

**Explorations in Satisfaction—Impact of Time of Survey
Administration on Perceptions of Patient Satisfaction**

by

Susan Fox Bond

A Thesis Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF SCIENCE

In the Graduate College

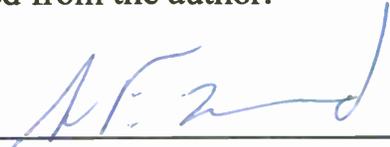
THE UNIVERSITY OF ARIZONA

2003

STATEMENT BY AUTHOR

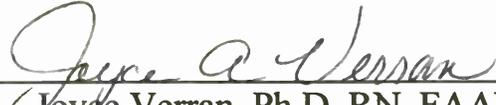
This thesis has been submitted in partial fulfillment of the requirement for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under policies of the Library.

Brief quotations from this thesis are allowable without special permission provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his or her judgment the proposed use of the material is in the interest of scholarship. In all other instances, however, permission must be obtained from the author.

Signed: 

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:



Joyce Verran, Ph D, RN, FAAN
Director, Division of Nursing Systems
(and Professor)

12-04-03

Date

Dedication

This thesis is dedicated to my parents, my husband, and my children, who supported me unfailingly throughout this process, and to the proposition that knowledge for its own sake is meaningful, and that quitting is not an option.

ACKNOWLEDGMENT

I would like to sincerely thank Dr. Joyce Verran, the chairperson of my committee, for all her hard work, support, and honesty during the formulation, editing, and data analysis phases of this thesis; and Drs. Gerri Lamb and Judith Effken for valuable critiques as part of my committee.

Thanks also to the folks in the IMPACT study office: Kim Shea for data and moral support, and Barbara Brewer for help with various technical aspects of this thesis, although I don't think I'll ever feel the same way about hot pink again.

Special thanks goes out to my friend Brian Stewart for listening to me whine and always managing to help me feel better. Glad we were in the same (somewhat leaky) boat!

And of course thanks go to my friends and family who so valiantly put up with me, who cooked and cleaned and took the long hours in stride. I just hope my cussing hasn't damaged the children.

TABLE OF CONTENTS

	Page
LIST OF FIGURES	8
LIST OF TABLES	9
ABSTRACT	10
CHAPTER	
I. INTRODUCTION AND LITERATURE REVIEW	11
Background	12
Outcomes Research	13
Nursing-sensitive Outcomes	15
Satisfaction	16
Time of Survey Issues	18
Statement of the Problem.....	20
Statement of the Purpose	21
Significance of the Study	22
Summary	23
II. CONCEPTUAL MODEL	25
Conceptual Model	25
Components of the SRO Model	27
Components of the adapted SRO Model	27
Research Questions	30
Description of terms	31
Summary	32
III. METHODOLOGY	34
Current Research	34
Setting	34

TABLE OF CONTENTS—Continued

Sample	35
Instruments	36
Data Collection.....	36
Protection of Human Subjects	39
Research Design of Secondary Data Analysis	39
Data Collection	40
Data Analysis	40
Summary	41
IV. RESULTS	43
Sample Characteristics	43
Results Related to Research Questions	46
Research Question One	46
Research Question Two	49
Summary	54
V. DISCUSSION	56
Findings as Related to the Conceptual Framework	56
Relationship of Results to Literature Reviewed	59
Limitations of the Study	61
Implications for Nursing	63
Recommendations for Future Research	64
Summary	66

TABLE OF CONTENTS—Continued

	Page
APPENDIX A: HUMAN SUBJECTS APPROVAL FOR ORIGINAL STUDY	68
APPENDIX B: APPROVAL FOR SECONDARY ANALYSIS	70
APPENDIX C: HUMAN SUBJECTS APPROVAL FOR SECONDARY ANALYSIS	72
APPENDIX D: INSTRUMENT	74
REFERENCES	79

LIST OF FIGURES

	Page
Figure	
1. SRO Model Adaptation	29
2. SRO Model Adaptation showing secondary study results	58

LIST OF TABLES

		Page
Table		
1.	Description of Patient Care Unit	32
2.	Demographic Information of Pre- and Post-discharge Survey Groups	40
3.	Independent Samples T-Test of age, length of stay and total symptoms	44
3.	Levels of Perceived Satisfaction in Pre- and Post-discharge Survey Groups	42
4.	Independent Samples T-Test	43
5.	Descriptive Statistics for Total Sample	45
6.	Significant Correlations (p)	46
7.	Multiple Regression Analysis	47

ABSTRACT

This descriptive study was conducted to examine the impact of timing of patient satisfaction surveys on perceived levels of patient satisfaction and to compare this with the impact of client and context variables on patient satisfaction.

This was a secondary analysis, using data from the IMPACT study (Verran, Lamb & Effken, 2001).

Timing of survey reflects satisfaction data collected from one group of patients pre-discharge from the study hospital and from another group of patients post-discharge. Analysis of the data suggests that the post-discharge method of survey resulted in a higher level of patient satisfaction ($p < .05$) in three subscales. Pearson correlation and regression analysis compared the impact of time of survey on patient satisfaction with impact of client and context variables on the same satisfaction subscales. In this analysis, the results indicate that for the General Satisfaction subscale, the primary explanatory variables are age and number of symptoms. The time of survey administration is not a significant variable when the effect of the other variables is removed. However, for the Caring and Individual subscales all three variables are significant with an approximately equal effect.

CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Patient satisfaction has been identified extensively in the literature as a health care outcome that is extremely important in health care delivery, and particularly sensitive to nursing care (Mahon, 1997, and Urden, 2002). There are, however, many issues surrounding the collection of patient satisfaction data that point to problems with the reliability and validity of such survey results. In order for nursing to be able to rely on patient satisfaction surveys to accurately gauge the quality of nursing care, data collection must be done with the utmost concern for validity, making it very necessary for nursing researchers to address validity issues head-on (Kane, 1997).

One issue in satisfaction measurement is the lack of good evidence that supports data collection at any one time of service—that is, a point in time relative to the patient’s entry into care—to improve validity. That concept—time of survey—will refer specifically to pre-discharge data collection of the patient from an acute care inpatient setting, or post-discharge data collection. In this case, pre-discharge status means the

patient has been formally discharged from the care facility, but has not yet left the facility. Post-discharge means the patient has left the facility.

The purpose of this research is to examine patient satisfaction data collected on one group of patients pre-discharge, and another group of patients post-discharge. This secondary analysis of data will investigate whether differences exist at pre- and post-discharge collections and whether these differences are attributable to factors other than this pre- and post-discharge timing of data collection.

