family, and community level, are affected by the characteristics of the clients to whom the interventions are directed (Mitchell, Ferketich, & Jennings, 1998). Outcomes of interest to nursing integrate functional, social, psychological, spiritual, physical, and physiologic aspects of a patient's well being. When the expert panel came together to identify outcomes, the focus was on outcomes that could be measured across the continuum of care.

The model specifies outcomes such as self-care, health promoting behaviors and ability to manage symptoms that have a reciprocal relationship with the outcomes of health status, satisfaction and service use and costs. The outcomes are measured at each level of the care continuum (Lamb, 1997). Benchmarks can be established for each of these outcomes across delivery systems that would be used to evaluate system changes and serve as "standards" (Rudy, Lucke, Whitman, & Davidson, 2001).

Outcomes represent the cumulative effect of one or more interventions delivered within the contextual effects of the environment (Jennings & Staggers, 1998). Although outcomes should not be viewed in a vacuum (Lohr, 1988; Mark, 1995), the focus of this research is on outcomes. The five

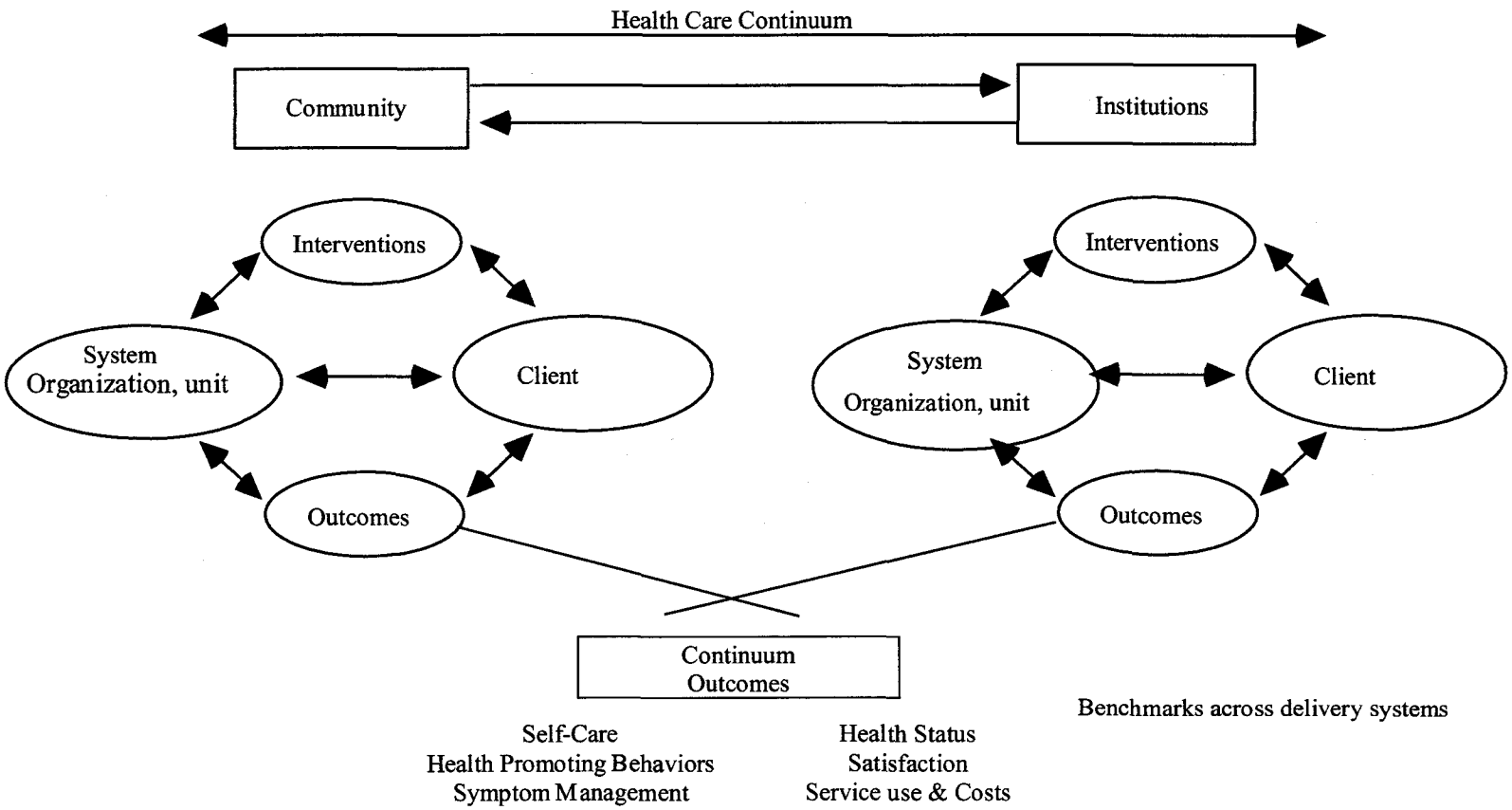


Figure 1: Adaptation of Quality Health Outcomes Model (Mitchell, Ferketich, Jennings, 1998 & Lamb, 1997)

outcomes proposed by the AAN Expert Panel on Quality Health Care are Achievement of Appropriate Self-Care, Demonstration of Health-Promoting Behaviors, Health-Related Quality of Life, Symptom Management, and Perception of Being Well-Cared-For. These outcomes have been proposed as they are felt to be applicable across the continuum of care and are important to all populations.

The patient outcomes are not the exclusive domain of nursing, but they include components of patient care in which nursing interventions are likely to make a difference (Lichtig, Knauf, Milholland, 1999). They also focus on the patient's health, functioning and satisfaction with care. Currently, system analysis studies focus on patient outcomes using negative indicators. For example, a recent Delphi study identified indicators of nursing quality to evaluate nurse staffing ratios (Hodge, Asch, Olson, Kravitz, & Sauvé, 2002). Six indicators met their criteria: risk adjusted mortality, hospital length of stay, failure to rescue, patient satisfaction, patient satisfaction with pain management, and completion of patient teaching. Of the indicators that did not meet criteria, all but two focused on adverse outcomes. The two that did not were length of stay and successful breastfeeding.

The ANA patient outcomes were similar. The only positive outcomes are length of stay and patient/family

satisfaction with nursing. Mortality rate, adverse incidents (medication errors, patient injury), complications (decubitus ulcer, nosocomial infection), and patient adherence to discharge plan (readmission rates/unscheduled physician visits) focus on negative events that are relatively rare. These outcomes don't represent positive aspects of health or individuals' abilities to function and fulfill their desired roles in life. Although negative outcomes are important, focusing on negative and mostly rare events will overlook the importance of nursing's impact on a patient's health.

Adverse incidents such as medication errors, patient falls, decubitus ulcers, and nosocomial infections are not measured nor reported consistently. Work by Mark and Burleson (1995) demonstrated the lack of data availability and consistency across hospitals. Their work examined consistency of 5 patient outcomes indicators; medication administration errors, patient falls, occurrence of new decubitus ulcers, nosocomial infections, and unplanned readmission to the hospital. Only medication errors and patient falls were collected consistently to enable the comparison across hospitals. Additionally, neither a medication error nor a patient fall is a clear indicator of how that event influenced the ultimate patient outcome.

Purpose of the Study

The purpose of this study was twofold. First, to identify if the nurse sensitive patient outcomes identified by the AAN expert panel are appropriate and second, to establish benchmarks for these outcomes that are applicable across the continuum of care. The appropriateness of indicators and benchmarks were determined through a Delphi study with nurse experts identified from the health care continuum of primary health care, hospitals, home care, hospice, and long term care.

The research questions for this study were:

1. Are the identified 5 patient outcomes appropriate as indicators of nurse sensitive patient outcomes across the continuum of care?
2. Can benchmarks be established and consensus reached for identified nurse sensitive patient outcome indicators?
3. Do different care settings within the care continuum have different established benchmarks?
4. Do experts identify additional nurse sensitive patient outcomes that span the continuum of care?

Significance of the Problem

With organizations undergoing rapid change from reorganization, restructuring and re-engineering, definitive

research on the impact of these changes on patient outcomes is needed (Aiken, Sochalski, & Lake, 1997). A recent study conducted by the Institute of Medicine made the following recommendations on staffing and quality in hospitals:

> The committee recommends that hospital management monitor and evaluate the effects of changes in organizational redesign and reconfiguration of nursing personnel on patient outcomes, on patient satisfaction, and on nursing personnel themselves. The committee recommends that the National Institute of Nursing Research (NINR) and other appropriate agencies fund scientifically sound research on the relationships between quality of care and nurse staffing levels and mix, taking into account organizational variables (p. 17)

Confirming that the outcomes identified by the AAN Expert Panel are important and sensitive to nursing care will demonstrate nursing's contribution to the health of individuals, families, and communities. Setting benchmarks is a first step in establishing goals to improve quality of care. These outcomes can be the springboard for evaluating the effectiveness of system changes relative to their cost and outcomes. Establishing benchmarks for outcome achievement will contribute to outcomes management, focusing on efficiency relative to processes and resources (Jennings & Staggers, 1998). The philosophy underpinning outcomes management holds that correcting system problems, reducing inefficiencies, and decreasing unintended variation improves outcomes.

Summary

With the rapid changes happening within health care organizations, it is imperative that nursing evaluates the effect on patient outcomes. The identification of global patient outcomes that establish the quality of nursing care is one step in this process. Five outcome indicators identified by the AAN Expert Panel believed sensitive to nursing intervention across the continuum of care were the focus of this research. The establishment of patient outcome indicators is important for evaluating health care delivery changes and nursing practice. These indicators represent a piece of the quality triad of structure, process, and outcome. Even though the focus of this research was only on outcomes, the other concepts are of equal importance. Quality is achieved when appropriate care is delivered with skill to promote outcomes that are of value to the consumer.

CHAPTER II

Introduction

A framework of outcomes and health will be presented in this chapter that provide the underpinnings of the project. The focus of this outcomes research was from a system perspective focusing at the group level. The patient outcomes were viewed from that conceptual perspective. In this chapter, conceptual delineation of each outcome will be discussed. Relationships among the concepts will not be discussed as this is not the purpose of the study nor is measurement of the concepts.

Conceptual Delineation

Differing levels of outcomes will be discussed. A broad conceptualization of health provides the underpinnings of the selected patient outcomes that are reviewed. Self Care, a broad concept with many dimensions is discussed. From that review each AAN patient outcome will be defined and indicators identified for study purposes.

Outcomes

Outcomes are the end result of some process and can be at the individual level (patient or nurse), group level (group of patients, staff, or unit), or organizational level (hospitals or health care services like home care/hospice).

To be most useful, outcomes should be sensitive to the intervention or program changes and driven by the question being asked. Nursing systems research at the organizational level requires patient outcomes that apply to heterogeneous populations (Mark, Sayler, & Smith, 1996). This is because at the organizational level, many different diagnoses are represented in the population. In addition to outcomes crossing patient conditions, they need to be sensitive across the span of the illness episode (Jennings, 1991). This includes the acute phase, rehabilitation phase, and ultimately the recovery phase or the phase during which patients learn to live with chronic conditions. The consistency of outcomes across the health care continuum is important for understanding the trajectory of the healing process. As patients move across the different levels of care, changes in outcomes can be measured.

The taxonomy of outcomes research used for this project was developed by Verran and Mark (1992). They proposed a four quadrant framework with level of analysis and level of variability as the two axes. Level of analysis refers to the unit of analysis, whether it is the individual or the group. If the unit of study or treatment is homogeneous or heterogeneous determines the level of variability (see Figure 2).

Quadrant 1 represents studies involving the traditional research design used to investigate the effects of an intervention on individuals within a select population.

Figure 2: Taxonomy of Outcomes Research

LEVEL OF VARIABILITY	LEVEL OF ANALYSIS: Individual	LEVEL OF ANALYSIS: Group
Homogeneous	QUADRANT 1 Research involving individuals within one select population or condition with individual responses	QUADRANT 2 Research involving a group treatment for a select population or condition and a group response
Heterogeneous	QUADRANT 3 Research involving individuals with common symptomotology across populations or conditions and individual responses	**QUADRANT 4** **Research involving group responses to contextual variables**

(adapted from Verran & Mark, 1992)

Quadrant 2 represents studies involving group interventions for a homogeneous group with the dependent variable being measured at the group level. Quadrant 3 represents research involving individuals with common symptomology but heterogeneous conditions and individual outcomes. Pain research, a condition that crosses populations is an example of research in this quadrant.

The framework for this study is from a Quadrant 4 perspective that focuses on group responses to system level variables such as teaching status. The outcomes of interest

are at the group level rather than the individual and the level of variability is at a system or contextual focus. This means that the independent variable of interest is a unit level phenomenon. For example, patient outcome benchmarks are related to the context in which the care is delivered. The population is heterogeneous. The outcomes apply to all age groups and all conditions.

The focal unit of interest for this project is the patient population using nursing services provided in different settings: hospitals, extended care, home care, hospice, and primary care. Focusing on the health of the patient population as a whole results in a group that is very heterogeneous. All types of patients, newborns to elders are included with all types of health conditions.

Health

A broad conceptualization of health directed the focus of the outcomes identified for this study. Rather than health being the absence of disease, health was defined as general well-being and self-realization (Smith, 1981). Health is a comparative, dynamic concept in that the definition allows for a 'more or less' and ever changing state. Smith (1981) identified four models of health: 1) eudaimonistic, 2) adaptive, 3) role-performance, and 4) clinical. The models are hierarchical with clinical building the base.

The clinical model, a mechanistic view of health, focuses on physical or medical conditions. Absence of signs or symptoms of disease or disability represents health. Individuals are seen as physiologic systems with interrelated functions that stop at their skin. Outcomes from this perspective focus on presence of signs and symptoms, which is a negative view of health (Smith, 1981).

Being able to adequately perform one's role is a common-sense criterion of health within the role-performance model. This model of health adds social and psychological standards. Individuals are more than just physically fit they are also socially fit. Illness within this model is the inability to do one's job. Many functional status tools measure health from this model's perspective.

The adaptive model incorporates the environment and an individual's ability to adapt to changes within the physical and social environment. Disease is a breakdown in the ability of an individual to cope with changes in the environment. This model addresses social health and its impact on individuals. The individual who adapts and interacts with the environment to maximum advantage is said to be healthy.

The final model, eudaimonistic, encompasses the previous models and focuses on general well-being and self-realization. Based on the writings of Maslow, the model

represents health as moving towards self-fulfillment and self-actualization.

Eudaimonistic and adaptive models of health are oriented towards change and growth while the clinical and role-performance models focus on the maintenance of stability. This definition of health that includes the four models was used for this study. A narrower definition of health would not have incorporated all the components included in the outcomes identified by the AAN Expert panel: Achievement of Appropriate Self Care, Demonstrations of Health Promoting Behaviors, Health Related Quality of Life, Symptom Management, and Perceptions of Being Well Cared For.

The conceptual boundaries of the patient outcomes identified by the AAN Expert Panel overlap (see Figure 3). Achievement of Appropriate Self Care includes attributes within the domains of Symptom Management, Health Promoting Behaviors, and Health Related Quality of Life. Some conceptualizations and measures of Health Related Quality of Life include Symptom Management and the impact of symptoms on functioning. Perceptions of Being Well Cared For includes how well symptoms were managed within its boundaries. All are related to self-care. Next, these conceptual overlaps may be defined differently by different perspectives but for the purpose of this paper will be discussed and artificial boundaries will be established.