Background

The background section will address the concept of health care outcomes in general and as they relate to nursing. The discussion of nursing-sensitive outcomes will focus on patient satisfaction in particular, and will include a literature review. Issues in patient satisfaction measurement will be discussed, and the focus of the research questions asked will include time of survey in which satisfaction surveys are administered to discuss the differences that may exist pre-discharge versus post-discharge. Other factors that may also influence satisfaction survey results will be analyzed for the degree of covariation between them and levels of perceived patient satisfaction. These include patient age and

number of symptoms reported, length of stay, and bed size of nursing unit in which the patients received care.

Outcomes Research

Outcomes research is a burgeoning area of study in health care, and a very popular area for research funding, especially within the bounds of nursing. Health care outcomes are increasingly used to gauge the safety, effectiveness, and cost effectiveness of care. Given the unrest in the U.S. over health care costs and benefits, and increasing dissatisfaction with managed care (Thomas & Bond, 1996; Kane, 1997; Maas et. al., 2002), health care organizations without exception must study the outcomes of their facilities to justify their actions to regulating agencies and consumers.

Health care providers and nurses practice under moral and ethical bounds which determine how they care for and heal their patients. The measure of the success of their endeavors is seen in good patient care outcomes.

Outcomes measures are many and varied. Kane (1997) writes of two broad divisions of outcome types: Generic, and condition-specific measures. Generic measures are those that look at overall health and well-being, and can be applied to populations very broadly. They include morbidity and

mortality statistics, measures of overall wellness, and general satisfaction. These measures often serve as “bottom-line indicators” of overall effectiveness of care (Kane, 1997). Condition-specific outcomes, on the other hand, are used to focus on the effectiveness of specific prevention and treatment strategies (Kane, 1997). One example might be looking at levels of hemoglobin A1c in a group of diabetic patients taking a new brand of insulin.

Other divisions of outcomes seen in the literature are derived by separating generic measures into categories. Lohr in 1988 referred to outcomes measures categorized by “. . . the ‘5Ds’: death, disability, dissatisfaction, disease, and discomfort.” (Mitchell, Ferketich, and Jennings, 1998, page 44). In contrast Kane (1997) focuses on health status outcomes consisting of physical, social, emotional and cognitive functioning, as well as pain, vitality, and well-being, and these are generalized elsewhere in the literature as quality outcomes (Mitchell, et. al., 1998).

Other outcomes measurement concerns addressed in the literature include the effects on outcomes dependent upon setting (Lamb, 1997) and arising from, and leading to changes in, health care costs (Brooten, 1997; and Hogan, 1997).

Nursing-sensitive Outcomes

Since the mid-1980's, nursing has become increasingly interested in measuring outcomes as a way to quantify and qualify the work of nursing (Maas, et. al., 2002). There is ample evidence that nursing actions and environments affect patient outcomes—the work of Nursing Outcomes Classification (NOC) researchers has resulted in the identification of 280 outcomes sensitive to nursing care (Maas, et. al., 2002).

One outcome measure of nursing care that has consistently emerged is patient satisfaction (Mahon, 1996). Satisfaction may be applied in both generic and condition-specific ways. Using the previous hypothetical example to describe condition-specific measurements, we may ask patients about how satisfied they feel with taking the new brand of insulin. And when these specific measures of outcomes are combined with the generic measures—asking patients to rate their satisfaction with care overall—researchers have a powerful tool to assess health care effectiveness.

Patient satisfaction that correlates with nurse staffing is reported in the early 1950's (Mahon, 1996). The literature shows that over the last twenty years patient satisfaction is mentioned with increasing frequency as a nursing outcome. Further, measuring patient satisfaction has been a part of

the mandated measures of the Joint Commission on Accreditation of Health Care Organizations (JCAHO) since 1986. It is required by the Federal Omnibus Reconciliation Act (OBRA), and by the Health Care Financing Administration (HCFA, now known as the Centers for Medicare and Medicaid Services) for Medicare reimbursement (Mahon, 1996). The American Nurses' Association, (ANA) and the National Committee on Quality Assurance also list satisfaction as a measurable factor of quality in health care (Urden, 2002). The ANA's interest in patient satisfaction serves as one indication that patient satisfaction is of great importance to nursing, and since nursing represents the largest segment of health care workers in the country (Maas, et. al., 2002), nursing has an enormous impact on health care quality as measured by patient satisfaction.

Satisfaction

Of great concern to many nurse researchers is the strong correlation of nursing action to patient satisfaction, indicating that the level of patient satisfaction is an excellent indicator of the quality of nursing action (Urden, 2002). Thus, patient satisfaction can be a barometer for the success of nursing care, and more specifically, an indicator of what aspects of nursing care are most and least effective in a given setting. This enhances

researchers' understanding of what must be done to assure the highest level of quality in patient care, and has far-reaching effects for the nursing profession itself. Patient satisfaction may be influenced by a wide range of issues from staffing and management patterns on individual nursing units, to the education and competence of individual nurses.

Patient satisfaction can also be tied to issues within the nursing profession such as staffing patterns and nurse/patient ratios, and has been used in nursing research to guide and evaluate managerial and organizational changes in hospitals (Strasser & Davis, 1991, and Thomas & Bond, 1996). According to Urden (2002), patient satisfaction is used in nursing to provide information about the effectiveness of a variety of nursing activities such as pain management, patient education, and customer service issues. Satisfaction can also be used to help justify the use of the advanced practice nurse in a variety of clinical settings (Bear & Bowers, 1998, and Urden, 2002).

The problems with measuring patient satisfaction start with the fact that outcomes research in patient satisfaction is a young science, and despite the abundance of published articles that mention satisfaction in health care—over 700 articles concerning satisfaction were compiled in one literature

search—there are still a number of large gaps in overall validity, reliability, applicability and appropriateness across settings, and problems with level of convenience and meaningfulness for interested parties in health care (institutions, regulators, and care providers) as well as for patients (Ford, Bach, and Fottler, 1997; Benkert et. al., 2002; Urden, 2002; Thomas and Bond, 1996). While the literature indicates that in the realm of satisfaction measurement there is tremendous need for good tools to measure satisfaction, their creation is impeded by many factors in the development, refinement and implementation of these tools. To summarize briefly, factors within these realms to be addressed, according to Urden (2002), include issues with connecting nursing care to satisfaction, especially across patient care settings; validity and reliability, methodology (qualitative versus quantitative), survey design, survey administration techniques, the tendency of surveys to show high levels of satisfaction in all instances of measurement, referred to as “acquiescent response bias” (Weaver, et. al., 1997), issues with vendor-created products, and timing (time of service).

Time of Survey Issues

While many authors echo these concerns and attempt to address them with research, especially in the area of validity (Ford, et. al., 1997; Weaver,

et. al., 1997; Thomas and Bond, 1996; Bear and Bowers, 1998; Mahon, 1996), very little can be found in the literature about how these issues are affected by administration methodology, specifically, whether the survey is administered by phone, mail or personal interview. Even more limited is the discussion of differences in survey results related to time of service of survey administration, that is, pre- versus post-discharge. The 1995 ANA *Nursing Report Card for Acute Care* suggests that administration methodology and survey timing may introduce bias into satisfaction surveys without mentioning the specifics of the type of bias. Minnick noted in a 1999 article that no studies existed to support the hypothesis that *post-discharge* methods work better to avoid certain types of respondent bias, such as inaccurate reporting of satisfaction by vulnerable patients still in the hospital under the care of those they might otherwise feel compelled to complain about. Despite the lack of data, researchers were still willing to support that idea, while other researchers were willing to support the opposite proposition—that better results were obtained by administering *pre-discharge* surveys.

No studies could be found in the literature comparing pre-discharge paper surveys versus post-discharge telephone surveys, although a number

of articles were reported by Minnick (1999) comparing pre-discharge personal interviews with post-discharge telephone surveys, and even more commonly, comparing post-discharge phone versus mail-in surveys (Minnick, 1999; Burroughs, et. al., 2001; Urden, 2002). All of these articles, without exception, focused on the method (phone, personal interview or mail-in), rather than the timing (pre- or post-discharge) when analyzing results for variance.

There is evidence that patient age, number of symptoms, length of stay, and type of hospital unit all influence patient satisfaction (ANA, 1995; Young et. al., 2000; and Hargraves, et. al., 2001). However, it is possible that point of service of administration of a survey may exert an influence by itself, or have a larger influence when considered along with these variables.

Statement of the Problem

While outcomes research is burgeoning, and nursing research is enjoying the tremendous interest of organizations that promote outcomes research in nursing, the study of patient perceived satisfaction is in its early stages. There is much work to be done in clarifying the tools and methodologies for the collection of satisfaction data.

One large gap in the literature is time of survey for data collection, specifically, the differences in patients' perceived satisfaction depending on whether the satisfaction survey data was collected at a pre-discharge point in time or at a post-discharge point in time.

It is possible that other variables could account for differences in patient satisfaction, and so must be examined as well, to rule out the possibility that time of survey is not a significant issue for satisfaction data collection. The other factors considered in this analysis include patient age, type of nursing unit, number of symptoms, and length of stay.

Statement of the Purpose

The purpose of this study is to demonstrate the difference between levels of perceived patient satisfaction when data is collected at two different times of survey—pre-discharge self-administered questionnaire, versus post-discharge phone interview. Further, the relationship between levels of satisfaction and the variables of patient age, nursing unit, number of symptoms, and length of stay is examined.

The following research questions will be addressed:

1. Is there a significant difference in level of patient perceived satisfaction when a satisfaction survey is administered at a pre-discharge versus a post-discharge point in time?
2. Do other factors such as patient age, number of symptoms, length of stay, and nursing unit account for differences in level of perceived patient satisfaction?

Significance of the Study

Understanding patient satisfaction as an outcome of nursing care forwards the aim of nursing to offer the highest quality care. Achieving this understanding will come about as a result of study of all elements of patient satisfaction research, including data collection methodologies.

Given that time of survey questionnaire administration is a poorly studied area, this study will shed light on the significance of survey administration done either before or after discharge. Discovering the relationship between time of survey and degree of perceived satisfaction may have an impact on how hospitals, nursing units and nurse researchers administer these surveys.

Summary

Chapter One provides an overview of outcomes research. The literature indicates an abundance of outcomes research, both general and nursing focused, and names patient satisfaction as an important nursing outcome.

However, it is also acknowledged that current satisfaction research is lacking in the area of methodology, specifically time of survey administration.

The significance of this study is to attempt to supply information about time of survey differences in satisfaction survey results.

The purpose of this study is to demonstrate the relationship between levels of perceived patient satisfaction when data is collected at two different times of survey, and to compare this relationship with other possible explanations of variations in levels of patient satisfaction. The purpose is summarized in the following research questions:

1. Is there a significant difference in level of patient perceived satisfaction when the satisfaction survey is administered at a pre-discharge versus a post-discharge time of survey?

2. Do other factors such as patient age, number of symptoms, length of stay, and bed size of the nursing unit account for differences in level of perceived patient satisfaction?

Chapter II

Conceptual Model

This chapter will include an examination of the theoretical framework supporting this study, including a review of the literature. A definition of terms will also be included here.

Conceptual Model

The patient satisfaction survey from which data was gathered is part of a larger study, the Impact of Unit Characteristics on Outcomes (IMPACT), addressing health care outcomes as affected by the characteristics of the nursing units in which patients received care, with eight other safety and quality of care outcomes being measured. The study is part of the Patient Safety Initiative from the Agency for Health Research and Quality CROI HS 11973, 2001-2004 (Verran, Effken & Lamb, 2001). The IMPACT study utilizes a theoretical framework adapted from the Academy of Nursing based on Mitchell, Ferketich & Jennings' 1998 Quality Health Outcomes model, which in turn was based on Donabedian's structure-process-outcomes framework. The adapted Quality Health Outcomes model helps to refine an understanding of the connections

between nursing units' characteristics and health care outcomes in the study (Mitchell, Ferketich & Jennings, 1998).

In order to fully examine nursing-sensitive outcomes, nurse researchers must apply various theoretical models to explore and explain cause and effect between phenomena of interest. Nurse researchers subscribing to a systems-based approach to problem solving may start with Donabedian's 1966 framework, a well-known and often cited example of an examination of care quality from a systems perspective (Kane, 1997, Sidani & Braden, 1998). This model gives graphic representation to a way of thinking about quality healthcare by illustrating the interplay of structure, process and outcomes (Mitchell, Ferketich, & Jennings, 1998). Much research has been done to gain understanding of how structure (where and under what conditions nurses practice) and process (the work that nurses do) influence outcomes of care (Sidani & Braden, 1998). Mitchell, Ferketich, & Jennings (1998) have adapted the Donabedian model to create something more specifically sensitive to nursing outcomes, called the Quality Health Outcomes Model (QHO).