Self Care

Self-care is a complex construct whose component boundaries overlap the other outcome indicators identified for this study. A consequence of self-care is health. Self-care has been broadly defined as "activities performed by individuals, families, or communities to achieve, maintain, or promote maximum health" (Lipson, & Steiger, 1996, p.12). The goal is "holistic health", a process not a

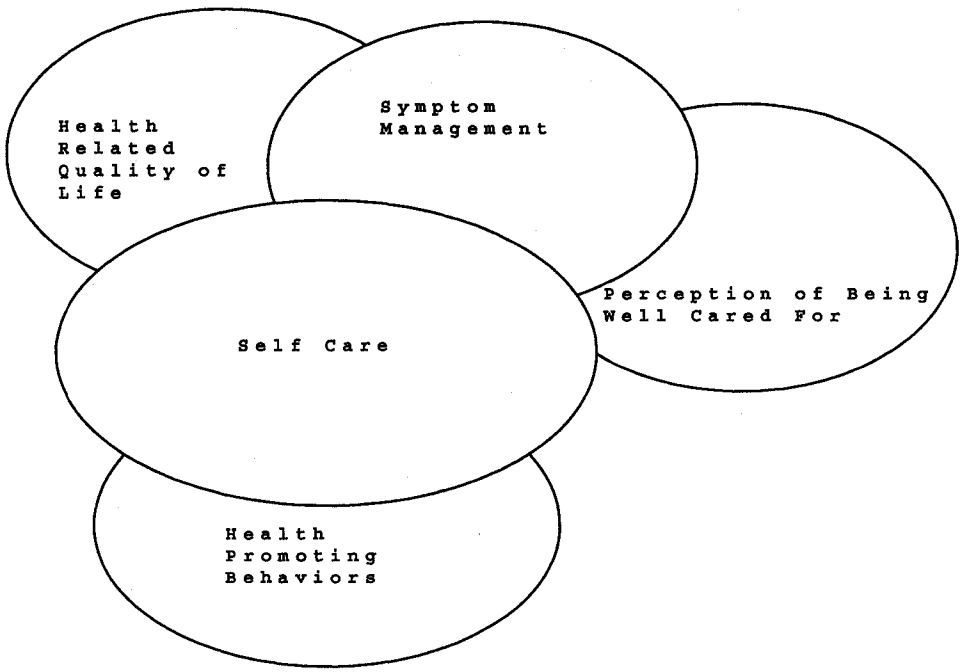


Figure 3: Conceptual Overlap

static state, that is the integration and balance of physical, emotional, and spiritual aspects to achieve total well-being. Five major components have been specified for self-care: 1) health promotion, 2) health maintenance, 3)

disease prevention, 4) disease detection, and 5) disease management (Steiger & Lipson, 1996).

Health promotion includes activities individuals do to actively improve their health rather than prevent disease. An example is exercising to increase stamina. Health maintenance includes passive and active activities to maintain the status quo. Examples include eating regularly and getting enough sleep. Disease prevention involves activities aimed at reducing risk of specific diseases. Obtaining immunizations and eating low fat, low cholesterol diets are examples of disease prevention. Disease detection involves becoming aware of symptoms or bodily states and seeking out diagnostic tools and techniques. Examples include breast self-exam, blood pressure monitoring, and pregnancy testing. The final component, disease management, involves implementation and monitoring of prescribed treatment plans and incorporating a treatment regimen into daily life. Monitoring of blood glucose, medication administration, peak flow measurements, and monitoring weight for fluid retention are examples of disease management. Disease management also involves activities undertaken during the healing process associated with an episode of acute illness or surgery such as changing dressings, taking medications, and performing therapeutic exercises.

The self-care components are not mutually exclusive. Many activities carried out for health promotion also impact disease prevention. The primary reason for engaging the activities dictates how the activity is best categorized (Pender, 1996).

The major assumptions of self-care include the following.

- People are ultimately responsible for their own health.
- People have the right and ability to make choices about their health and health care.
- Self-care knowledge and skills decrease the individual's or family's reliance on professional care and increase the ability to assess health status and need for intervention.
- The relationship between the client and health care professional should be a partnership.
- Health care professionals need to be fully aware of their own health beliefs and practice.
- A self-care emphasis is relevant to people of a variety of socioeconomic and cultural backgrounds.
- Self-care is an approach to nursing care, rather than a specific intervention (Steiger and Lipson, 1985, p.14-16).

These assumptions imply a societal value for independence and self control. Antecedents to self-care include possessing the knowledge about the activity, the motivation, perceptions of the benefits, and perceptions of barriers. Fries, Koop, Sokolov, Beadle, and Wright (1998) reviewed multiple studies demonstrating that providing consumers with information and guidelines for self-management, resulted 7-17% reduction in health care consumption. The central theme

supported was self-care is to be preferred to professional care and that individuals, with relevant information, can determine when professional care is required (Fries, et al. 1998).

Orem's conceptual framework has been the underpinnings of many studies of self-care (Henry & Holzemer, 1997). Orem's (1985) conceptual framework focuses on the major tenet of self-care. She defines self-care as actions directed by individuals to themselves or their environments. The actions regulate their own functioning and development in the interest of sustaining life, maintaining or restoring integrated functioning under stable or changing environmental conditions, and maintaining or bringing about a condition of well being. Components of self-care, the same as the ones identified by Steiger and Lipson, include promotion of optimal health, prevention of illness, self-monitoring and assessment (maintenance), detection of symptoms and labeling, evaluation and selection of treatment alternatives, and management of disease or chronic illness (Woods, 1989).

There are three types of self-care within Orem's model: universal, developmental, and health-deviation. Universal self-care refers to the basic needs of all individuals at all stages of life. Universal self care includes adequate intake of nutrients, food, water and air; maintenance of

hygiene and elimination; a balance between rest, activity, solitude and social interaction; avoidance of hazards to well being; and promotion of healthy social interactions. Developmental self-care requisites refer to needs associated with various stages of the life cycle. Developmental self care requisites include specific developmental needs of infants, children, and adolescents as well as needs at the opposite end of the life continuum, aging. Health-deviation self-care requisites arise from structural, functional and well being deviations as well as genetic and constitutional defects. Health-deviation self-care requisites include assessment and monitoring of symptoms, seeking and securing health care assistance, adhering to medically prescribed measures, attending to potential side-effects of therapy, accepting and adapting to changes in one's state and incorporating changes into a life style that promotes personal development (Orem, 1985; Woods, 1989).

The Self-Care framework includes the concepts of therapeutic self-care demand, self-care agency, and self-care deficit. Therapeutic self-care demand represents health care needs required at a specific time to maintain health or to promote health, development, and general well being. Self-care agency is the capability to meet self-care demand. Self-care deficits exist when self-care agency (performance/capacity) is not sufficient to meet the self-

care demand (self-care health needs). Nursing actions assist individuals to eliminate self-care deficits.

Five assumptions regarding the basic characteristics of human beings underlie Orem's Self-Care Model. First, individuals require constant processing of their own functioning and their interactions with the environment to remain alive and to function to the best of their ability. Second, individuals are independent and capable of identifying and meeting their own and other's needs. Third, mature individuals periodically experience self-care deficit. Fourth, independence and control is exercised in discovering, developing, and transmitting information regarding health care needs and decisions for self-care. Finally, groups of individuals with a structured relationship, like families, take responsibility for self-care deficits of members of the group.

Orem's self-care agency is central to achievement of self-care as in this research. Individual's capacity to meet their health care needs is the outcome of interest to nursing. If patients are not able to meet their needs for health maintenance, disease detection and management, nursing has not done its job. Needs can be met through individuals' own actions or through outside resources; such as family, friends, or the community.

Self-care demand, or health needs, is a very broad construct. Components include the 5 activities of self-care: maintenance or restoration of health, health promotion, disease prevention, disease detection, and disease and symptom management.

Achievement of Appropriate Self Care

For the purpose of this study, Achievement of Appropriate Self Care was defined as maintenance and disease. The focus is on the individuals' abilities to perform activities to meet their health care needs during the period when they need to manage their disease or an illness episode.

Much work has been done on developing tools that measure functional status or health status, which is a person's ability to perform self care activities. Progress has been made in developing increasingly sophisticated tools to measure function and disability. During the last 70-80 years, measuring functional outcomes has evolved from counting the number of sick people unable to work on the day of the interview (Katz, 1983) to measuring the three domains of functional status: personal, role, and social.

The personal domain includes activities of daily living (ADL): bathing, dressing, toileting, transfer, continence, and feeding (Johnson & Mezey, 1989; Lawton & Brody, 1969; Katz, Ford, Moskowitz, Jackson & Jaffe, 1963; & Moinpour,

McCorkle & Saunders, 1988). Measuring ADLs is based on functions of sociobiological primacy and reflects adequacy of organized neurological and locomotor response (Katz & Akpom, 1976). The assumption is that one must be cognitively aware of the environment and able to respond to changes in the environment to meet the basic needs of survival, eating, shelter etc. Meeting basic needs requires motivation and cognition. In addition, the individual must be able to move within the environment and have an intact neuro-musculo-skeletal system.

Role function includes household, family, occupational, and financial activities (Johnson & Mezey, 1989; Katz, 1983; Lawton & Brody, 1969; Tulman, Fawcett & McEvay, 1991). Katz (1983) described these activities as Instrumental Activities of Daily Living (IADL). The empirical referents for role function are shopping, cooking, housekeeping, laundry, use of transportation, managing money, managing medication, and use of the telephone. In addition to the above referents, Tulman, Fawcett, and McEvay (1991) identified caring for spouse and children, pets, and infant care responsibilities as role functions depending on the context of the population of focus. Role functions reflect that individuals are functioning units of society. There is a set of expectations about how individuals interact with each other (Fawcett, Tulman & Meyers, 1988.).

Social function includes the abilities to perform social and community activities. Johnson and Mezey (1989) define this as social competence. Social function are measured by changes in usual activities in the home, work, social, and recreational (Moinpour, McCorkle & Sounders, 1988). Social function is not as well defined or operationalized as the physical and role functions.

Another conceptualization of functional status has been developed by Leidy (1994). She proposes an analytical framework where four dimensions; capacity, performance, reserve and capacity utilization, are considered simultaneously. She defines functional status as "a multidimensional concept characterizing one's ability to provide for the necessities of life; that is, those activities people do in the normal course of their lives to meet basic needs, fulfill usual roles, and maintain their health and well being (p 197)". Functional status is a condition with values and norms that are determined from a societal or an individual perspective that contributes to the development and maintenance of a wholely functioning individual who interacts and contributes to society. Leidy's conceptualization is more global focusing on functioning itself and its attributes, whereas conceptualizations such as the ADL and IADL, focus on the

activities or behaviors that represent the dimensions of functional status.

Functional capacity is the individual's maximum potential for performance (Leidy 1994). Functional capacity includes the domains of physical, cognitive, psychological, social, spiritual, and sociodemographic. Functional performance is an individual's normal performance of activities to meet the necessities of life. Performance is constrained by capacity. Reserve is the difference between performance and capacity. Reserve is inversely related to capacity utilization. Capacity utilization is the extent to which functional potential is called upon to achieve the desired level of performance. As reserve increases capacity utilization decreases. Capacity and performance change continually across the continuum of life (Leidy, 1994) and across the trajectory of an illness episode.

Functional performance is global and includes the domains of physical (ADLs & mobility, IADL), psychological (personal growth and activities to enhance mental health), social (interaction with community and family) occupational (work activities) and spiritual (Leidy, 1994). Different health events impact functional performance differently. Changes in performance impact the individual's ability to perform self care in the domains affected. Consequences of

alterations in performance may include changes in independence, adaptation, and adjustment.

The assumptions associated with a conceptualization of self care that focuses on performance are that individuals are challenged to adjust to a constantly changing environment (Tulman et al., 1991). In addition, individual needs are socially influenced and individually determined (Leidy, 1994). Other assumptions include: functioning can be measured by tools that tap representative behaviors in each dimension (Lawton & Brody, 1969), the focus of health care is developing and maintaining function (Katz, 1983), and the ordered relationship between the activities of the ADLs support the predictive capabilities of functional return (Katz, et al., 1963).

In summary, Achievement of Appropriate Self Care is defined as the ability of individuals to perform activities to meet their health care needs at that point in time to manage their disease or illness episode, detect disease and restore health. Health care demands, needs individuals are unable to be fulfilled due to structural or cognitive impairments, are supported by other mechanisms, families or community resources. The key here is that individuals are able to meet their health needs at their maximum abilities and are supported by appropriate family and community resources as needed.

Demonstration of Health-Promoting Behaviors

The second nurse sensitive patient outcome identified by the AAN is Demonstration of Health-Promoting Behaviors. Health promoting behaviors are ways to reduce the need and demand for health care in the future (Fries, et al., 1998). The Cumulative Index of Nursing and Allied Health Literature defines health promotion as: "The process of fostering awareness, influencing attitudes and identifying alternatives so that individuals can make informed choices and change their behavior to achieve an optimum level of physical and mental health, and improve their physical and social environment" (CINAHL, 1992, p. 118).

A health service perspective defines health promotion as all activities that educate, guide, and motivate the individual to take personal actions which improve the likelihood of sustained good health and increase the appropriateness of requested services (Fries, et al., 1998). Contextual considerations are important with this concept. How the client perceives health will impact the meaning of health promotion and the expectations of outcomes from health promoting interventions (Gillis, 1995). Health promoting interventions aim to alter lifestyles positively by promoting behavior change.

Using this perspective, the indicator of self care that focuses on disease prevention and lowering controllable

risks is the focus. Generally lifestyle changes are needed to sustain good health and to prevent disease. Individuals suffering from a myocardial infarction, need to stop smoking, increase exercise, and change their diets, major lifestyle changes undertaken to prevent further damage. Individuals with diabetes, to prevent long-term complications and to promote general well being, also need to undergo lifestyle changes. Although disease prevention is focused on preventing potential diseases and health promotion focuses on increasing health, the outcomes of both are the same, an optimum level of physical and mental health. In addition, both involve long-term lifestyle changes.

"A global outcome of health promotion is self-responsibility for health" (Gillis, 1995, p.10). An antecedent to health promoting behaviors is self-efficacy, the belief that behavior can affect health (Fries, et al., 1998). In addition, health promotion usually involves changing behavior. Change is a very complex phenomena involving the following process: 1) increased awareness of the need for change, 2) increased motivation followed by attempt at change, and 3) successful changes in lifestyle practices (Gillis, 1995). This change process suggests that clients are at different stages of the process at different times. Outcomes for health promoting behaviors need to

reflect these stages. In addition, the outcome measures need to be sensitive to contextual aspects: physical, cultural, social, and ecological dimensions of health promoting behaviors.

For this study, health promoting behaviors are represented by a demonstration of knowledge or awareness of the need for change, the identification of mechanisms and motivation to change behaviors followed by demonstration of lifestyle changes. These behaviors do not happen at once and not all patients have the need or motivation to change behaviors.

Health-Related Quality of Life

Health-related quality of life, the third AAN outcome, has been defined as the subjective experiences related to health (Guyatt, Veldhuyzen Van Zanten, Feeny, & Patrick, 1989). Conceptual clarity for this concept has not been achieved although it is recognized as an important indicator that reflects patients' perceptions of the effects of disease and treatment on their well being (Murdaugh, 1997). There is general agreement that the construct has multiple dimensions but the unity of these dimensions has not been supported.

Whose perspective is being measured when referring to health related quality of life is a very important issue. Clinicians are generally interested in how well individuals

are functioning, physically, socially and psychologically. But how individuals respond to the changes in their functioning has a major impact on their perceptions of their Health Related Quality of Life (Murdaugh, 1997). Health status and functional status are concepts that may be intermediate outcomes that mediate Health Related Quality of Life. Health Related Quality of Life can be defined as "the experience of living with the disease" (Murdaugh, 1997, p. NS44). It is a transitory state, characterized by individuals' sense of well being, as they deal with changes in their health status. The sense of well being is influenced by physical, social, emotional, spiritual, work, and personal and family issues.

Health status, functional status and quality of life have been used interchangeably in the literature. Physical, psychological, and social functioning are indicators of quality of life. Components within these indicators include work performance, daily roles, personal relations, distress, behavior, symptoms, functioning and disability (Testa & Simonson, 1996). These distinct areas are believed to be influenced by individual's experiences, beliefs, expectations, and perceptions. In this study, functioning was seen as an antecedent to quality of life and its boundaries were seen as being within the Self Care Construct.

Symptom Management

Management of symptoms before, during and after treatment of diseases is important to individuals, families, and practitioners. Symptoms are a manifestation of the disease process as well as the result of treatment for the disease. When conditions are chronic, self-management of symptoms becomes a high priority. Symptom burden has been identified as an important factor associated quality of life and has been included in quality of life as well as functional status measures (Longman, Braden, & Mishel, 1997). Symptom control includes symptoms such as pain, nausea, anorexia, diarrhea, dyspnea, decubitus ulcers, anxiety, confusion-restlessness (Corless, 1994), fatigue, and depression (Longman, Braden, & Mishel, 1997).