The Quality Health Outcomes Model has been modified in turn by Brewer, et. al., (2002) at the University of Arizona College of Nursing to

create a model that the developers refer to as flexible, abstract, and easy to use while remaining complex in its application, and referred to as the Systems Research Organizing Model (SRO). The difference between the QHO and the SRO lies first in the latter's ability to use the systems concept as the framework, rather than relegating systems to the status of construct. Secondly, the SRO has moved client factors to an antecedent position, rather than to the middle of the model, and thirdly, the SRO allows for a more direct causal link between interventions and outcomes. (Brewer, et. al).

The SRO, as the name implies, was created for nursing researchers working within a systems paradigm, and contains the metaparadigm of nursing. Thus, the SRO Model synthesizes systems theory with nursing theory, to the benefit of nursing research.

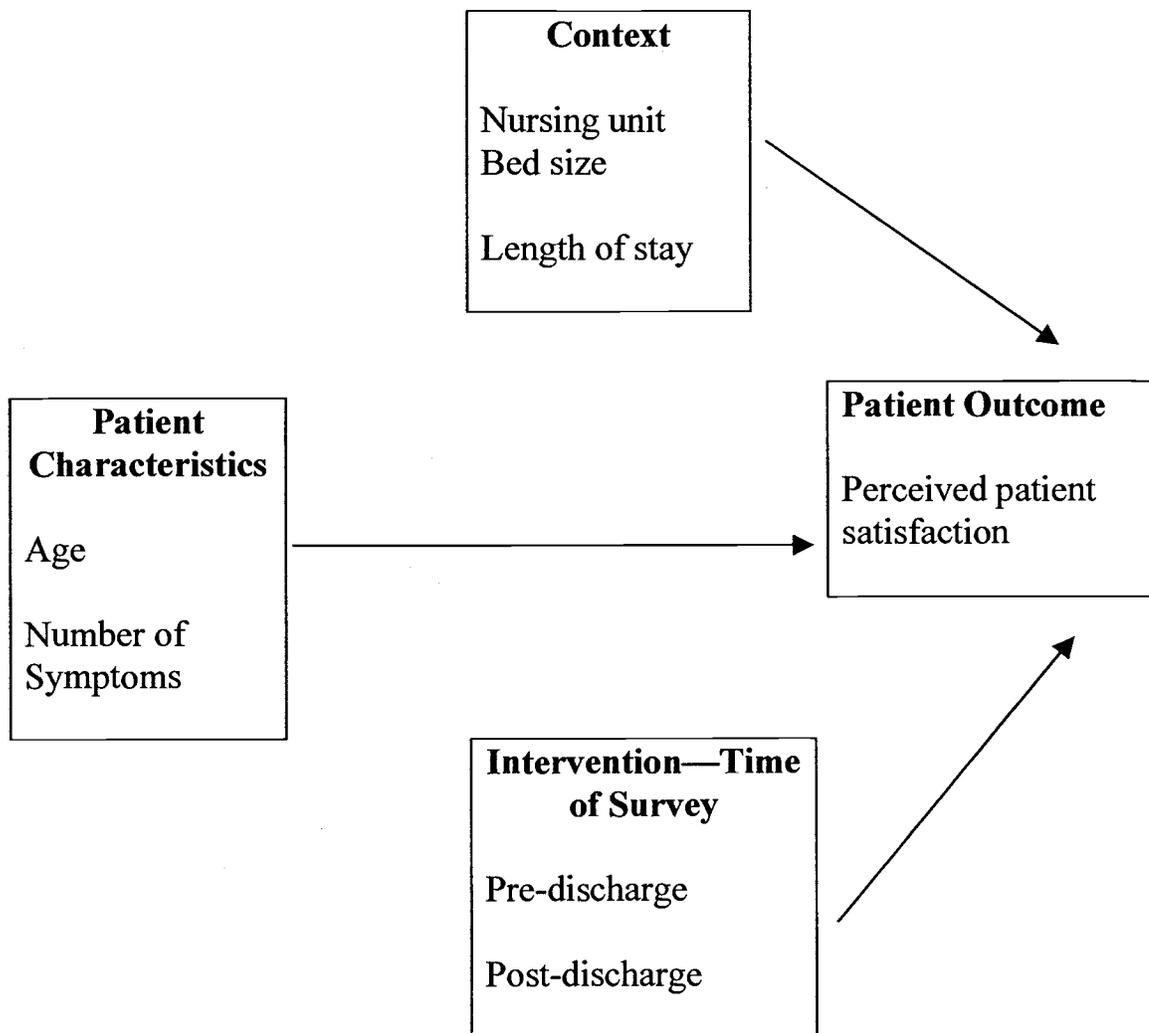
This analysis of perceived satisfaction will utilize a variation of the SRO Model emphasizing the linear effects of patient characteristics, context variables and survey characteristics on perceived patient satisfaction (see Figure 1).

This SRO Model adaptation may be less dynamic than the SRO itself, but it allows for focused discourse on the linear relationship between specific patient characteristics and context variables, and the one particular

outcome of interest—perceived patient satisfaction. This SRO adaptation illustrates the nature of the research questions posited next. The SRO adaptation illustrates that the intervention of interest in this study, point of service, may have a direct impact on levels of perceived satisfaction. The model also indicates the possible direct influence of patient characteristics on satisfaction. These characteristics include patient age and number of symptoms the patient reported having at the time of the survey. Young, et. al. (2000) conducted a study concluding that health status and patient age had statistically significant impacts on patient satisfaction. Their results indicated that rising age and higher health status scores were indicative of greater satisfaction. The researchers utilized a 1-5 scale of poor to excellent to indicate patients' perceived level of health.

In a similar study conducted by Hargraves, et. al. (2001), patient age and health status were found to be the greatest predictors of patient ratings of hospital care. It was found that older patients had less complaints of hospital care, while sicker patients had more complaints (as measured with the same 1-5 scale in the previous study). While the number of symptoms per se were not counted in either study, those who rated their health as poor tended to have complicated medical diagnoses such as congestive heart failure.

Figure 1. SRO Model Adaptation



It is easy to imagine that these patients would report more symptoms than patients with less complicated diagnoses.