When discussing symptom management as a indicator of self care, two perspectives can be taken. The first is the individual's independence in performing self-care management to control or alleviate symptoms. The individual identifies the symptom, assigns meaning, takes action, and is responsible for the action (Hirschfeld, 1985). The second perspective is the ability of others to take accountability for managing the patient's symptoms when the individual is unable to do so. Experts may be family members or health care professional such as nurses.

Symptoms are defined as "any functional evidence of disease or of a patient's condition; a change in a patient's condition indicative of some bodily or mental state" (Dorland, 1965). They are an internal interpretation of changes and sensory, affective, and cognitive responses to stimuli, as a result of disease or treatment. This multidimensional awareness is assigned a meaning that is specific to the individual (Teel, Meek, McNamara, & Watson, 1997).

Symptom management is defined as the patient, family, or nurse acting to reduce the distress associated with symptoms. (Hester, Miller, Foster, & Vojir, 1997) When determining outcomes, the patient's self-management is important as is how the nurse managed the symptoms when the patient was unable. Outcomes of symptom management may need to focus on three dimensions of symptoms; severity, duration and treatment effectiveness (Hester, Miller, Foster, & Vojir, 1997) in addition to patient satisfaction with symptom relief.

Research in the area of symptom management is important for two reasons. First, comprehensive health care aims to treat both the disease and the manifestations of illness that includes symptoms. Second, research can identify the conditions that enhance or impede effectiveness of

interventions (Hegyvary, 1993). Symptom management is a key focus for hospice and cancer nursing (Corless, 1994).

In summary, Symptom Management is the ability of individuals to manage their symptoms in addition to their level of satisfaction with the nurse's ability to manage their symptoms. Antecedents include a disease process, a change in physical condition or treatment regimes. Consequences are changes in the patients' perceptions of their health related quality of life and functional status.

Perceptions of Being Well Cared For

The final patient outcome to be discussed is Perceptions of Being Well Cared For. Patient's perception of care has become an important indicator of quality (Maciejewski, Kawiecki, & Rockwood, 1997). Donabedian (1969) stated the ultimate validator of quality is the achievement of health and satisfaction as defined by a particular society or subculture. Unfortunately, satisfaction has not been consistently and clearly defined theoretically or operationally (Bond & Thomas, 1992; Cleary, & McNeal, 1988).

Rosenthal and Shannon, (1997) identified 5 reasons supporting the use of patient's perceptions to evaluate quality of care. First, patient's perceptions may be more sensitive than traditional measures of quality to differences across health-care delivery systems. They may

also be less costly and more reliable than other methods to assess quality and measuring patient's perceptions does it depend upon the review of the medical record.

Second, patient's perceptions can reflect positive aspects of care rather than adverse events such as mortality which are rare occurrences. Third, the tenet of autonomy is an important factor in measuring perceptions. Patient's have a right to decide what is best for them and their perceptions have become very important in today's highly competitive health care market (Cleary, Keroy, Karapanos, & McMullen, 1989). Fourth, patient's perceptions have be shown to relate to physicians' and hospital employees' assessments of care. Correlations of patient's overall assessments are higher with their perceptions' of processes of care than with their perceptions of amenities of care. Finally, patients' satisfaction with care is directly related to seeking medical care, changing providers, and complying with recommended treatment regimes.

Satisfaction has been defined as the judgment resulting from a multidimensional interaction between cognitive and affective domains after a service experience (Kane, Maciejewski, & Finch, 1997). In other words, satisfaction is an attitudinal response to value judgments patients make after experiencing a health care encounter. These dynamic judgments are influenced by the opinions of others,

expectations, and the outcomes of the encounter (Kane, et al., 1997).

As an outcome, measuring satisfaction involves indexing the cognitive evaluation and emotional reactions to salient aspects of care (Cleary, Keroy, Karapanos, & McMullen, 1989). The attributes of satisfaction include satisfaction with contacts and processes experienced during the health care encounter such as the admissions process, nursing, physicians, radiology, food and nutrition services, the discharge process, and billing. In addition, attributes of satisfaction include the presence of actions that represent quality i.e.: nurse not too busy, didn't talk down to me, the nurse was attentive, friendly, available, introduced themselves, etc.)(Ketefian, Redman, Nash & Bogue, 1997; Bader, 1988). Problems with specific actions within the domains of communication, financial information, patients' needs and preferences, emotional support, physical comfort, pain management, education, family participation and discharge preparation/continuity of care (Cleary, et al., 1991) are attitudinal attributes. Finally, a global overall satisfaction with health care has been used to measure satisfaction(Cleary, et al., 1989).

Satisfaction has been shown to correlate with other concepts. Health status is positively associated with satisfaction, as is age, gender, and sociodemographic

variables (Cleary, et al., 1989). Older patients and women tend to be more satisfied but findings are inconsistent (Rosenthal & Shannon, 1997). Compliance with contraceptive treatment was predicted by client satisfaction and clinic structure (Weisman & Nathanson, 1985). Satisfaction in this case was defined as congruence between expectations and the therapy actually received. This finding supports the belief that satisfaction with care improves compliance with therapy and increases the chances of returning for follow-up care (Cleary, et al., 1991; Ketefian, et al., 1997). A consistent finding is that satisfaction with nursing care is a significant indicator of overall patient satisfaction (Cleary, et al., 1989; Ketefian, et al., 1997; Rosenthal & Shannon, 1997).

Confusion and inconsistencies exist with regard to the measurement of satisfaction. There has been little attention to the sociopsychological theory of satisfaction (Like & Zyzanski, 1987). Expectations, values and perceived occurrences were found to have independent effects on satisfaction, but accounted for less than 10% of the variance in a study by Like and Zyzanski (1987). By meeting patients' requests during the health care encounter the percent of explained variance increased to 19%. A large percentage of variance, however, is unexplained. In addition, patients' opinions regarding care have focused on

an evaluation of the departmental processes of care or have asked the patient if certain aspects of care were observed or received. Do these aspects or processes of care enable a patient to feel they have been well cared for? Patients perceiving, recognizing or understand (Steinmetz & Braham, 1993) when they are being well cared for is a salient outcome for nursing. Being well cared for implies that physical, psychosocial, and emotional needs are being met. Being well cared for implies that services were provided that demonstrated concern for the welfare and well being of the person (McCorkle, 1984). Being well cared for is a subjective evaluation by the individual receiving the attention and interventions based upon their needs and expectations.

Summary

Consistent outcomes that can be tracked across the continuum of health care delivery and the healing process are important for evaluating the continual changes in health care. Outcomes for the purpose of systems research need to be at the level of the system or unit rather than the individual. In addition, health needs to be conceptualized from a global perspective of general well being and self-realization.

Five positive, patient focused outcomes have been proposed by the AAN Expert Panel on Quality Health Care. These outcomes, Achievement of Appropriate Self Care, Demonstration of Health Promoting Behaviors, Health Related Quality of Life, Symptom Management, and Perceptions of Being Well Cared For were benchmarked in this study to establish goals for outcome measurement to plan and evaluate practice and organizational changes. The definitions of each concept have been discussed as well as the overlapping of their boundaries. The indicators and definitions of each outcome used for this research are listed in Table 1.

Achievement of Appropriate Self-Care was defined as the ability of individuals to perform activities within their capabilities to meet their health care needs at that point in time to maintain health, detect disease and to manage their disease. Because some individuals may have functional impairments that prevent them from self-care, families' abilities to meet their needs represented appropriate self care as well as an appropriate interdependence within the family. Three indicators were targeted as representing Appropriate Self-Care: maintaining health, disease detection, and disease management. These activities applied to both the patient's ability to perform self care as well as the family's ability to meet the patient's needs. The following activities represented these concepts.

Table 1 - Definitions and Indicators of Patient Outcomes

Patient Outcome	Definition	Indicators
Achievement of Appropriate Self-Care	the ability of individuals to perform activities within their capabilities to meet their health care needs at that point in time to maintain health, detect disease and to manage their disease. Because some individuals may have functional impairments that prevent them from self-care, families' abilities to meet their needs represent an appropriate interdependence within the family.	• maintaining health • disease detection • disease management
Demonstration of Health Promoting Behaviors	a demonstration of knowledge or awareness of the need for change, the identification of mechanisms and motivation to change behaviors, and by the demonstration of these behaviors and lifestyle changes	• demonstrates knowledge • identifies mechanisms & motivation • demonstrates new behaviors
Health Related Quality of Life	the experience of living with the disease	• physical functioning • emotional state • intellectual functioning • desired social functioning
Symptom Management	as the ability of individuals, families or the nurse to manage symptoms	• satisfaction with how well symptoms managed • able to manage their symptoms
Perceptions of Being Well Cared For	the subjective evaluation of the attention received from nursing that demonstrates concern for the welfare and well being of the person	• physical needs met • psychosocial needs met • spiritual needs met

- Maintaining health included activities such as ability to eat regularly, get enough sleep and maintain an appropriate activity level.
- Disease detection included such activities as recognizing reportable symptoms, breast self examination and blood pressure monitoring.
- Disease management included medication administration, blood glucose monitoring, and physiological measurements such as body weight and peak flow measures.

Demonstration of Health Promoting Behaviors was represented by a demonstration of knowledge or awareness of the need for change, the identification of mechanisms and motivation to change behaviors, and the demonstration of these behaviors and lifestyle changes. Knowledge of the need for change could be demonstrated through verbalization of behavior/lifestyle changes that were needed. Verbalizing the desire to attend smoking cessation classes and why attendance was important to stop smoking would represent motivation to change. Stopping smoking would demonstration of behavior changes.

Health Related Quality of Life was defined as "the experience of living with the disease" (Murdaugh, 1997, p. NS44). Health Related Quality of Life was viewed as a transitory state, an individual's sense of well being, as

they dealt with changes in health status. The sense of well being included the domains of physical, social, emotional, and intellectual functioning.

Symptom Management was defined as the ability of individuals, families or the nurse to manage symptoms. The outcomes were self-ability to manage symptoms and satisfaction with nursing's ability to manage symptoms. Because symptoms vary with disease processes, treatments, and patient's responses, individual symptoms were not the focus, but all symptoms in general.

Perceptions of Being Well Cared For was the subjective evaluation of the attention received from nursing that demonstrated concern for the welfare and well being of the person.

CHAPTER III - Methodology

Introduction

The purpose of this exploratory research project was to validate and establish benchmarks for patient outcomes that are sensitive to nursing intervention across the continuum of care. To achieve this purpose the Delphi technique, a structured consensus building technique, was used. In this chapter the Delphi technique, definitions of expert and consensus, the Delphi questionnaire, analysis of data, human subjects, and limitations will be discussed.

Delphi Technique

The Delphi technique is a method for structured communication between a group of experts or lay people to deal with a complex problem" (Linstone & Turoff, 1975). The pooling of expert judgments provides better estimates of the question under study than that of a single expert (Verran, 1981). Repeat data collection can be accomplished through a mailing (conventional Delphi), the internet, or a consensus development meeting (real-time Delphi). Delphi is a desirable choice when the question under study:

- does not lend itself to precise analytical techniques,
- the individuals contributing responses to the problem have no history of adequate communication,
- more individuals are needed than can realistically interact in a group,
- group meetings are time consuming and costly,

- disagreements among the individuals would hinder the sharing of thoughts, and
- the heterogeneity of the individuals must be maintained to assure validity of the results (Linstone & Turoff, 1975).

The output of the Delphi has been described by Linstone and Turoff (1975) as 'collective human intelligence'. Delphi was first used in the early 1950's in defense research. The method was developed for structuring group communication to reach a decision about a complex problem (Linstone & Turoff, 1975). The features of the method include anonymity, iteration with controlled feedback by giving statistical group responses, and expert input. Anonymity is effective in allowing all individuals to have a voice that minimizes psychological effects from dominate individuals. Honest opinions can be heard in an anonymous fashion. (Goodman, 1987; Williams & Webb, 1994).

Anonymity and confidentiality have been considered a potential limitation (McKenna, 1994) as well as a strength. Some authors argue anonymity leads to hasty ill-considered. To avoid this problem, quasi-anonymity has been used where the panelists are known to each other but their responses and opinions are anonymous (McKenna, 1994).

Another feature of the Delphi is the iteration or multiple rounds with controlled feedback. Feedback to participants allows them to review others' responses and gives them an opportunity to revise their opinions (Linstone

& Turoff, 1975). The group is kept informed of the 'collective group opinion' (Goodman, 1987). The feedback is usually given in a quantitative format with means, standard deviations, median, modes, percentages, and inter-quartile ranges for continuous numerical scales (Jones & Hunter, 1995). This statistical group response provides a ranking of items and allows individuals to see where their opinion lies in relation to other panelists.

Reaching a consensus decision is the goal of the Delphi technique. Consensus is defined by Random House (Steinmetz & Braham, 1993) as solidarity of opinion, general agreement or harmony. The number of rounds is determined by the level of consensus. To increase the reliability and determine if addition rounds are needed, the level of consensus is established a priori (Williams & Webb, 1994). Acceptable levels of agreement have been defined as 51% agreement (McKenna, 1994), mean scores above a preset value (Lobach, 1995), the stability of group response over successive rounds (Goodman, 1987), a median response with an inter-quartile range of no more than one scale point (Verran, 1981) or a set percentage of items which move after a round (Duffield, 1993).

The final feature of the Delphi is the participation of experts. Experts are sought because of their knowledge level regarding the subject (Procter & Hunt, 1994). In this

study, experts were defined as individuals with knowledge regarding outcomes whom were willing to engage in the project (McKenna, 1994).

Research Design and Analysis

Subjects

Only registered nurses were included in this study as they are knowledgeable about the scope of nursing care. The role of a nurse has at time been confusing to lay individuals as well as other members of the health care team. To be considered an expert the individual was required to be in a position within one of the areas of the care continuum and familiar with aggregated outcomes at the facility or service level. Directors of Quality Management, Nursing Services, Home Care, Hospice and Case Management are examples of the experts who participated. Direct care or bedside nurses were not asked to participate as their work is focused at an individual level. The benchmarks being set were at the facility or group level. Trying to estimate patient outcomes for a global population is difficult when one is used to focusing at the individual level. Even directors at a unit level are generally dealing with a fairly homogeneous population like patients with cardiac disorders or women and infants. Benchmarks for these different groups would not be the same.

Potential experts were asked to participate via a letter. The project was explained to them as was the potential time commitment. They were informed that their names and the areas they represented would be but that the confidentiality of their response would be maintained. No one would have access to their ratings. A consent to participate was included with demographic questions to indicate their agreement to participate. During the feedback rounds, results from all five delivery settings were given to the panelists along with their personal previous ratings.

Forty-one panelists, volunteered to participate. They represented the continuum of care: hospitals (acute care), long term care, home care, hospice, and ambulatory/primary care providers. Attempts were made to include 12 to 15 members for each area. This number was targeted with the hope that after the final round 7-10 participants would remain. Letters soliciting names for inclusion in the project were sent to nurse leaders in each area of the continuum. Eighty-five letters were sent from the first query asking nurse leaders to participate in the study. The response rate was low, so a follow up letter was sent to those not responding. In addition, letters were sent to the Arizona Organization of Nurse Executives.

Demographics

Forty-one nurses responded to the first Delphi survey. Acute care had 17 respondents; home care was represented by 4 nurses, ambulatory care had 8 nurses, and hospice and long-term care both had 6. Originally, requests were sent to skilled nursing facilities but the response was very poor even after a second mailing. They were excluded. Demographic information included highest degree earned, the number of years they had been a Registered Nurse, the number of years in their area of "expertise", the level of care that they represented. Table 2 is a summary of the demographic information.

Table 2 - Demographics

	Mean (st dev)		Highest Degree Held						
	# years a RN	# years at level of care	AD	BSN	BA	MS, MN	MA	MPH, MBA MPA	PhD
Acute Care	25.5 (6.98)	19.47 (10.16)		3 18%		12 71%		1 5.8%	1 5.8%
Home Care	19.5 (3.7)	11.88 (6.01)		1 25%		2 50%			1 25%
Ambulatory Care	24.8 (11.15)	10.6 (7.72)		1 13%		5 63%	1 13%	1 13%	
Hospice Care	20.7 (9.35)	5.92 (2.15)	1 17%	3 50%	1 17%	1 17%			
Long Term Care	19.1 (11.06)	6.5 (3.02)	1 17%	3 50%			1 17%	1 17%	

Delphi Rounds

Establishing the appropriateness and benchmarks of the nurse sensitive patient outcomes at different levels of care were the major purposes of this project. The first round included the letter of introduction with the questionnaire

listing the definitions and questions regarding the appropriateness and benchmark levels for each indicator for the patient outcomes (see Appendix B). Respondents were first asked to indicate if the patient outcome identified was appropriate as a nurse sensitive indicator on a scale of 1 to 4 with 1 being not appropriate, 2-somewhat appropriate, 3-moderately appropriate, and 4-very appropriate. After rating appropriateness they were asked to indicate what percentage of the population they cared for would be expected to achieve the patient outcome. There were 18 indicators for the five outcomes. Each indicator needed an appropriateness rating and then a benchmark resulting in 36 ratings and benchmarks per level of care. In addition, the experts were provided the opportunity to list comments regarding the identified patient outcomes and to list any additional nurse sensitive patient outcomes along with their definitions that. They were cautioned to include only outcomes they believed would cross the continuum of car.

Subsequent rounds included the same questions with the respondent's previous round's responses, the group mean, grouped responses of respondents working in the other level of care and a space for the new rating (see Appendix C). The experts were asked to reevaluate their ratings in relation to the group's mean ratings. Histograms of the rating distributions were included as well as written

comments received. If the expert's response remained outside the group's range they were asked to justify their response. A list of the additional outcomes identified by the panelists including definitions were given to the panelists but no further action was required. Benchmarks for these outcomes were not solicited.

All initial respondents received a survey for round 3 to maintain an adequate sample size even if they did not respond to round 2. Their initial scores from round 1 were listed for round 3. An example of subsequent rounds is given in Appendix C.

Table 3 - Total Number of Indicators for Outcomes

Outcome	Appropriateness indicator	Benchmark indicator	Total # of indicators
Appropriate Self Care			
Self-Care	3	3	6
Family's	3	3	6
Health Promoting Behaviors	3	3	6
Health Related Quality of Life	4	4	8
Perceptions of Being Well Cared For	3	3	6
Symptom Management	2	2	4
Total number for each participant			36
Total number for study (5 levels of care)			180

Items that reached consensus were not included in subsequent rounds. Consensus for the appropriateness question, an appropriate-not appropriate scale, was determined when there was a mean response with an inter-quartile range of no more than one scale point (Verran,

1981). Consensus for each patient outcome indicator benchmark was deemed to be achieved when there were small standard deviations around the item mean (Lynn, Layman, & Englebardt, 1998; Verran, 1981) and the difference between the first and third inter-quartile range was 15 or less (Rayens & Hahn, 2000).

A measure of stability was calculated for items that did not reach consensus to indicate when to stop asking the questions. Stability was established when the change in distribution of responses was less than 15% from one round to the next (Scheibe, Skutsch, & Schofer, 1975). The measure of stability indicated that panelists were no longer changing their responses based on the supplied statistical feedback (Verran, 1981).

Analysis

The means of the ratings were used to answer the first question "Are the five identified patient outcomes appropriate as indicators of nurse sensitive patient outcomes across the continuum of care?". The indicator was retained if the mean was above 3.

Mean percentage ratings were used to establish the benchmarks. Consensus for each benchmark was achieved when there were small standard deviations around the mean and the inter-quartile difference was less than 15. These statistics were used to answer the second question "Can

benchmarks be established and consensus reached for identified nurse sensitive patient outcome indicators?".

To determine if different settings of care had different benchmarks, a series of ANOVAs using the means between the groups with post hoc testing was planned. Due to the small sample sizes, the statistical analysis was not done.

The final question "Do experts identify additional nurse sensitive patient outcomes that span the continuum of care?" was answered with a description of the indicators listed.

Human Subjects Protection

The research project was reviewed and approved by the University of Arizona's Human Subjects Committee before data collection began (See Appendix A). The purpose of the project was explained with the invitation to participate. The panelists were informed that the group was to receive a list of the names of the participants with the area that they were representing. Individual responses were not shared with the group. Participants had access only to their own ratings to compare their rating with the group's.

Raw data was entered into an Excel database with an ID number only. A master list containing the participants name, address, and ID number was kept in a separate safe

location. The names, addresses, and ID numbers were needed to send the individualized Delphi questionnaires back to the participant's for subsequent ratings. The results of the analysis were reported as group data. Individual responses were kept confidential.

Summary

The methodology for answering the questions of this study was a survey design to solicit the opinions of nursing experts. The survey methodology, the Delphi technique, has been described. This structured technique uses anonymity and iteration with controlled statistical group response feedback to obtain expert input on a complex subject. Experts were defined as registered nurses with experience working at the system level and evaluating group outcomes. The research protocol included three Delphi rounds sent to willing participants until consensus was reached for appropriateness of the patient outcomes and the establishment of benchmark values. The data analysis plan included the establishment of consensus using means and variance analysis. ANOVAs with post hoc analysis were not run because of small samples. Human subjects protection was assured by maintaining the confidentiality of the participants' individual responses.

CHAPTER IV - Results

Introduction

The results of the project will be presented in this section. The two aspects of indicator appropriateness and benchmarks that reached consensus will be reported by level of care. Answers to the research questions will follow. The final section will review the benchmarks for the 18 indicators of the 5 patient outcomes across the 5 levels of care.

Three rounds were performed for this Delphi study. Consensus was not reached for all indicators within all levels of care but the majority of indicators did reach consensus. A fourth round was not performed as two of the levels of care had a sample size of two by the third round (see Table 4).

Table 4 - Sample Sizes for Each Round

Level of Care	Round 1	Round 2	Round 3
Acute Care	17	9	12
Home Care	4	3	2
Ambulatory Care	8	6	Not needed
Hospice	6	4	3
Long Term Care	6	3	2

During the analysis, responses from one individual representing long term care appeared to be consistent with a

response set. She rated all indicator benchmarks at the same level of 5%. Round two results were examined and it was observed that after deleting the response set, the remaining 2 results had reached consensus for the benchmarks. The results for long term care will report responses without the response set values.

Only Acute Care rated two of the 18 indicators as not appropriate (see Table 5). The rest of the participants rated all the indicators as appropriate. The two indicators that the respondents for Acute Care rated as only "somewhat appropriate" were Intellectual Functioning and Desired Social Functioning of Health Related Quality of Life. Responses for nine benchmarks did not reach consensus, three in Acute Care and six in Hospice. Consensus was reached for the rest (see Table 6). Each level of care's results will be summarized.

Acute Care

There were 17 respondents for round one, nine for round two and 12 for round three. All nine panelists from round two responded in round three. Round three had a 71% response rate from round one.

Appropriate Self Care

All three indicators of Performing Self-Care Behaviors were found to be appropriate at the individual level and the

Table 5: Mean Appropriateness ScoreS for Nurse Sensitive Patient Outcomes

Outcome	Acute Care	Home Care	Ambulatory Care	Hospice	Long Term Care
APPROPRIATE SELF CARE					
Perform self-care behaviors regarding:					
Health maintenance behaviors	3.50	3.60	3.67	3.50	4.00
Disease detection	3.44	4.00	3.63	3.25	3.50
Disease management	3.83	4.00	4.00	3.50	4.00
Family's ability to meet:					
Health maintenance behaviors	3.33	4.00	3.83	3.75	3.00
Disease detection	3.22	3.60	3.67	3.50	3.00
Disease management	3.56	3.77	4.00	3.75	3.00
DEMONSTRATION OF HEALTH PROMOTING BEHAVIORS					
Demonstrate knowledge	3.67	3.67	4.00	3.50	3.00
Identify mechanisms & motivation	3.56	3.67	3.67	3.50	3.00
Demonstrate new behaviors	3.00	3.67	3.50	3.50	3.00
HEALTH RELATED QUALITY OF LIFE					
Physical functioning	3.56	4.00	3.83	3.5	4.00
Emotional state	3.06	4.00	3.83	4.00	4.00
Intellectual functioning	2.32	3.17	3.17	3.50	3.50
Desired social functioning	2.41	3.00	3.17	3.50	3.50
PERCEPTION OF BEING WELL CARED FOR					
Physical needs were met	4.00	4.00	4.00	4.00	3.50
Psychosocial needs were met	3.83	3.75	3.67	4.00	3.50
Spiritual needs were met	3.28	3.58	3.00	4.00	3.50
SYMPTOM MANAGEMENT					
Satisfied with how well their symptoms were managed	3.56	4.00	4.00	4.00	4.00
Able to manage their symptoms	3.61	4.00	3.83	4.00	4.00

Shaded values did not meet criteria and were not accepted

Table 6: Benchmarks for Nurse Sensitive Patient Outcomes Deemed Appropriate

Outcome	Acute Care	Home Care	Ambulatory Care	Hospice	Long Term Care
APPROPRIATE SELF CARE					
Perform self-care behaviors regarding:					
Health maintenance behaviors	69.92	65.67	73.33	7.67	45.00
Disease detection	68.33	73.33	71.67	7.50	37.50
Disease management	69.67	73.33	70.83	90.00	37.50
Family's ability to meet:					
Health maintenance behaviors	67.42	69.33	76.67	**61.67**	25.00
Disease detection	63.50	73.33	72.50	80.00	22.50
Disease management	63.33	70.0	74.17	81.67	22.50
DEMONSTRATION OF HEALTH PROMOTING BEHAVIORS					
Demonstrate knowledge	70.67	65.0	85.00	**73.33**	37.50
Identify mechanisms & motivation	64.92	56.67	72.50	**73.33**	17.50
Demonstrate new behaviors	**44.50**	57.50	56.67	**66.67**	17.50
HEALTH RELATED QUALITY OF LIFE					
Physical functioning	72.78	81.67	90.00	66.67	30.00
Emotional state	66.58	72.50	84.17	**80.00**	50.00
Intellectual functioning		53.33	85.00	70.00	50.00
Desired social functioning		68.33	82.50	**73.33**	30.00
PERCEPTION OF BEING WELL CARED FOR					
Physical needs were met	85.83	81.67	93.33	93.75	67.50
Psychosocial needs were met	78.75	77.50	81.67	92.50	67.50
Spiritual needs were met	73.75	77.50	68.00	92.50	77.50
SYMPTOM MANAGEMENT					
Satisfied with how well their symptoms were managed	87.78	81.67	90.00	92.50	82.50
Able to manage their symptoms	75.00	80.00	82.50	98.33	40.00

Blanks - outcomes not appropriate Shaded values did not reach consensus

level of the family. All scores were at the moderately to very appropriate level. Consensus was also reached for all the benchmarks within this outcome as indicated by the inter-quartile difference being less than 15. The benchmarked percentage of acute care population that should be able to perform self-care behaviors regarding health maintenance was 69.9%, disease detection 68.3% and disease management 69.7%. The percentages for the family's ability to assist were similar: health maintenance is 67.4%, disease detection 63.5% and disease management 63.3%.

Demonstration of Health Promoting Behaviors

All of the indicators were identified to be appropriate for the acute care population. Consensus for demonstrate knowledge and identify mechanisms and motivation was not reached until the third round. The benchmark for demonstrate new behaviors did not reach consensus. The mean benchmark after the third round was 44.5% (std dev-17.54) with an inter-quartile difference of 18.75. Demonstrates knowledge and identify mechanisms & motivation met consensus criteria with benchmarks of 70.7% and 64.9%.

Health Related Quality of Life

Only two of the four indicators that make up Health Related Quality of Life were deemed appropriate as nurse sensitive patient outcomes. A sense of well-being and satisfaction with physical functioning and emotional state

were accepted. The benchmarks for the accepted indicators were 72.8% for physical functioning and 66.6% for emotional state. Consensus was reached for both. The other 2 were not accepted as appropriate indicators and consensus was not reached for the benchmarks.

Perceptions of Being Well Cared For

All three indicators of Perceptions of Being Well Cared for were accepted as appropriate indicators and consensus was reached for all benchmarks. The benchmarks for physical needs were met was 85.8%, psychosocial needs were met was 78.8% and spiritual needs were met was 73.8%.

Symptom Management

The final nurse sensitive patient outcome is Symptom Management. It has two indicators; satisfied with how well their symptoms were managed and able to manage their symptoms. Both indicators were accepted and reached consensus for the benchmarks. Satisfaction with how the nurse managed symptoms was set at 87.8% with being able to manage their own symptoms lower at 75%.

Home Care

All of the eighteen indicators identified for the 5 nurse sensitive patient outcomes were accepted as appropriate and consensus was reached for the benchmarks. Sample size for this level of care was 4 after the first

round, 3 (75%) after the second and 2 (50%) following the third. Only eight of the 36 ratings had not reached consensus after the second round.

Appropriate Self Care

The following benchmarks were set for patients performing self-care behaviors relating to health maintenance; 65.7%, disease detection; 73.3% and disease management; 73.3%. Percentage of families' being able to meet these behaviors were 69.3% for health maintenance, 73.3% disease detection and 70% for disease management behaviors.

Demonstration of Health Promoting Behaviors

The benchmarks set for the three indicators comprising Health Promoting Behaviors was 65% for demonstrate knowledge of health promoting lifestyles; 56.7% for identify mechanisms and motivation to promote health lifestyles, and 57.5% for demonstrate new health promoting behaviors. Only demonstrate knowledge of health promoting lifestyles and demonstrate new behaviors needed a third round to reach consensus.

Health Related Quality of Life

Physical functioning was the highest benchmark set of the four indicators that comprised Health Related Quality of Life at 81.7%. Emotional state was next at 72.5%. Desired

social functioning was third at 68.3% with intellectual functioning set at 53.3% for patients meeting this outcome.

Perceptions of Being Well Cared For

All of the benchmarks were set fairly high for the indicators of Perceptions of Being Well Cared For. Consensus for perception of how well their physical needs were met was set at 81.7%. Targets for both psychosocial needs and spiritual needs targets were 77.5%.

Symptom Management

Both symptom management benchmarks reached consensus after the second round. Percent satisfied with how well their symptoms were managed was set at 81.7% while self management was set at 80%.

Ambulatory Care

Total consensus with appropriateness and establishing of benchmarks was reached after the second round for ambulatory care. The sample of nurses within this area started at 8 with 6 (75%) responding with the second round.

Appropriate Self Care

All benchmarks for self-care and family assisted care were set in the 70's. Targets for self-care for health maintenance was 73.3%, disease detection was 71.7% and disease management was 70.8%. Family assisted care was set

at 76.7% for health maintenance, 72.5% for disease detection and 74.2% for disease management.

Demonstration of Health Promoting Behaviors

The target for demonstrating knowledge of a health promoting life style was set at 85%. The target for knowing the mechanisms and motivation to promote that lifestyle was 72.5%. Actually demonstrating the health promoting behaviors was lower at 56.7%.

Health Related Quality of Life

The benchmarks for percent of patients achieving a sense of well-being and satisfaction with physical function, emotional state, intellectual functioning and desired social functioning were all set high with physical functioning being the highest at 90%. Patients satisfied with their emotional state was targeted at 84%, intellectual functioning at 85% and desired social functioning 82.5%.

Perceptions of Being Well Cared For

Perception of how well physical needs were met was the highest benchmark of all of the outcomes for ambulatory care at 93.3%. The second lowest benchmark was also in the category as spiritual needs being met was targeted at 68%. The benchmark for having the patient's psychosocial needs met was 81.7%.

Symptom Management

The targets were also set high for satisfaction with symptom management by nursing and through self-care. Benchmarks for patients satisfied with nurse assisted management was 90% and satisfaction with self-management the target was 82.5%.

Hospice

Six of the benchmarks set by Hospice participants did not reach consensus. Inter-quartile differences ranged from 20 to 25 indicating lack of consensus. There was a 50% attrition of participants from round 1 to round 3. There were six participants after round 1, four after round 2, and three after round 3.