The adapted SRO model also proposes a possible effect on patient satisfaction from context variables, to include bed size of nursing unit and length of stay. The Hargraves study indicated that sicker patients

complained more. This may indicate that those with a greater length of stay (sicker patients) will be less satisfied. The assumption here is that sicker patients will have a greater length of stay, which is supported by the ANA's (1995) assertion that "long lengths of stay are associated with high resource utilization . . . and poorer outcomes." (page 27)

The Young study also examined the characteristics of the health care institution, focusing on size, teaching status, and location. Type of hospital unit was addressed very generally in that data was collected from patients admitted to inpatient units (either medical or surgical), or from outpatient settings, and was not found to significantly impact number of complaints. Hospital size was the only institution variable deemed to significantly impact patient satisfaction—the researchers concluded that variation in the data was accounted for by patient factors, rather than the type of care setting.

Research Questions

The examining of time of survey issues in patient satisfaction data collection is needed to help clarify the impact of nursing processes on patient satisfaction survey results and improve the reliability and validity of satisfaction studies. This study therefore poses the following questions:

1. Is there a significant difference in level of patient perceived satisfaction when the satisfaction survey is administered at a pre-discharge versus a post-discharge time of survey?
2. Do other factors such as patient age, number of symptoms, length of stay, and bed size of nursing unit account for differences in level of perceived patient satisfaction?

Description of Terms

The following is a list of operationalized terms used to describe the concepts found in the theoretical framework and the text of this study.

Patient Characteristics: Those factors related directly to patients enrolled in the (UCOS). These include patient age and the number of symptoms as reported by patients on the General Symptom Distress Scale.

Context variables: These include the bed size of the nursing unit (number of beds in a nursing unit) in which patients received care and were subsequently discharged home from. Nursing units were pre-selected for participation by the researchers of the IMPACT study, and only patients receiving care and being discharged from those units participated in the study. Length of stay in the nursing unit is the other context variable considered in this analysis.

Survey Methodology: Techniques used to collect data in the IMPACT study included the use of paper surveys and phone interviews. These methods are discussed only in conjunction with the time in which surveys were presented to patients.

Time of Survey: Timing of satisfaction survey administration relative to patient's location on the care continuum. In the IMPACT study, these included either pre-discharge—after the patient had medical orders for discharge but had not yet left the facility, or post-discharge, with the client no longer at the hospital.

Patient Satisfaction: The outcome of interest for this study, defined by the principle investigators of the IMPACT study as the patient's perception of being well cared for, and measured by the Patient Perception of Being Well Cared For scale.

Summary

Chapter two examines the theoretical framework and models utilized in this study. It outlines the application of the Donabedian systems model to the Quality Health Outcomes Model, which is subsequently adapted and modified to become the Systems Research Organizing Model (SRO). The SRO Model was further adapted for this secondary study to reflect the linear

nature of this study's exploration. The terms used in this study were then defined operationally.

CHAPTER III

METHODOLOGY

This chapter will discuss the methodology of this natural experiment, beginning with a description of the IMPACT study, the parent study to this secondary data analysis.

Included in this chapter is a description of the research design, and a discussion of factors including setting and sample, human subjects issues, data collection methods, the instruments used, and analysis of the data for both the IMPACT study and this secondary study.

Current Research

This will be a secondary data analysis, meaning that the data was originally collected for other purposes, and will be reanalyzed with different research questions in mind (Polit & Hungler, 1999). The following is a description of the original study.

Setting

Data collection occurred in 16 different nursing units in four southern Arizona urban hospitals over a period of six months. The hospitals that agreed to take part are located in Tucson (population 750,000); one of these is a specialty hospital and the others are all general. Hospital units included

in the study were all Medical and/or Surgical adult acute care units. Some had step-down or transitional care status, but none were critical/intensive care units. Table 1. provides a view of the hospitals and the units utilized.

Table 1. Description of Patient Care Units

Hospital	Unit type	Bed Size	Patient Sample
Hospital A	Specialty	60	90
Hospital B	Med/Surg	135	50
	Rehab	27	23
	Telemetry	36	23
	Specialty	28	31
Hospital C	Telemetry	69	56
	Surgery	28	29
	Medical	33	17
	Rehab	22	13
	Med/Surg	31	24
	Specialty	8	4
Hospital D	Medical	30	20
	Specialty	30	35
	Specialty	28	10
	Telemetry	28	15
	Med/Surg	28	42

Sample

All patients participating in the study had been admitted to one of the 16 listed nursing units. All patients were adults that had been discharged from the unit and contacted by the researchers for consent prior to physically leaving the nursing unit. A total of 482 patients consented to participate.

Table 1. shows the number of patients who participated in the study from each of the nursing units.

The selection of patients was designed to ensure a random sample from the general population of the participating units by selecting discharged patients in each unit on five random days of each month for six months. Patients included represent at least 2% of total unit discharges for the study time.

Instruments

The survey used in the IMPACT study to collect patient data contains three scales to measure patient characteristics (Verran, Lamb & Effken, 2001). The first scale of the survey is the General Symptom Distress Scale (GSDS), and is used to give an overall sense of a patient's distress. This includes an opportunity for the patient to list their symptoms and rank the distress experienced as a result of their symptoms. For this secondary analysis, only the number of symptoms will be a patient characteristic variable. The second scale, the Self Care: Condition Management scale, will not be considered in this secondary analysis.

The third scale is an adaptation of two separate instruments, the Client Satisfaction scale by Larson, et. al., (1979), and the Survey for Health Status

and Health Needs of Ferketich, Phillips and Verran, (1993). This adapted scale is called the Patient Perception of Being Well Cared For scale, which is a 20-item Likert response scale. Eight of the items ask the patient to rate satisfaction with general care from four possible choices, typically ranging from “Very satisfied”, “Mostly satisfied”, “Indifferent or mildly dissatisfied” to “Quite dissatisfied”. Twelve of the items asked the patient to rate satisfaction with nursing care, also with four possible responses in a similar vein (some of the questions asked about appropriateness of care and skill, with answers ranging from “Highly appropriate” to “Highly inappropriate”). All items are summed, each response corresponding to a score of 1-4, with the higher number reflecting greater satisfaction. Factor analysis of the Well Cared For scale illuminates three subscales existing within the tool: The General Satisfaction subscale with a coefficient alpha of .90 (N = 6), the Satisfaction with Caring subscale with a coefficient alpha of .83 (N = 5), and the Satisfaction with Individual Care subscale with a coefficient alpha of .76 (N = 4). Other data collected included patient gender, age, and length of stay in the nursing unit from which they were discharged.

Data Collection

Patient data was collected at two different times during the IMPACT study—post-discharge and pre-discharge. Initially, the post-discharge method involved the researcher approaching the patient who had been discharged but not yet left the facility. The researcher explained the study and its purpose verbally to the patient as well as furnishing each patient with a written explanation of the study. The patient was then asked to participate, and if the patient assented, the researcher asked for permission to contact the patient by phone 24-48 hours after they had left the hospital. When the patients were contacted, the researchers asked them the questions appearing on the survey described previously.