Appropriate Self Care

The targets for self-care for health maintenance and disease detection were set very low for patients receiving hospice care. The benchmark for patients meeting self-care for health maintenance was established at 7.7% and disease detection at 7.5%, but the target for disease management was set at 90%. One participant chose not to set a benchmark for this outcome. The targets for Family ability to meet the patient's self-care needs were set higher than self-care. The health maintenance behaviors target was set at 61.7% although consensus was not reached. The stability

factor indicated the ratings were not changing between the rounds. Disease detection and disease management benchmarks were 80% and 81.7%. Consensus was reached for both of these benchmarks.

Demonstration of Health Promoting Behaviors

Consensus was not reached for any of the benchmarks for this outcome although all three were considered appropriate. The target demonstrating knowledge was set at 73.3%, identifying mechanisms and motivation was set at 73.3 and demonstrating new behaviors was set at 66.7%. The ratings for the benchmarks did not change from round 2 to round 3 for any of the participants indicating stability.

Health Related Quality of Life

Consensus was reached for benchmarks of sense of well-being and satisfaction with physical functioning and intellectual functioning reached consensus but not for emotional state and desired social functioning. The benchmark for physical functioning was 66.7% and for intellectual functioning the target was 70%. For emotional state, the target was 80% and the target for desired social functioning was set at 73.3%

Perceptions of Being Well Cared For

Consensus around benchmarks for indicators of Being Well Cared for reached after the second round and all three were in the 90's. The target for patients having their

physical needs met was 93.8%, psychosocial needs was 92.5% and spiritual needs being met was 92.5%.

Symptom Management

Benchmarks for symptom management were also very high. The benchmark for satisfaction with symptom management was 92.5% and for patients' feeling confident they are able to manage symptoms was set at 98.3%.

Long Term Care

All the outcomes were rated as appropriate for patients needing long term care. Six respondents participated in round one but this dropped 50% after round two with only 3 nurses responding. For round three, only 2 nurses completed the survey. In addition, there was a response bias as one participant set all benchmarks at 5%. Results are reported with data from the person evidencing the response set removed.

Appropriate Self Care

All the benchmarks for self-care and family assisted self-care were set low for patients at this level of care. Self-care behaviors related to health maintenance were targeted for 45% of the population, disease detection for 37.5% and disease management for 37.5%. The target for family's ability to assist health maintenance behaviors was set at 25% that may reflect that families were not viewed as

available to help. The targets for disease detection and disease management were both lower at 22.5%.

Demonstration of Health Promoting Behaviors

There was not an expectation for patients demonstrating health promoting behaviors for this patient population. The benchmark for demonstration of knowledge was 37.5% of the population while only 17.5% were expected to identify mechanisms and motivation or demonstrate health promoting behaviors. Only 67% of the long term care participants rated demonstration of health promoting behaviors as being an appropriate outcome for their patient population even though the score was 3.17 after round one.

Health Related Quality of Life

The benchmarks for sense of well-being and satisfaction with all the indicators of Health Related Quality of Life were rated moderate to low. Only 30% of the patients are expected to be satisfied with physical functioning and desired social functioning while 50% are satisfied with their emotional state and intellectual functioning.

Perceptions of Being Well Cared For

Perceptions of Being Well Cared For were also rated in the moderate range. Only 67.5% of the patients were expected to be satisfied with how their physical and psychosocial needs are met while 77.5% expected to be satisfied with the way spiritual needs were met.

Symptom Management

Consensus was reached for all satisfaction indicators. Eighty-two% were targeted to be satisfied with the care provided by nursing staff and the target was that only 40% of the patients would feel confident they could manage their symptoms. This last benchmark reflects why patients need long term care. If they could manage their symptoms and perform disease management, they probably would not need long term care.

Research Questions

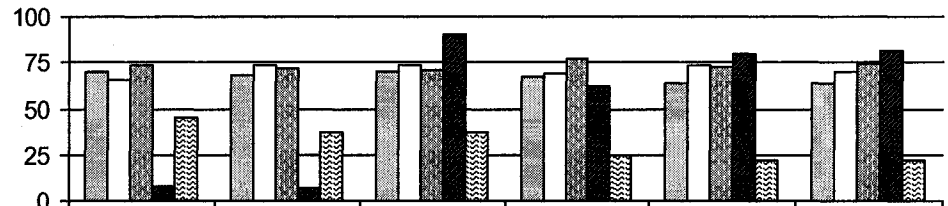
The first research question asked if the five identified patient outcomes were appropriate as indicators of nurse sensitive patient outcomes across the continuum of care. Overall, the outcomes were deemed by the experts as appropriate with a few exceptions. Two indicators of Health Related Quality of Life were determined not to be appropriate for patients in acute care settings: a sense of well-being and satisfaction with intellectual and desired social functioning were not accepted by participants from acute care. All the remaining indicators of the patient outcomes were accepted as appropriate.

Research question #2 asked if benchmarks could be established and consensus reached for the identified nurse sensitive patient outcome indicators. Benchmarks were set

for all indicators deemed to be appropriate (see Table 6). Consensus was not reached for seven of the indicators: one for Acute Care and six for Hospice. One indicator, demonstrating new health promoting behaviors did not reach consensus for both acute care and hospice. For two factors of HRQOL, satisfaction with desired social functioning and emotional state, consensus was not reached for Hospice patients. In addition there were three other factors that the Hospice group were unable to agree upon: family's ability to help the patient with health maintenance behaviors (self-care), demonstrating health promoting knowledge and identifying mechanisms and motivation (Health Promotion). Consensus was reached for all indicators of the patient outcomes for Home Care, Ambulatory Care, and Long Term Care participants.

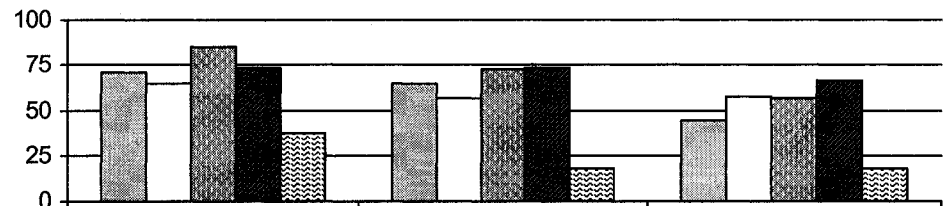
The third research question dealt with potential differences between the benchmarks for each of the levels of care. Statistical analysis for this question was not possible because of the within groups sample sizes. Two settings, home care and hospice, had sample sizes of three, long term care had 2 respondents, ambulatory care had 6 and acute care had 12 after the final round. When examining histograms of the established benchmarks (see Figure 4), hospice had three factors that differed from other levels of care. The benchmarks for health maintenance behaviors and

Figure 4 - Histograms of Benchmarks by Outcome



	Health maintenance	Disease Detection	Disease Management	Family's HMB	Family's DD	Family's DM
Acute Care	69.9	68.3	69.7	67.4	63.5	63.3
Home Care	65.7	73.3	73.3	69.3	73.3	70
Ambulatory Care	73.3	71.7	70.8	76.7	72.5	74.2
Hospice	7.7	7.5	90	61.7	80	81.7
Long Term Care	45	37.5	37.5	25	22.5	22.5

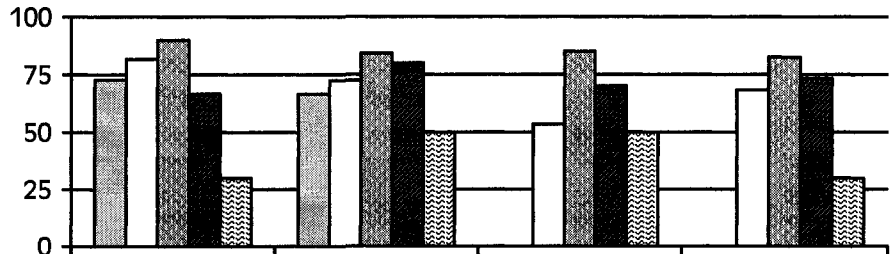
Appropriate Self Care



	Demonstrate knowledge	Identify mechanisms & motivation	Demonstrate new behaviors
Acute Care	70.7	64.92	44.5
Home Care	65	56.7	57.5
Ambulatory Care	85	72.5	56.7
Hospice	73.3	73.3	66.7
Long Term Care	37.5	17.5	17.5

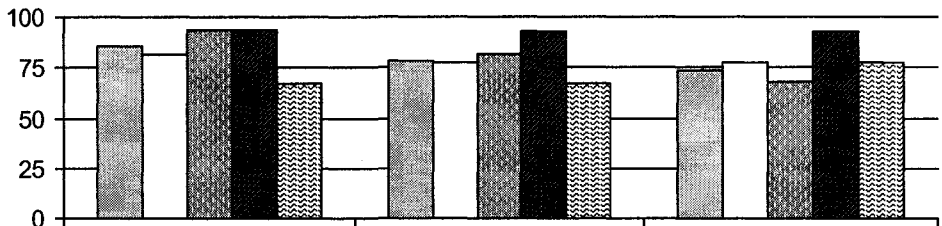
Demonstration of Health Promoting Behaviors

Figure 4 (con't) - Histograms of Benchmarks by Outcome



	Physical functioning	Emotional State	Intellectual functioning	Desired Social Functioning
Acute Care	72.78	66.6		
Home Care	81.67	72.5	53.33	68.33
Ambulatory Care	90	84.17	85	82.5
Hospice	66.67	80	70	73.3
Long Term Care	30	50	50	30

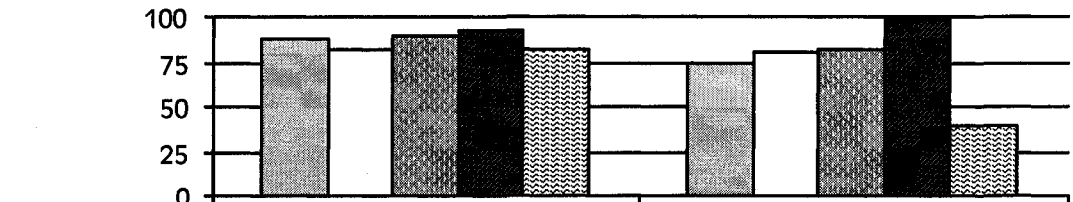
Health Related Quality of Life



	Physical Needs were met	Psychosocial needs were met	Spiritual needs were met
Acute Care	85.8	78.8	73.8
Home Care	81.67	77.5	77.5
Ambulatory Care	93.33	81.67	68
Hospice	93.75	92.5	92.5
Long Term Care	67.5	67.5	77.5

Perception of Being Well Care For

Figure 4 (con't) - Histograms of Benchmarks by Outcome



	Satisfied with how well their symptoms were managed	Able to manage their symptoms
Acute Care	87.8	75
Home Care	81.67	80
Ambulatory Care	90	82.5
Hospice	92.5	98.3
Long Term Care	82.5	40

Symptom Management

disease detection, a Self-Care patient outcome, was lower than all the other levels of care. The third indicator that was different was satisfaction with spiritual needs being met. This benchmark for Hospice was higher than Acute Care, Long Term Care, and Ambulatory Care.

Ambulatory Care had two indicators that were different that the other groups. Satisfaction with physical functioning was considerably higher than Acute Care and hospice and satisfaction with intellectual functioning was higher than acute care and home care.

The final research question asks if the panel identified other patient outcomes they felt were sensitive to nursing care. There were two additional outcomes identified during round 1. One suggestion was that a better end point for demonstration of health promoting behaviors

would be that the patient is aware of where to go to get support after discharge. This was suggested by a nurse in the Acute Care group. This outcome would be easier to evaluated than demonstration of behaviors because the length of stay in an acute care setting is so short. There is not enough time for patients to process new knowledge and incorporate the changes into their lifestyle in the amount of time they are in the hospital. The second suggestion was about patient's perception of being involved in the care decisions. Participation is one of the assumptions of self-care and a basic characteristic of human beings from Orem's framework. Individuals are independent and have a right to make decisions regarding their health care. They are ultimately responsible for their health. This may be an intermediate outcome, if patients believe they have been part of the decision making process they are more apt to follow through with health maintenance or promotion behaviors. It does not seem to be an outcome itself but more a process, an approach to the partnership between the patient and the nurse.

Summary

All the nurse sensitive patient outcomes were deemed appropriate, but two indicators of Health Related Quality of Life were rejected by the acute care participants.

Consensus about benchmarks was reached for the majority of patient outcomes. Consensus was not reached for seven benchmarks out of 90 for all levels of continuum of care. The acute care participants were not able to reach consensus on one indicator within Health Promoting Behaviors. The remaining six were from the Hospice participants involving one indicator within Appropriate Self Care, all indicators of Health Promoting Behaviors and two within Health Related Quality of Life. Chapter 5 will discuss the differences in benchmarks noted between the levels of care. Two additional patient outcomes were identified, patient's knowledge of community resources and patient's perception of being involved in health care decision making.

CHAPTER V - Discussion

Findings will be discussed by nurse sensitive patient outcome. Comments from panelists will be reported as appropriate in each section. A summary of findings by setting will be presented followed by limitations. Implications to nursing and recommendations for further research will conclude this section.

Patient Outcome

Appropriate Self-Care

Consensus was reached for all the benchmarks within this outcome except for family's ability to meet the patient's health maintenance behaviors for the hospice population. Comments participants made regarding this were that "health" maintenance is not an end point for patient's receiving hospice care. Death is the end point. If health were defined as "mobilizing equilibrium in the face of disease" one participant felt they would have scored the benchmark higher.

All the benchmarks for the indicators for Appropriate Self-Care were established in the mid to high end of the scale except for Long Term Care (all 6 indicators) and for Hospice (maintenance and detection). The differences in scores between acute care, home care, and ambulatory care

were expected. Hospital care is required because nursing care is needed around the clock. Home care services are provided to patients periodically as support and to provide medical therapies patients can't perform themselves. The patients are past the acute phase of their illness and recovering or maintaining a chronic condition. Education and abilities should be built upon competencies reached in acute care. Ambulatory setting care is provided to patients across the trajectory of an illness. Visits focus on patient's acute problems and disease management and there is little time to focus on health maintenance and disease detection. That may be why in some areas, home care had slightly high benchmarks.

The lower ratings for patients needing long term care probably reflect patients and families inabilities to meet health needs independently. One criteria for admission to these settings is the need for nursing care. Participants were asked to set benchmarks to be achieved at discharge. It was reported that not many patients are discharged from long term settings. If they are, it is usually to a long term subacute setting as these patients continue to need assistance with care. Expectations for families abilities to meet the patients' needs are also low. Respondent comments indicated that many family members are working and unable to meet patient needs. Patients have a high level of

dependency requiring more help with routine activities then in other settings.

Patients receiving hospice services are not expected to be able to perform activities of daily living, nor are they expected to participate in disease detection behaviors. They are at the end of life and care is focused on disease management. That may be why the benchmarks for disease management for the patient and family are higher than in acute, home, and ambulatory care.

Demonstration of Health Promoting Behaviors

This patient outcome had the highest number of benchmarks that did not reach consensus. Participants representing Hospice did not reach consensus about any of the three indicators representing this patient outcome. The range of responses was from 50% to 90% for patients meeting this outcome. The higher ratings may be from the perspective of the family. Patients who require hospice care are at the end of life are not worried about promoting health. Hospice care focuses on the family and the range of responses may be due to differing foci, some on the patient achieving the goal and others on the family and their outcomes. Sample size for the hospice group may have also impacted the results. There was a 50% attrition in this group with a final sample of three.

The other benchmark for which consensus was not reached was demonstrating new behaviors for the acute care population. The reported values ranged from 20% to a high of 80% for expected to achieve this outcome. Several factors may have impacted this finding. First, length of stay in the acute care setting is not long enough for patients to process changes that need to be made and to actually demonstrate the new behaviors. Second, patients are ultimately responsible for changing their behaviors. Nursing staff can provide the education, but the final decision is made by patients and their motivating factors.

Ambulatory care had the highest benchmark for demonstrating knowledge of health promoting behaviors at 85% and long term care had the lowest at 37.5%. All other benchmarks were in the mid range. A theme from all levels of care was that patients are ultimately responsible for their health promoting behaviors and making lifestyle changes. Changes may not be related to nursing interventions, but to the individual's motivation and goals in life. In addition, hospice and long term care participants indicated patients see no value in changing behavior at this time. Hospice patients are at the end of life and patients in long term care settings say they are too old to change and ask why should they do it now. A final commonality reported by Adult, Home Care and

Ambulatory care was that with limited visits and shortened lengths of stay observing behavior changes was not feasible.