However, it was discovered that many patients who agreed to participate were not contacted after discharge due to an inability to reach the patient by phone, or a reluctance by patients to talk to researchers on the phone. As a result, the researchers agreed to give patients the option of answering the survey prior to leaving the hospital in the hope of boosting the number of completed surveys.

This pre-discharge method involved approaching the patients in the same manner, but giving them the option to complete the survey on paper at

that time, or allow the researcher to call them at home as above. The surveys filled out by patients who opted to complete them at that time were subsequently collected by the researchers upon patient completion.

Protection of Human Subjects

The original IMPACT study gained approval of the University of Arizona Human Subjects Committee (see Appendix A). Permission for this secondary analysis was given by the original principle investigators of the IMPACT study (see Appendix B), and approval by the Human Subjects Committee for this study (see Appendix C). Each patient who agreed to participate was first made to understand the voluntary nature of the study survey and was given an explanation of the nature of the study and content of the survey questions. Each patient was given the phone number of the IMPACT study research office should questions arise. Questionnaires were also available in Spanish.

Research Design of Secondary Data Analysis

This study, like the IMPACT study, utilizes a descriptive design. The purpose is to clarify differences in levels of patient perceived satisfaction based on timing of data collection, and explore other possible reasons for these differences. The data were originally collected during the first phase

of the IMPACT study. The original use of this data was to study the relationship between level of patient perceived satisfaction—along with several other health care outcomes— and nursing unit characteristics (Verran, Lamb & Effken, 2001).

Data Collection

Data for this secondary study comes from patient responses to a survey with scales used to measure Quality of Care outcomes (see Appendix D). All data were collected and analyzed by researchers associated with the IMPACT study at the University of Arizona's College of Nursing.

In the process of data collection, two different methods were utilized, reflecting the time of survey—the pre-discharge self-completed survey, and the post-discharge phone interview. In both cases, the same survey was administered to the patient, either as a paper survey to be completed by the patient while still in the hospital, or read to the patient over the phone after leaving the hospital. All patient survey data were entered by researchers into a database utilizing the Statistical Package for the Social Sciences (SPSS).

Data Analysis

The research questions were answered with the data analysis using SPSS. The unit of analysis is the individual patient. The level of statistical

significance for this study is $p < .05$. The data analysis proceeded in the following manner:

Research Question One: Is there a significant difference in level of patient perceived satisfaction when the satisfaction survey is administered at a pre-discharge versus a post-discharge time of survey?

The two groups (pre-discharge and post-discharge) were compared for differences in level of perceived satisfaction using a two-tailed t-test.

Research Question Two: Do other factors such as patient age, number of symptoms, length of stay, and nursing unit account for differences in level of perceived patient satisfaction?

Bivariate correlations were computed with the Patient Satisfaction variables (three subscales), and the variables of patient age, size of unit, unit length of stay, and number of patient reported symptoms, as well as time of service. The procedure helps to illustrate the effect of time of survey, beyond the effects of the demographic variables, on patient satisfaction. These correlations were then used to select variables for multiple regression equations. Time of survey and significant demographic variables were placed in blocks one and two, respectively (see Table 6).

Summary

Chapter Three includes a description of the methodology of both the Impact study and this secondary analysis. Elements described include the setting, patient sample, instruments used, and data collection for the IMPACT study. Data collection and plan for data analysis of this secondary analysis is included. Methods for the protection of human subjects were also described for both Impact study and this secondary analysis.

CHAPTER IV

RESULTS

This chapter will include a discussion of the results of this secondary analysis. Sample characteristics are first described, with both text and table descriptions. The results of each research question will then be presented, with the level of statistical significance for this study set at $p < .05$.

Sample Characteristics

Demographics of the sample population are shown in Table 2. These are reported in two groups—pre-discharge and post-discharge. The mean age of patients in the pre-discharge group was 61.25 years ($N = 213$, $SD = 15.94$), and was 61.99 years in the post-discharge group ($N = 267$, $SD = 17.17$). The mean length of stay (given as mean item means) for the pre-discharge group was 3.63 days ($N = 213$, $SD = 3.08$) and for the post-discharge group was 3.66 ($N = 267$, $SD = 3.01$). The mean number of symptoms reported by the pre-discharge was 3.84 ($N = 213$, $SD = 2.40$) and the mean number of symptoms reported by the post-discharge group was 3.00 ($N = 269$, $SD = 2.16$).

Table 2**Demographic Information on Pre- and Post-discharge Survey Groups**

Characteristics	Frequency	Mean	Standard Deviation
<u>Age</u>			
Pre-	213	61.25	15.94
Post-	267	61.99	17.17
<u>Length of Stay</u>			
Pre-	213	3.63	3.08
Post-	267	3.66	3.01
<u>Total Symptoms</u>			
Pre-	213	3.84	2.40
Post-	269	3.00	2.16

^aMeans given as mean item means

Table 3**Independent Samples T-Test of age, length of stay and total symptoms**

Characteristics	Levene's Test for Equality of Variance		T-Test		
	F	Sig.	t	df	Sig. (2-tailed)
<u>Patient Age</u>	3.28	.07			
	<i>Equal variances assumed</i>		-.31	478	.76
<u>Length of Stay</u>	.11	.74			
	<i>Equal Variances not assumed</i>		-.11	478	.91
<u>Total Symptoms</u>	4.60	.03			
	<i>Equal variances not assumed</i>		3.80	427.96	<.01

A t-test of the means for age, length of stay, and number of symptoms showed there was no significant difference between the pre- and post-discharge groups for age with a t-test of -0.31 ($p = .76$) and length of stay with a t-test of -0.11 ($p = .91$). However, the difference between the means for number of symptoms of the two groups did show a statistically significant difference at an alpha level of $.05$, with a t-test of 3.80 ($p < .01$). Table 3 shows these results.

Results Related to Research Questions

Research Question One: The first research question was: Is there a significant difference in level of patient perceived satisfaction when the satisfaction survey is administered pre-discharge versus post-discharge? The two groups (pre-discharge and post-discharge) were compared for level of perceived satisfaction in the three subscales using an independent groups t-test, comparing the mean perceived patient satisfaction of the patients who had answered the survey at the pre-discharge time of survey with the mean perceived patient satisfaction of the patients who had answered the survey at the post-discharge time of survey.

This test was found to be statistically significant in all three subscales, with an alpha level of $.05$. The General Satisfaction subscale shows

Table 4**Levels of Perceived Satisfaction in Pre- and Post-discharge Survey****Groups**

Characteristics Deviation	Frequency	Mean^a	Std.
<u>General Satisfaction</u>			
Pre-	210	3.48	.70
Post-	267	3.59	.55
<u>Satis. with Caring</u>			
Pre-	210	3.47	.61
Post-	265	3.61	.47
<u>Satis. with Individual Needs</u>			
Pre-	210	3.43	.58
Post-	267	3.58	.49

^aMeans given as mean item means

Table 5**Independent Samples T-Test**

Characteristics	Levene's Test for Equality of Variance		T-Test		
	F	Sig.	t	df	Sig. (2-tailed)
<u>General Satisfaction</u>	8.47	.00			
	<i>Equal Variances not assumed</i>		-1.98	389.50	.05
<u>Satis. with Caring</u>	5.00	.03			
	<i>Equal Variances not assumed</i>		-2.70	386.80	.01
<u>Satis. with Individual Needs</u>	2.82	.09			
	<i>Equal variances assumed</i>		-3.10	475	<.01

statistically significant differences between pre-discharge and post-discharge with a t-test of -1.98 ($p < .05$). The Satisfaction with Caring subscale shows statistically significant differences between pre-discharge and post-discharge with a t-test of -2.70 ($p < .05$). The Satisfaction with Individual Needs subscale also shows statistically significant differences between pre-discharge and post-discharge with a t-test of -3.10 ($p < .05$). These results indicate that in all three subscales, patients rated their satisfaction higher at post-discharge than at pre-discharge. In addition, as indicated by the standard deviation of scores, post-discharge groups were much more alike in ratings than in the pre-discharge group. Tables 3 and 4 present this data.

Research Question Two: The second research question was: Do other factors such as patient age, number of reported symptoms, length of stay in the study unit, and nursing unit bed size account for differences in level of perceived patient satisfaction?

A Pearson correlation addressed the relationship between time of survey administration, patient age, number of reported symptoms, length of stay in study units, bed size of nursing unit, and satisfaction in the three subscales (Satisfaction in General, Satisfaction with Individual Needs, and Satisfaction with Caring). The descriptive statistics for these variables are

summarized in Table 5. Significant correlations were then used to develop multiple regression equations with the significant demographic variables in block one and the time of survey completion in block 2. This procedure indicated whether there was an effect of time of survey completion beyond the effect of the demographic variables.

The correlations that were statistically significant at an alpha level of .05 were satisfaction in all three subscales, patient age and number of reported symptoms. The correlations are summarized in Table 6. It was found that unit bed size and length of stay were not correlated with satisfaction in any of the three subscales, and these variables were dropped from further analysis.

Correlations indicated that the greater the age of the patient, the lower the General Satisfaction as well as Satisfaction with Caring and Satisfaction with Individual Care. A greater number of reported symptoms were also associated with lower levels of satisfaction for all variables.

The multiple regression equations generated with the significantly correlated variables was divided into two blocks. Block one contained the demographic variables, and block two the time of survey completion. These data are summarized in Table 7.

Table 6**Descriptive statistics for total sample**

Characteristics	Mean	Standard Deviation	N
Patient Age	61.78	16.62	480
Number of Symptoms	3.42	2.33	482
Length of Stay	3.65	3.04	480
Unit Bed Size	50.40	32.92	482
Satisfaction in General	3.54	.62	477
Satisfaction with Individual Needs	3.56	.53	477
Satisfaction with Caring	3.55	.54	475

Table 7

Significant Correlations (p) between satisfaction subscales and time of survey, age and number of symptoms

Satisfaction Subscale Number	Time of Survey	Age	Symptom
General	.09 (.04) N = 477	-.08 (.09) N = 475	-.12 (.01) N = 477
Individual	.14 (<.01) N = 477	-.10 (.04) N = 475	-.10 (.03) N = 477
Caring	.13 (.01) N = 475	-.12 (.01) N = 473	-.16 (<.01) N = 475

Table 8**Results of Multiple Regression Analysis of Satisfaction Subscales**

Dependent Variable	Block 1				Block 2		
	Beta for Independent Variables (p)		R ²	P	Beta for Independent Variable (p)	R ²	P
	Age	Symptoms			Time		
General N = 474	-.09 (.05)	-.12 (.01)	.02	<.01	.07 (.11)	.03	<.01
Caring N = 472	-.13 (<.01)	-.16 (<.01)	.04	<.01	.10 (.02)	.05	<.01
Individual N = 474	-.11 (.02)	-.09 (.05)	.02	<.01	.12 (<.01)	.04	<.01

The results of the regression indicates that for the General Satisfaction subscale, the primary explanatory variables are age and number of symptoms. The time of survey administration is not a significant variable when the effect of the other variables is removed. However, for the Caring and Individual subscales all three variables are significant with an approximately equal effect.

Summary

Chapter four included a discussion of the demographic characteristics of the survey patients and a discussion of the data analysis performed to answer the two research questions. For question one, this included the independent groups t-test to examine the differences in the mean of the two time of survey groups. The test showed statistically significant differences in mean satisfaction, with the post-discharge group showing greater satisfaction.

Question two was addressed with the use of a Pearson correlation to discover the significantly correlated variables. It was found that while patient age and number of reported symptoms were negatively correlated with satisfaction in all three subscales, unit bed size and length of stay were not correlated. Subsequent regression analysis indicated that age and

symptom number had greater impact on the General Satisfaction subscale than did time of survey administration. In the Caring and Individual subscales, time of survey as well as age and number of symptoms were all equally likely to impact satisfaction.

CHAPTER V

DISCUSSION

The purpose of this study was to demonstrate the relationship between levels of perceived patient satisfaction when data was collected at two different points of service—pre-discharge self-administered questionnaire, versus post-discharge phone interview. The relationship between levels of satisfaction and the variables of patient age, nursing unit, number of symptoms, and length of stay was examined.

The original data was collected for the IMPACT study (Verran, Lamb & Effken 2003). This chapter discusses the results of this secondary data analysis as the results relate to the conceptual framework and to the literature reviewed in chapter one.