Health Related Quality of Life

Ambulatory care had the highest benchmark for physical functioning and the highest targets within each indicator. This is expected as staff in ambulatory care see patients for episodic, well, or maintenance visits. The other settings provide services to patients who are ill and require assistance with meeting their self care needs and for medical therapies. Long term care's benchmark of 30% for physical functioning as well as the lowest benchmarks in all other indicators may reflect that patients in this setting have lost the ability to care for themselves, otherwise they would not require long term care services. The targets for intellectual functioning for home care and long term care were similarly low but the target or physical functioning in home care was higher. An explanation for this would be that families are able to deal with some loss of intellectual functioning as long as the patient can still maintain some self care.

The benchmarks for hospice care represented ratings measured during care delivery and not at the end of care since discharge from hospice is through death. The participants reported that the role of nurses is to maximize physical functioning, help the patient to accept what they

don't have and cope with declining abilities. The focus of nursing care is on the emotional state of the patient that resulted in a higher benchmark for that indicator. Consensus was not achieved for the emotional state and desired social functioning benchmarks. This may be a result of the small sample size. It was noted that one participant decreased her ratings on round three from their previous ratings even though the reported group mean was closer to her previous value. She did not provide any comments regarding the reasons for the decreased rating.

Acute care focuses on patient's immediate needs and most hospital stays are not long enough to have an impact on intellectual functioning and desired social functioning. In addition, it was noted by acute care participants that patients bring many social issues to their healthcare experience: poverty, drug abuse, employment issues, domestic violence and it is not possible to impact these in the time that patients remain in the hospital. These two indicators were deemed not appropriate for the acute care setting. Satisfaction with physical functioning and emotional state might be low at the time of discharge from the hospital after an acute health episode. Over time as the patient heals or learns to manage his/her health state these values might go up.

Perceptions of Being Well Cared For

Most benchmarks for this patient outcome were above 75%. All levels of care except long term care set benchmarks higher than 80% for patients perceiving their physical needs were met. Long term care was the lowest at 67.5%. Explanations given for this low rating were that patients were not happy about losing their autonomy and having reached points in their lives when they need skilled nursing care. They did not seem to adjust well to their loss of independence. This unhappiness impacted how well they perceive their physical needs were met.

Home care had the second lowest benchmark of 81.7% for perception of physical needs being met. Comments from this group indicated the number of home care visits was controlled by managed care and implied there are too few visits to meet the patient's needs.

Hospice care had the highest benchmark for perception of physical needs being met at 93.8%. The domains within this patient outcome were felt to be the specialized expertise of hospice nurses. Patients receive hospice care to meet these needs. Psychosocial and spiritual needs' benchmarks were also high (92.5%) and consensus was reached for both.

The other levels of care had different patterns. Acute Care and Ambulatory Care benchmarks for perception of

meeting psychosocial needs were 7 and 12 percentage points lower than meeting physical needs respectively. Targets for spiritual needs being met were even lower. The benchmark for Acute Care's meeting spiritual needs was 12 points lower than physical care's target. The target for meeting spiritual needs from Ambulatory Care was 25 points lower than meeting physical needs. In the acute care setting there is a sense that nurses are less well equipped to deal with patient's spiritual needs. Ambulatory participants reported not enough time to address all of patients' needs. Both groups reported time constraints impacted what they could do. Patient's needs are prioritized and psychosocial and spiritual needs are not high on the list. Acute care nurses reported having resources available to them. They can consult with social services and chaplains to assist in meeting patient needs. That may be why the spiritual needs benchmark was not set lower for Acute Care as Ambulatory Care.

Long Term Care's pattern was different than other settings. The benchmarks for physical and psychosocial were the same, but the target for spiritual needs being met was higher. Changes in autonomy and independence may have a greater effect on physical and psychosocial needs than spiritual needs. Or the findings could be related to the

sample size. The Long Term Care sample was only 2 at the second round.

Symptom Management

Scores across the setting were all high for patient satisfaction with how well their symptoms were managed. This outcome is central to nursing care although one participant commented that nursing is better at managing some symptoms than others. Therefore, these benchmarks should be high. Interestingly, all settings but hospice, expected patient's competence with managing their symptoms was lower than satisfaction with the nurse's ability. One explanation for the benchmark in acute cares related to self management being lower is that patients feel abandoned after discharge and don't have the self confidence to manage their symptoms. There is increased anxiety when patients first get home and they don't have nurses to rely on. Other comments indicated shorter lengths of stay and RN ratios play a major factor with the effectiveness of discharge teaching.

Home care and ambulatory visits are short and primarily focused on patient symptoms and complaints. One would expect that the focus of the visit would be to promote self management and provide the necessary emotional support that the patient needs. The capacity to procure resources was one barrier identified that may impede the patient's ability

to manage symptoms. Patients may not have the money or support of family to meet their needs.

Hospice participants expected a larger percentage of patients to have confidence with self management than satisfaction with how well nursing staff managed symptoms. Symptom management is reported to be the center of hospice care and the focus at the end of life is patient comfort and acceptance.

There was no expectation that many patients in a long term care setting would be able to manage their own symptoms. Only forty percent of long term care patients are expected to meet this outcome. That is not unexpected as patients require long term care because they and their family are not able to care for themselves.

Levels of Care

Acute care respondents rated all but two indicators as appropriate nurse sensitive outcome but did not reach consensus on one benchmark. Demonstrating intellectual and desired social functioning did not meet the threshold for appropriateness and consensus was not reached for the benchmark for demonstrating new health promoting behaviors. All the benchmarks were in the mid range, from 63.3 to 87.8. Only two benchmarks were in the eighty's, physical needs being met and patients' satisfaction with how well their

symptoms were managed. These benchmarks seem realistic because patients in an acute care setting are quite heterogeneous. Patients are discharged to multiple levels of care, home care, acute rehabilitation, hospice, skilled nursing facilities, and long term care. In addition, lengths of stay in the acute setting have become shorter over the last several decades. Patients are being transferred to lower levels of care resulting in fragmented care. This shortens the amount of time that nurses have to educate and interact with the patient and family.

Home care values were within a similar range, with demonstration of intellectual functioning rated at 53.3% to satisfaction with symptom management at 81.7%. Two other outcomes also had a target of 81.7%, physical functioning for Health Related Quality of Life and physical needs being met. The reason cited for the mid-level scores was the health care environment and managed care. Visits are limited and needs cannot always be met in the time allotted to the patient.

Ambulatory care benchmarks ranged the highest of the care settings. The lowest benchmark, demonstrating new behaviors was 56.7%. The highest benchmark was for physical needs being met at 93.3%. Respondents described similar issues related to time constraints, but patients are not as ill and are more receptive to teaching.

Hospice had the highest variability among their ratings. Consensus was not reached for six of their benchmarks. The reason for the difficulty in reaching consensus was that when patients are release from this setting, they have died. Respondents also remarked that health and healing are defined differently in the context of dying. The indicators may need to be somewhat different from those appropriate for patients who expect to fully recovery and regain their health.

Long term care had the lowest benchmarks of all the settings. Patients in this setting have complex physical needs, loss of independence and autonomy. They are not expected to recover any functioning and cannot participate in self care activities to any great extent. The majority of these patients are elderly and although not "terminally ill" they are not expected to be discharged from a long term care setting.

Participants commented that care has become fragmented because of the transfers to lower levels of care. The acute care stay has shortened and patients are not ready to care for themselves at home so they are transferred to a skilled nursing facility or to home with home care. Some patients who have had a stay in a skilled nursing setting and are unable to make any improvements in their functional status and ability to care for themselves are then transferred to a

long term care facility. Care coordination is difficult when patients are "passed off" from one level of care to another.

Concern was also expressed that patient outcomes are mediated by culture, educational levels, and the socio-economic status of patients. An ambulatory care panelist commented that overwhelming day-to-day needs of the poor often make follow-through difficult after patient education. She felt that this impacted the patient's ability to achieve Appropriate Self Care and symptom management as they could have problems purchasing the necessary resources.

Location of the facility and the socioeconomic demographics of the community may also influence facility outcomes. An acute care participant reported some patients are well education and knowledgeable about their disease. The expectation was that these patients would achieve high scores on any outcome measurements. Whereas a participant who delivers care to Native Americans described a population that was stoic, with little motivation to change and a great deal of apathy dealing with illness. Outcomes for this population would not be the same as for others. The general consensus was that these outcomes were important to measure but that external variables needed to be considered as well.

Limitations

The limitations of this study are related to the definitions of the patient outcomes. These definitions may not have matched participants' conceptualizations. The conceptualizations are at the abstract level and do not address measurement of the concepts. Appropriateness of the concepts may be confused with the ability to and feasibility of measuring the outcomes. A second limitation was that results of this survey are based on experts' opinion of benchmarks and do not represent actual outcomes attained by a "best practice agency".

The sample size of the different panels strongly limits the established benchmarks. The only level of care that had an adequate sample size was the acute care setting. The panel started with 17 participants and 12 remained after round three. The remaining groups' sample sizes were 6 or less with long term care only having 2 individuals who provided useable responses.

Implications for Nursing

The patient outcomes identified by the AAN expert panel were found to be appropriate for measuring the impact of nursing care. The nurse experts who participated in this study identified all but 2 indicators of the patient outcomes as appropriate. The outcomes are applicable across

the continuum of care although the indicators of the outcomes may need to be different. Benchmarks that cross the continuum of care were established for the majority of the indicators and can be used to evaluate the quality of nursing care. Changes in outcomes can be evaluated after delivery system or process changes to determine if the changes have had a positive or negative impact. Focusing on the AAN patient outcomes changes the focus from adverse outcomes to outcomes that are important to patients and their quality of life.

The established benchmarks can be used as the standard to evaluate current care and changes in care. The benchmarks can represent the thresholds or targets to be achieved in process improvement activities. Nursing research that identifies what interventions improve these patient outcomes can drive system changes.

When innovative delivery system changes are implemented the benchmarks can aid in the evaluation of the changes. The use of these outcomes can add balance to the current outcome of cost. As new policy changes are made to provide health care with limited resources, such as mandatory staffing levels, relationships between delivery systems (staffing levels and staffing mix) and patient outcomes can be established.

Consensus exists that identification of patient outcomes needs to be done. However, the percentage of patients who should experience outcomes has not been identified. Rather than using normative data, results of national or community databases that may be comparing bad facilities to bad facilities, targets established by a group of experts might provide initial standards as targets. The benchmarks established can be the beginning of work to demonstrate nursing's contribution to patient's health

Recommendations for Further Research

Further clarification of the indicators of the patient outcomes is needed, especially for the hospice and long term care population. The indicators identified for this study were deemed appropriate but the Hospice participants could not reach consensus on several benchmarks. Delineation of family inclusion and the time frame for measurement would provide a clearer direction. For this study, discharge was defined as the measurement point. For hospice patients, discharge means death and many patients are never discharged from long term care settings.

Replication of this study using the revised definitions with a larger sample size for Home Care, Hospice, and Long Term Care is necessary. For Home and Long Term Care, two

experts remained in the study at round three. Hospice had three remaining.

Development and testing of measurement models for the nurse sensitive patient outcomes would be an additional step for evaluating nursing care. The measurement model could be used at each level of care. This would enable researchers to monitor patient's progress or lack of progress over time and across settings.

Comparing the benchmarks with those used by organizations that are doing well would validate the results established with this study. There was no attempt to control for type of facility or illness severity among patients. A risk adjustment for facilities with higher intensity of services may need to be developed.

Conclusion

The findings of this study hold that nurse sensitive patient outcomes are appropriate across the continuum of care. Benchmarks were established for multiple indicators of nurse sensitive patient outcomes but were not the same across the continuum of care. Long term care respondents set lower targets for many benchmarks than other settings while respondents in ambulatory care set higher benchmarks. Benchmarks can be set and used to evaluate the effectiveness of nursing care and the impact of any system changes.

APPENDIX A

HUMAN SUBJECTS - EXEMPT STATUS

Human Subjects Committee

THE UNIVERSITY OF ARIZONA
HEALTH SCIENCES CENTER

1622 E. Mabel St.
P.O. Box 245137
Tucson, Arizona 85724-5137
(520) 626-6721

26 April 1999

Carla M. Clark, Ph.D. Candidate
c/o Joyce Verran, Ph.D.
College of Nursing
PO BOX 210203

RE: BENCHMARKING NURSE SENSITIVE QUALITY PATIENT OUTCOMES ACROSS THE CONTINUUM OF CARE

Dear Ms. Clark:

We received documents concerning your above cited project. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101(b) (2)] exempt this type of research from review by our Committee. **Note: Link to subject's identity should be destroyed prior to data analysis to provide confidentiality/anonymity.**

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely,

[redacted]

John D. Palmer, Ph.D., M.D.
Chairman
Human Subjects Committee

JDP/js
cc: Departmental/College Review Committee

APPENDIX B

FIRST ROUND LETTER

Dear Nursing Colleague:

I am a doctoral candidate conducting an exploratory research project entitled, "Benchmarking Nurse Sensitive Quality Patient Outcomes Across the Continuum of Care". You are being asked to voluntarily participate in this study as you have been identified as a nursing expert in the area of acute care, subacute care, home care, long term care, hospice, or ambulatory/primary care.

The purposes of this study include identifying the appropriateness of 5 nurse sensitive patient outcomes in addition to establishing benchmarks that are applicable across settings of care. The appropriateness and benchmarks will be determined through a Delphi study with nurse experts identified from the health care continuum of ambulatory/primary care, acute care, subacute care, home care, long term care, and hospice within the state of Arizona.

The research questions include:

1. Are the identified patient outcomes appropriate as indicators of nurse sensitive patient outcomes across the continuum of care.
2. Can benchmarks be established and consensus reached for identified nurse sensitive patient outcome indicators?
3. Do the settings of the care continuum have different established benchmarks?
4. Do experts identify additional nurse sensitive patient outcomes that span the continuum of care?

The Delphi technique is being used to answer these research questions. The Delphi technique, a structured consensus building technique, uses iteration with controlled feedback by giving statistical group responses from expert input. An expert, for this study, is defined as a RN in a position within one of the areas of the care continuum that is familiar with population or group outcomes at the facility or service level.

If you agree to participate you will be committing to the completion of several questionnaires over the next 3 months. The first questionnaire is enclosed and by returning the completed questionnaire and demographic survey you are consenting to participate. It will take approximately 15-30 minutes to complete the surveys. After analysis of the responses a second questionnaire will be sent. This second questionnaire will include your response from the previous round as well as the group mean or median. Also listed will be the responses from the other areas of the care continuum. Additional rounds will be conducted in a similar manner until consensus is reached. Once consensus is reached the final analysis will be sent to you.

Your name will not be on the questionnaire but an ID number is listed so that your previous response can be identified. In addition, a listing of all participants and the area they represent will be included. Your response will be kept confidential. Only group data will be reported during each round as well as when the findings are published.

If you have any questions, I can be reached at [redacted]), [redacted]), or by e-mail ([redacted]). If you have any questions concerning your rights as a research subject, you may call the Human Subjects Committee office at the University of Arizona at 520[redacted]

Respectfully,

Carla M. Clark, PhD-c, RN
University of Arizona
College of Nursing
Tucson, Arizona

Benchmarking Nurse Sensitive Quality Patient Outcomes Across the Continuum of Care
Delphi Study

Yes I would like to participate in this Delphi Study

_____
Signature

[ ] Sorry, I am unable to participate. Please print your name
_____

I'm sorry you are unable to participate at this time. I appreciate your taking the time to review my request. Please return this letter, with your name, indicating your refusal so that I will not send you further requests. I would greatly appreciate if you could provide me with the names of individuals you feel may be interested in this study.

1. Name: _____

Mailing address:
_____

_____
Area of expertise: [ ] Ambulatory/Primary Care [ ] Acute Hospital [ ] Subacute Care
[ ] Home Care [ ] Hospice [ ] Long Term Care

2. Name: _____

Mailing address:
_____

_____
Area of expertise: [ ] Ambulatory/Primary Care [ ] Acute Hospital [ ] Subacute Care
[ ] Home Care [ ] Hospice [ ] Long Term Care

Benchmarking Nurse Sensitive Quality Patient Outcomes Across the Continuum of Care
Delphi Study

Thank you for participating in my study entitled "Benchmarking Nurse Sensitive Quality Patient Outcomes Across the Continuum of Care". Attached you will find the first questionnaire which identifies the research questions and the 5 nurse-sensitive patient outcomes and their definitions. Indicate your response to the 2 questions for each of the 5 outcomes. Please make any comments you have regarding the outcomes or their definitions in the space provided.

Please remember when indicating the percentage of patients who achieve the outcomes that we all want 100% of the patients to achieve a high standard, but realistically that is impossible. Please assume the average and what is realistically expected in a high quality care environment.

The final page is for any additional patient outcomes that may be important to collect. Please include your definition of the outcome listed. This information will be distributed to the group for comments regarding appropriateness on subsequent rounds, but benchmarks will not be set.

Thank you again for your participation. I would greatly appreciate if you were able to return the completed questionnaire in the self-addressed stamped envelope within 2 weeks. I will send a reminder if I have not received your response within 3 weeks.

If you have any questions, I can be reached at [redacted]), [redacted]), or by e-mail ([redacted]).

ID # _____

Name: _____

Preferred mailing address: _____

_____

Basic Nursing Education [ ] Diploma [ ] Associate Degree [ ] BSN [ ] MS

Highest Degree Earned: _____

Years employed as a RN: _____ years

Place of Employment: _____

Position: _____

Continuum of Care Representing
- [ ] Acute (hospital)
- [ ] Subacute Care
- [ ] Long Term Care
- [ ] Hospice
- [ ] Ambulatory/Primary Care
- [ ] Home Care

Years employed in this area: _____ years

Demonstration of Health Promoting Behaviors

Demonstration of Health Promoting Behaviors is represented by:

- **demonstration of knowledge or awareness of the need for change**, demonstrated through verbalization of behavior/lifestyle changes that are needed to promote health.
- **the identification of mechanisms and motivation to change behaviors**, and demonstrated by verbalizing the desire to attend smoking cessation classes, why its important to stop smoking.
- **by demonstration of these behaviors and lifestyle changes.** demonstrated by the actual achievement of the lifestyle change.

Based on your area of expertise, please answer the following 2 questions using the above definition.

1. How appropriate is this indicator as a nurse sensitive patient outcome?

	1=not appropriate	2=somewhat appropriate	3=moderately appropriate	4=very appropriate
Demonstrate knowledge	[ ]	[ ]	[ ]	[ ]
Identify mechanisms & motivation	[ ]	[ ]	[ ]	[ ]
Demonstrate new behaviors	[ ]	[ ]	[ ]	[ ]

2. In your opinion, what % of the population, on average, would you expect to be able to meet this outcome who are discharged from your area of the care continuum:

	Proposed Benchmark
Demonstrate knowledge	%
Identify mechanisms & motivation	%
Demonstrate new behaviors	%

Comments related to demonstration of health promoting behaviors:

_____

_____

_____

Health Related Quality of Life

Health Related Quality of Life is defined as a transitory state, an individual's sense of well-being as they deal with changes in their health status. This sense of well-being includes the domains of physical, emotional, intellectual, and social.

- Physical functioning such as walking, performing ADLs and shopping
- Emotional state includes dealing with fears, anxieties and being able to cope with health.
- Intellectual functioning includes activities such as reading, balancing checkbooks, cognitive ability.
- Social functioning includes visiting with family/friends, attending church, activities that are important to the individual.

Based on your area of expertise, please answer the following 2 questions using the above definition.

1. How appropriate is this indicator as a nurse sensitive patient outcome?

	1=not appropriate	2=somewhat appropriate	3=moderately appropriate	4=very appropriate
Physical functioning	[ ]	[ ]	[ ]	[ ]
Emotional state	[ ]	[ ]	[ ]	[ ]
Intellectual functioning	[ ]	[ ]	[ ]	[ ]
Desired social functioning	[ ]	[ ]	[ ]	[ ]

2. In your opinion, what % of the population, on average, would you expect to be able to meet this outcome who are discharged from your area of the care continuum:

Wellness as demonstrated through:	Proposed Benchmark
Physical functioning	%
Emotional state	%
Intellectual functioning	%
Desired social functioning	%

Comments related to health related quality of life:

_____

_____

_____

Appropriate Self Care

Achievement of Appropriate Self Care is defined as the ability of individuals to perform activities within their capabilities to meet their health care needs at that point in time to maintain health, detect disease and manage their disease. Because some individuals may have functional impairments that prevent them from self-care, families' abilities to meet their needs represent an appropriate interdependence within the family.

- **Maintaining health** includes activities such as able to eat regularly, get enough sleep and maintain an appropriate activity level.
- **Disease detection** include such activities as recognizing reportable symptoms, breast self exam and blood pressure monitoring.
- **Disease management** includes medication administration, blood glucose monitoring, and physiological measurements like body weight and peak flow measures.

Based on your area of expertise, please answer the following 2 questions using the above definition.

1. How appropriate is this indicator as a nurse sensitive patient outcome?

Perform self-care behaviors regarding:	**1=not appropriate**	**2=somewhat appropriate**	**3=moderately appropriate**	**4=very appropriate**
Health maintenance	[ ]	[ ]	[ ]	[ ]
Disease detection	[ ]	[ ]	[ ]	[ ]
Disease management	[ ]	[ ]	[ ]	[ ]
Family's ability to meet:	**1=not appropriate**	**2=somewhat appropriate**	**3=moderately appropriate**	**4=very appropriate**
Health maintenance needs	[ ]	[ ]	[ ]	[ ]
Disease detection	[ ]	[ ]	[ ]	[ ]
Disease management	[ ]	[ ]	[ ]	[ ]

2. In your opinion, what % of the population, on average, would you expect to be able to meet this outcome who are discharged from your area of the care continuum:

Perform self-care behaviors regarding:	**Proposed Benchmark**
Health maintenance	%
Disease detection	%
Disease management	%
Family's ability to meet:	**Proposed Benchmark**
Health maintenance needs	%
Disease detection	%
Disease management	%

Comments related to appropriate self care behaviors:

_____

_____

Symptom Management

Symptom Management is defined as the ability of individuals, families or the nurse to manage symptoms. The outcomes are self-ability to manage symptoms and satisfaction with nursing's ability to manage symptoms.

- Satisfied with the management of symptoms such as fatigue, pain, nausea.
- Aware of strategies and are confident they will be able to manage symptoms such as fatigue, pain, nausea.

Based on your area of expertise, please answer the following 2 questions using the above definition.

1. How appropriate is this indicator as a nurse sensitive patient outcome?

	1=not appropriate	2=somewhat appropriate	3=moderately appropriate	4=very appropriate
Satisfied with how well their symptoms were managed	[ ]	[ ]	[ ]	[ ]
Able to manage their symptoms	[ ]	[ ]	[ ]	[ ]

2. In your opinion, what % of the population, on average, would you expect to be able to meet this outcome who are discharged from your area of the care continuum:

	Proposed Benchmark
Satisfied with how well their symptoms were managed	%
Able to manage their symptoms	%

Comments related to demonstration of symptom management:

_____

_____

_____

Perceptions of Being Well Cared For

Perceptions of Being Well Cared For is the subjective evaluation of the attention received from nursing that demonstrates concern for the welfare and well-being of the person.

Based on your area of expertise, please answer the following 2 questions using the above definition.

1. How appropriate is this indicator as a nurse sensitive patient outcome?

	1=not appropriate	2=somewhat appropriate	3=moderately appropriate	4=very appropriate
Perception of how well their:				
Physical needs were met	[ ]	[ ]	[ ]	[ ]
Psychosocial needs were met	[ ]	[ ]	[ ]	[ ]
Spiritual needs were met	[ ]	[ ]	[ ]	[ ]

2. In your opinion, what % of the population from your area of the care continuum, on average, would perceive their:

	Proposed Benchmark
Physical needs were met	%
Psychosocial needs were met	%
Spiritual needs were met	%

Comments related to being well cared for:

_____

_____

_____

APPENDIX C

SUBSEQUENT ROUNDS EXAMPLE

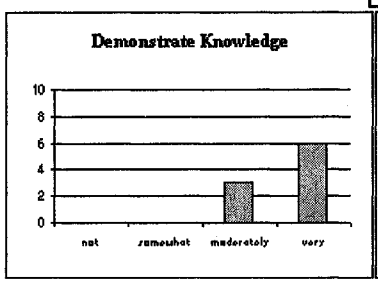
Demonstration of Health Promoting Behaviors

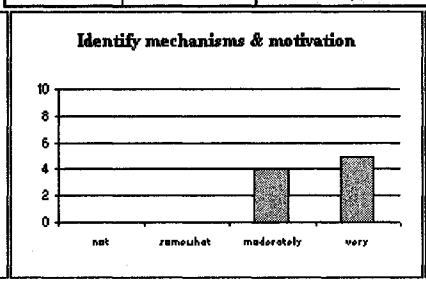
Demonstration of Health Promoting Behaviors is represented by a demonstration of knowledge or awareness of the need for change, the identification of mechanisms and motivation to change behaviors, and by the demonstration of these behaviors and lifestyle changes.

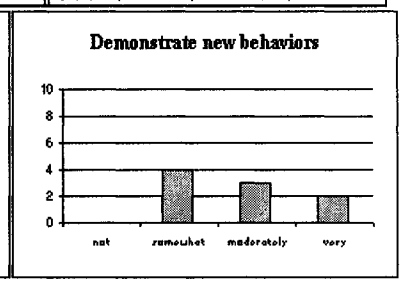
Consensus Achieved

1. How appropriate is this indicator as a nurse sensitive patient outcome?
1=not appropriate, 2=somewhat appropriate, 3=moderately appropriate, 4=very appropriate

	Appropriateness		Continuum of Care Average Rating				
	New rating	Your previous rating	Acute Hospital mean	Acute Hospital st dev	Home Care	Long Term Care	Hospice	Amb Primary
Demonstrate knowledge of health promoting lifestyles			3.67	0.50	3.67 0.58	3.17 0.29	3.50 0.58	4.00 0
Identify mechanisms & motivation to promote healthy lifestyles			3.56	0.53	3.67 0.58	3.17 0.29	3.50 0.58	3.67 0.52
Demonstrate new health promoting behaviors			2.78	0.83	3.67 0.58	3.17 1.04	3.50 0.58	3.50 0.55

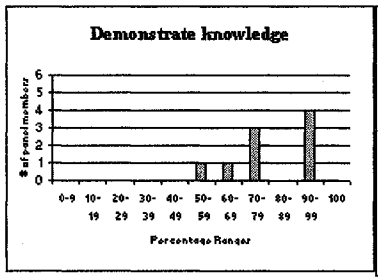


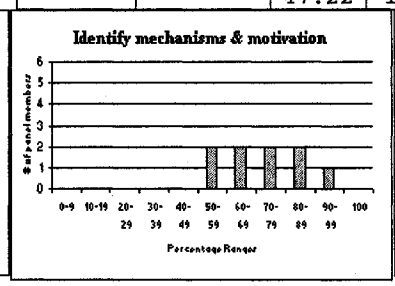


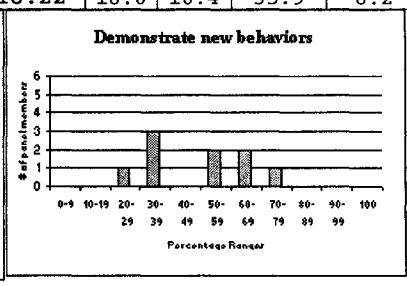


2. On the average, I would expect (what %) of the population discharged from this facility/services to be able to:

	Appropriateness		Continuum of Care Average Rating					
	New rating	Your previous rating	Acute Hospital mean	Acute Hospital st dev	Home Care	Long Term Care	Hospice	Amb Primary Care
Demonstrate knowledge of health promoting lifestyles			77.33	15.58	70.0 17.3	26.67 22.6	58.13 34.8	85.0 5.48
Identify mechanisms & motivation to promote healthy lifestyles			68.89	13.87	56.67 5.8	13.33 10.4	57.50 35.9	72.5 7.5
Demonstrate new health promoting behaviors			47.22	18.22	55.0 18.0	13.33 10.4	57.50 35.9	56.67 8.2







APPENDIX D

SUMMARY OF BENCHMARKS FOR PATIENT OUTCOMES BY ROUND

Appropriate Self Care Perform Self-Care Behaviors Regarding:

	Round 1		Round 2		Round 3		Final	
	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Health maintenance behaviors	3.35	(0.93)	3.50	(0.50)			3.50	(0.50)
Disease detection	3.53	(0.72)	3.44	(0.53)			3.44	(0.53)
Disease management	3.65	(0.70)	3.83	(0.35)			3.83	(0.35)
Health maintenance behaviors	64.41	(19.91)	67.50	(15.12)	69.92	(14.08)	69.92	(14.08)
Disease detection	60.29	(23.15)	68.13	(16.46)	68.33	(11.87)	68.33	(11.87)
Disease management	61.71	(23.15)	71.88	(13.61)	69.67	(14.01)	69.67	(14.01)

Home Care	Round 1		Round 2		Round 3		Final	
Health maintenance behaviors	3.75	(0.50)	3.60	(0.53)			3.60	(0.53)
Disease detection	4.00	(0.00)					4.00	(0.00)
Disease management	4.00	(0.00)					4.00	(0.00)
Health maintenance behaviors	71.25	(17.50)	65.67	(5.13)			65.67	(5.13)
Disease detection	81.25	(6.29)	73.33	(5.77)			73.33	(5.77)
Disease management	83.75	(4.79)	73.33	(5.77)			73.33	(5.77)

Ambulatory Care	Round 1		Round 2		Round 3		Final	
Health maintenance behaviors	3.75	(0.46)	3.67	(0.52)			3.67	(0.52)
Disease detection	3.63	(0.74)	3.63	(0.50)			3.63	(0.50)
Disease management	3.88	(0.35)	4.00	(0.00)			4.00	(0.00)
Health maintenance behaviors	71.25	(20.66)	73.33	(8.76)			73.33	(8.76)
Disease detection	70.00	(18.90)	71.67	(7.53)			71.67	(7.53)
Disease management	63.75	(19.04)	70.83	(6.65)			70.83	(6.65)

Hospice	Round 1		Round 2		Round 3		Final	
Health maintenance behaviors	3.00	(1.26)	3.50	(0.58)			3.50	(0.58)
Disease detection	3.17	(0.98)	3.25	(0.96)			3.25	(0.96)
Disease management	3.33	(0.82)	3.50	(0.58)			3.50	(0.58)
Health maintenance behaviors	12.50	(9.00)	7.67	(2.52)			7.67	(2.52)
Disease detection	26.75	(42.69)	7.50	(3.54)			7.50	(3.54)
Disease management	29.25	(40.85)	36.67	(46.46)	90.00	(0.00)	90.00	(0.00)

Long Term Care	Round 1		Round 2		Round 3		Final	
Health maintenance behaviors	3.83	(0.41)	4.00	(0.00)			4.00	(0.00)
Disease detection	3.50	(0.84)	3.67	(0.58)			3.67	(0.58)
Disease management	3.33	(1.21)	4.00	(0.00)			4.00	(0.00)
Health maintenance behaviors	37.67	(30.70)	45.00	(21.21)			45.00	(21.21)
Disease detection	31.67	(25.43)	37.50	(17.68)			37.50	(17.68)
Disease management	28.00	(22.48)	37.50	(17.68)			37.50	(17.68)

Appropriate Self Care Family's Ability to Met:

Acute Care	Round 1		Round 2		Round 3		Final	
	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Health maintenance behaviors	3.18	(0.95)	3.33	(0.50)			3.33	(0.50)
Disease detection	3.24	(0.75)	3.22	(0.44)			3.22	(0.44)
Disease management	3.47	(0.80)	3.56	(0.53)			3.56	(0.53)
Health maintenance behaviors	62.06	(20.00)	65.00	(16.96)	67.42	(13.7)	67.42	(13.72)
Disease detection	57.35	(21.95)	65.22	(15.86)	63.50	(15.9)	63.50	(15.92)
Disease management	61.76	(21.14)	68.33	(14.79)	63.33	(16.3)	63.33	(16.29)

Home Care	Round 1		Round 2		Round 3		Final	
Health maintenance behaviors	4.00	(0.00)					4.00	(0.00)
Disease detection	3.75	(0.50)	3.60	(0.17)			3.60	(0.17)
Disease management	3.75	(0.50)	3.77	(0.25)			3.77	(0.25)
Health maintenance behaviors	71.25	(17.50)	69.33	(10.07)			69.33	(10.07)
Disease detection	75.00	(17.32)	73.33	(11.55)			73.33	(11.55)
Disease management	75.00	(17.32)	71.67	(14.43)	70.00	(14.14)	70.00	(14.14)

Ambulatory Care	Round 1		Round 2		Round 3		Final	
Health maintenance behaviors	3.75	(0.46)	3.83	(0.41)			3.83	(0.41)
Disease detection	3.63	(0.52)	3.67	(0.52)			3.67	(0.52)
Disease management	4.00	(0.00)					4.00	(0.00)
Health maintenance behaviors	68.13	(16.02)	76.67	(5.16)			76.67	(5.16)
Disease detection	67.50	(15.12)	72.50	(7.58)			72.50	(7.58)
Disease management	64.38	(17.61)	74.17	(8.01)			74.17	(8.01)

Hospice	Round 1		Round 2		Round 3		Final	
Health maintenance behaviors	3.33	(1.03)	3.75	(0.50)			3.75	(0.50)
Disease detection	3.50	(0.84)	3.50	(1.00)			3.50	(1.00)
Disease management	3.33	(0.82)	3.75	(0.50)			3.75	(0.50)
Health maintenance behaviors	40.00	(29.66)	35.00	(21.79)	61.67	(24.66)	61.67	(24.66)
Disease detection	54.17	(38.78)	53.33	(37.86)	80.00	(10.00)	80.00	(10.00)
Disease management	63.00	(42.43)	55.00	(39.05)	81.67	(7.64)	81.67	(7.64)

Long Term Care	Round 1		Round 2		Round 3		Final	
	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Health maintenance behaviors	3.33	(0.82)	3.00	(1.00)	3.00	0	3.00	0
Disease detection	3.17	(0.75)	2.67	(0.58)	3.00	0	3.00	0
Disease management	3.17	(0.98)	3.00	(1.00)	3.00	0	3.00	0
Health maintenance behaviors	38.33	(26.96)	25.00	(7.07)			25.00	(7.07)
Disease detection	31.67	(19.15)	22.50	(3.54)			22.50	(3.54)
Disease management	27.50	(15.73)	22.50	(3.54)			22.50	(3.54)

Demonstration of Health Promoting Behaviors

	Round 1		Round 2		Round 3		Final	
Acute Care	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Demonstrate knowledge	3.56	(0.81)	3.67	(0.50)			3.67	(0.50)
Identify mechanisms & motivation	3.19	(0.83)	3.56	(0.53)			3.56	(0.53)
Demonstrate new behaviors	2.88	(1.02)	2.78	(0.83)	3.00	(0.47)	3.00	(0.45)
Demonstrate knowledge	71.63	(22.56)	77.33	(15.58)	70.73	(17.74)	70.67	(16.92)
Identify mechanisms & motivation	61.25	(22.02)	68.89	(13.87)	65.36	(18.07)	64.92	(17.30)
Demonstrate new behaviors	39.69	(22.76)	47.22	(18.22)	44.00	(18.30)	44.50	(17.54)

Home Care	Round 1		Round 2		Round 3		Final	
Demonstrate knowledge	3.75	(0.50)	3.67	(0.58)			3.67	(0.58)
Identify mechanisms & motivation	3.75	(0.50)	3.67	(0.58)			3.67	(0.58)
Demonstrate new behaviors	3.75	(0.50)	3.67	(0.58)			3.67	(0.58)
Demonstrate knowledge	75.00	(17.32)	70.00	(17.32)	65.00	(14.14)	65.00	(14.14)
Identify mechanisms & motivation	51.25	(15.48)	56.67	(5.77)			56.67	(5.77)
Demonstrate new behaviors	53.75	(20.56)	55.00	(18.03)	57.50	(17.68)	57.50	(17.68)

Ambulatory Care	Round 1		Round 2		Round 3		Final	
Demonstrate knowledge	3.86	(0.38)	4.00	(0.00)			4.00	(0.00)
Identify mechanisms & motivation	3.29	(0.95)	3.67	(0.52)			3.67	(0.52)
Demonstrate new behaviors	3.29	(0.76)	3.50	(0.55)			3.50	(0.55)
Demonstrate knowledge	75.00	(29.30)	85.00	(5.48)			85.00	(5.48)
Identify mechanisms & motivation	64.17	(30.89)	72.50	(7.58)			72.50	(7.58)
Demonstrate new behaviors	47.86	(19.97)	56.67	(8.16)			56.67	(8.16)

Hospice	Round 1		Round 2		Round 3		Final	
Demonstrate knowledge	3.00	(1.26)	3.50	(0.58)			3.50	(0.58)
Identify mechanisms & motivation	3.00	(1.26)	3.50	(0.58)			3.50	(0.58)
Demonstrate new behaviors	3.00	(1.26)	3.50	(0.58)			3.50	(0.58)
Demonstrate knowledge	57.00	(38.99)	58.13	(34.84)	73.33	(20.82)	73.33	(20.82)
Identify mechanisms & motivation	59.00	(38.47)	57.50	(35.94)	73.33	(20.82)	73.33	(20.82)
Demonstrate new behaviors	50.00	(40.00)	57.50	(35.94)	66.67	(20.82)	66.67	(20.82)

Long Term Care	Round 1		Round 2		Round 3		Final	
Demonstrate knowledge	3.17	(0.98)	3.17	(0.29)				
Identify mechanisms & motivation	3.17	(0.98)	3.17	(0.29)				
Demonstrate new behaviors	3.17	(0.98)	3.17	(1.04)				
Demonstrate knowledge	46.83	(29.97)	26.67	(22.55)	15.00	(14.14)		
Identify mechanisms & motivation	37.50	(35.46)	13.33	(10.41)				
Demonstrate new behaviors	26.83	(31.40)	13.33	(10.41)				

Health Related Quality of Life

	Round 1		Round 2		Round 3		Final	
Acute Care	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Physical functioning	3.63	(0.62)	3.56	(0.53)			3.56	(0.53)
Emotional state	3.25	(0.77)	3.06	(0.53)			3.06	(0.53)
Intellectual function	2.31	(1.01)	2.11	(0.60)	2.318	(0.46)	2.318	(0.46)
Desired social functioning	2.63	(0.96)	2.67	(0.87)	2.41	(0.66)	2.41	(0.66)
Physical functioning	74.63	(18.03)	72.78	(12.53)			72.78	(12.53)
Emotional state	70.25	(15.33)	68.22	(13.68)	66.58	(15.7)	66.58	(15.70)
Intellectual function	60.31	(24.59)	59.44	(27.21)	62.50	(17.3)	62.50	(17.25)
Desired social function	60.25	(26.20)	59.44	(27.21)	62.08	(19.0)	62.08	(19.00)
Physical function	3.63	(0.62)	3.56	(0.53)			3.56	(0.53)

Home Care	Round 1		Round 2		Round 3		Final	
Physical functioning	4.00	(0.00)					4.00	(0.00)
Emotional state	4.00	(0.00)					4.00	(0.00)
Intellectual functioning	3.25	(0.96)	3.17	(0.76)	3.00		3.17	(0.76)
Desired social functioning	3.00	(0.82)	2.83	(0.29)	3.00		3.00	(0.00)
Physical functioning	81.25	(2.50)	81.67	(2.89)			81.67	(2.89)
Emotional state	73.75	(16.01)	70.67	(17.93)	72.50	(3.54)	72.50	(3.54)
Intellectual function	61.25	(10.31)	53.33	(5.77)			53.33	(5.77)
Desired social function	75.00	(12.25)	68.33	(7.64)			68.33	(7.64)

Ambulatory Care	Round 1		Round 2		Round 3		Final	
Physical functioning	3.57	(0.79)	3.83	(0.41)			3.83	(0.41)
Emotional state	3.57	(0.79)	3.83	(0.41)			3.83	(0.41)
Intellectual functioning	3.00	(1.15)	3.17	(0.75)			3.17	(0.75)
Desired social functioning	3.00	(0.82)	3.17	(0.75)			3.17	(0.75)
Physical functioning	79.17	(36.66)	90.00	(6.32)			90.00	(6.32)
Emotional state	72.50	(31.90)	84.17	(9.17)			84.17	(9.17)
Intellectual function	75.00	(39.53)	85.00	(8.94)			85.00	(8.94)
Desired social function	74.17	(34.27)	82.50	(10.37)			82.50	(10.37)

Hospice	Round 1		Round 2		Round 3		Final	
Physical functioning	3.33	(0.82)	3.50	(1.00)	3.5	(0.71)	3.5	(0.71)
Emotional state	3.83	(0.41)	4.00	(0.00)			4.00	(0.00)
Intellectual functioning	2.83	(0.98)	3.50	(1.00)			3.50	(1.00)
Desired social functioning	3.83	(0.41)	3.50	(1.00)			3.50	(1.00)
Physical functioning	44.50	(32.81)	71.25	(15.48)	66.7	(15.3)	66.67	(15.28)
Emotional state	83.33	(9.83)	81.25	(17.50)	80.0	(26.5)	80.00	(26.46)
Intellectual function	40.33	(33.45)	66.67	(12.58)	70.0	(17.3)	70.00	(17.32)
Desired social function	70.00	(27.75)	73.75	(14.93)	73.3	(20.8)	73.33	(20.82)

Long Term Care	Round 1		Round 2		Round 3		Final	
Physical functioning	3.83	(0.41)	4.00	(0.00)			4.00	(0.00)
Emotional state	4.00	(0.00)					4.00	(0.00)
Intellectual function	3.67	(0.52)	3.67	(0.58)			3.67	(0.58)
Desired social function	3.67	(0.52)	3.67	(0.58)			3.67	(0.58)
Physical functioning	36.67	(36.15)	30.00	(14.14)			30.00	(14.14)
Emotional state	47.50	(37.91)	50.00	(14.14)			50.00	(14.14)
Intellectual function	46.83	(35.19)	50.00	(14.14)			50.00	(14.14)
Desired social function	37.00	(36.30)	30.00	(14.14)			30.00	(14.14)

Perceptions of Being Well Cared For

	Round 1		Round 2		Round 3		Final	
Acute Care	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Physical needs were met	3.88	(0.34)	4.00	(0.00)			4.00	(0.00)
Psychosocial needs were met	3.69	(0.79)	3.83	(0.35)			3.83	(0.35)
Spiritual needs were met	3.19	(0.83)	3.28	(0.44)			3.28	(0.44)
Physical needs were met	84.50	(13.01)	87.22	(8.33)	85.83	(7.64)	85.83	(7.64)
Psychosocial needs were met	74.88	(21.56)	82.78	(13.02)	78.75	(15.39)	78.75	(15.39)
Spiritual needs were met	64.69	(26.04)	73.33	(17.68)	73.75	(13.34)	73.75	(13.34)

Home Care	Round 1		Round 2		Round 3		Final	
Physical needs were met	4.00	(0.00)					4.00	(0.00)
Psychosocial needs were met	3.75	(0.50)	3.75	(0.25)			3.75	(0.25)
Spiritual needs were met	3.50	(1.00)	3.58	(0.52)			3.58	(0.52)
Physical needs were met	81.25	(22.50)	81.67	(7.64)			81.67	(7.64)
Psychosocial needs were met	72.50	(26.30)	71.67	(20.21)	77.50	(10.61)	77.50	(10.61)
Spiritual needs were met	76.25	(17.97)	73.33	(20.82)	77.50	(10.61)	77.50	(10.61)

Ambulatory Care	Round 1		Round 2		Round 3		Final	
Physical needs were met	3.71	(0.76)	4.00	(0.00)			4.00	(0.00)
Psychosocial needs were met	3.57	(0.79)	3.67	(0.52)			3.67	(0.52)
Spiritual needs were met	3.14	(0.90)	3.00	(0.63)			3.00	(0.63)
Physical needs were met	92.86	(5.67)	93.33	(5.16)			93.33	(5.16)
Psychosocial needs were met	77.14	(14.68)	81.67	(9.31)			81.67	(9.31)
Spiritual needs were met	70.83	(16.25)	68.00	(8.37)			68.00	(8.37)

Hospice	Round 1		Round 2		Round 3		Final	
Physical needs were met	4.00	(0.00)					4.00	(0.00)
Psychosocial needs were met	4.00	(0.00)					4.00	(0.00)
Spiritual needs were met	3.83	(0.41)	4.00	(0.00)			4.00	(0.00)
Physical needs were met	93.33	(4.08)	93.75	(4.79)			93.75	(4.79)
Psychosocial needs were met	92.50	(6.89)	92.50	(8.66)			92.50	(8.66)
Spiritual needs were met	89.00	(14.83)	92.50	(5.00)			92.50	(5.00)

Long Term Care	Round 1		Round 2		Round 3		Final	
Physical needs were met	3.67	(0.52)	3.67	(0.58)			3.67	(0.58)
Psychosocial needs were met	3.83	(0.41)	3.67	(0.58)			3.67	(0.58)
Spiritual needs were met	3.67	(0.52)	3.67	(0.58)			3.67	(0.58)
Physical needs were met	60.83	(41.76)	67.50	(10.61)			67.50	(10.61)
Psychosocial needs were met	59.17	(42.24)	67.50	(10.61)			67.50	(10.61)
Spiritual needs were met	55.83	(38.52)	77.50	(3.54)			77.50	(3.54)

Symptom Management

	Round 1		Round 2		Round 3		Final	
Acute Care	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Satisfied with how well symptoms were managed	3.66	(0.60)	3.56	(0.53)			3.56	(0.53)
Able to manage their symptoms	3.56	(0.51)	3.61	(0.49)			3.61	(0.49)
Satisfied with how well symptoms were managed	86.56	(8.31)	87.78	(7.95)			87.78	(7.95)
Able to manage their symptoms	76.94	(14.56)	81.67	(14.36)	75.00	(18.84)	75.00	(17.96)

Home Care	Round 1		Round 2		Round 3		Final	
Satisfied with how well symptoms were managed	3.86	(0.38)	4.00	(0.00)			4.00	(0.00)
Able to manage their symptoms	3.57	(0.79)	3.83	(0.41)			3.83	(0.41)
Satisfied with how well their symptoms were managed	86.43	(15.20)	90.00	(7.07)			90.00	(7.07)
Able to manage their symptoms	74.29	(15.12)	82.50	(4.18)			82.50	(4.18)

Ambulatory Care	Round 1		Round 2		Round 3		Final	
Satisfied with how well symptoms were managed	3.86	(0.38)	4.00	(0.00)			4.00	(0.00)
Able to manage their symptoms	3.57	(0.79)	3.83	(0.41)			3.83	(0.41)
Satisfied with how well symptoms were managed	86.43	(15.20)	90.00	(7.07)			90.00	(7.07)
Able to manage their symptoms	74.29	(15.12)	82.50	(4.18)			82.50	(4.18)

Hospice	Round 1		Round 2		Round 3		Final	
Satisfied with how well symptoms were managed	4.00	(0.00)					4.00	(0.00)
Able to manage their symptoms	3.83	(0.41)	4.00	(0.00)			4.00	(0.00)
Satisfied with how well symptoms were managed	90.50	(15.40)	92.50	(8.66)			92.50	(8.66)
Able to manage symptoms	79.83	(27.24)	87.50	(18.48)	98.33	(2.89)	98.33	(2.89)

Long Term Care	Round 1		Round 2		Round 3		Final	
Satisfied with how well symptoms were managed	3.83	(0.41)	4.00	(0.00)			4.00	(0.00)
Able to manage their symptoms	3.83	(0.41)	4.00	(0.00)			4.00	(0.00)
Satisfied with how well symptoms were managed	67.67	(37.02)	82.50	(10.61)			82.50	(10.61)
Able to manage their symptoms	45.17	(34.96)	40.00	(14.14)			40.00	(14.14)

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