Findings as Related to the Conceptual Framework

This secondary data analysis utilized a modification from the SRO model used in the IMPACT study, and discussed in Chapter Two, which shows the relationship between perceived patient satisfaction as an outcome impacted by client, context and intervention variables. Client variables included age and number of symptoms. Context variables included nursing

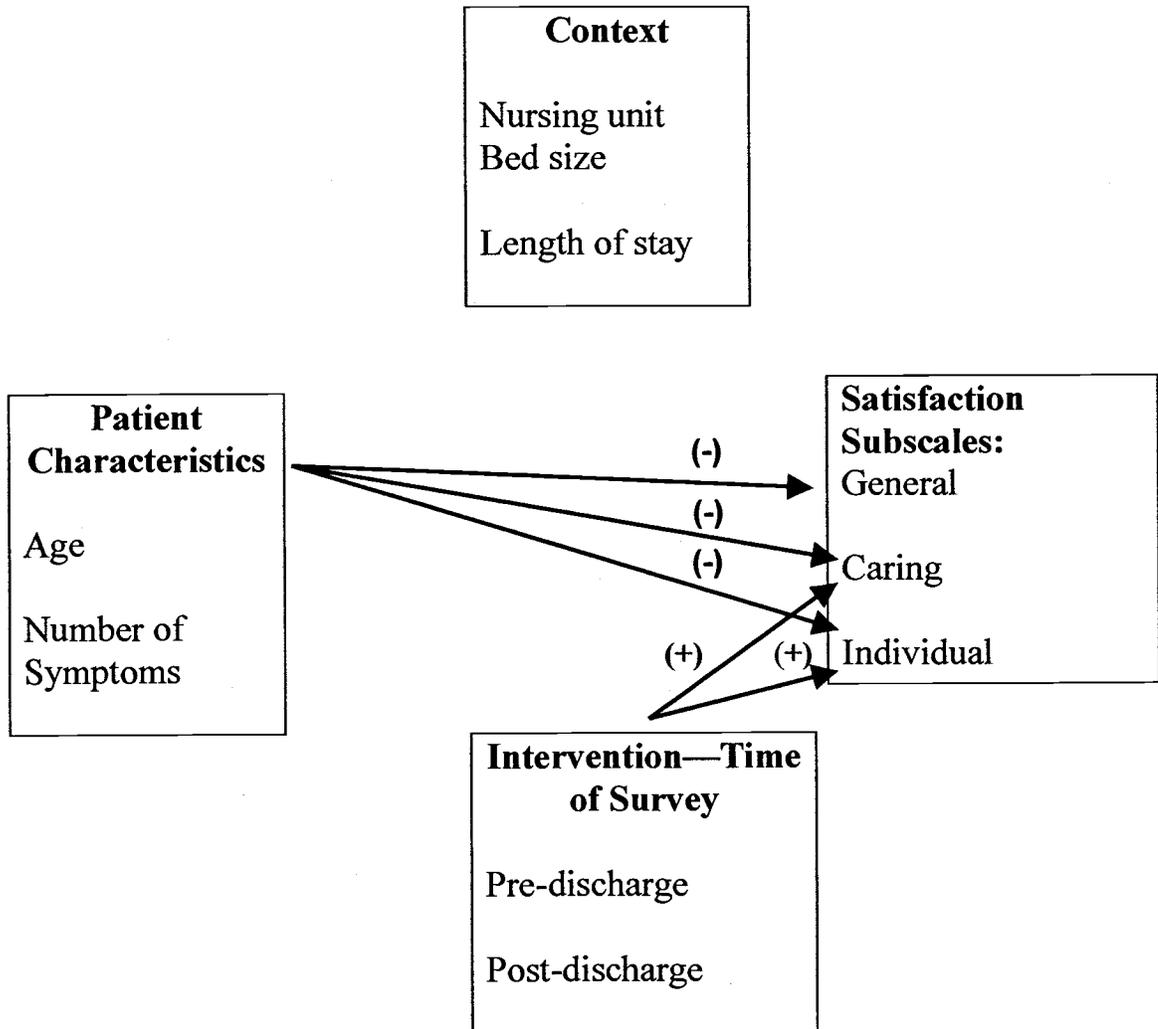
unit and length of stay. The intervention variable was the time of service of survey administration.

The model indicates that the intervention variable—time of satisfaction survey administration (pre/post-discharge)—will have an impact on patient perceived satisfaction. This study indicates that pre-discharge satisfaction will be reported as lower than satisfaction seen in the post-discharge survey.

However, when client and context variables were statistically accounted for, it was shown that context variables did not affect satisfaction as suggested by the model. While time of survey did impact the General Satisfaction subscale, it was of less importance in predicting levels of general satisfaction than the client variables of age and number of symptoms. Further, in the Caring and Individual subscales, client variables and time of survey had equal impact on satisfaction.

The findings of this secondary analysis vary from the SRO model adaptation in that no linear relationship could be drawn between context variables and outcome (patient satisfaction). The findings were consistent with the SRO model adaptation in terms of the effects of client variables and time of survey on patient satisfaction.

Figure 2. SRO Model Adaptation showing secondary study results



Relationship of Results to Literature Reviewed

The relationship of this study's results to the literature is presented here, in response to the two research questions. The first question was: Is there a significant difference in level of patient perceived satisfaction when the satisfaction survey is administered at a pre-discharge versus a post-discharge point of service? An independent groups t-test produced the statistical results.

In this study, it was found that the post-discharge group reported higher levels of satisfaction than did the pre-discharge group. These findings represent unique answers on the subject of timing of survey administration, as very little information on this subject can be found in the literature. Some authors suggest that timing can influence survey bias (ANA 1995; Weaver, et. al., 1997; and Minnick & Young, 1999), with Minnick & Young asserting that satisfaction surveys administered as post-discharge methods resulted in higher levels of satisfaction than did pre-discharge methods, which is consistent with this study's findings. Other authors did not offer specific predictions of satisfaction based on methodology, but suggested that collection methodology could exert some type of influence (ANA 1995; and Weaver, et. al., 1997). Kane (1997) suggests that greater

positive response bias is seen in the satisfaction surveys with direct communication between data collectors and patients, either by phone or in person. However, this study's pre- and post-discharge methods both involved contact between the patients and data collectors, and no support for one method over the other can be concluded from this.

The influence on satisfaction by context variables (unit size and length of stay) was shown in this study to be statistically insignificant. The available research does not address these variables on satisfaction directly, but Young, et. al. (2000) did link satisfaction with hospital size, but unit size is not a proxy for hospital size. Both Young, et. al. (2000) and Hargraves, et. al. (2001) demonstrate the connection between patient satisfaction and patient demographics, specifically patient age and health status. This secondary analysis agreed with these researchers in regard to the patient's health status, as long as it is accepted that health status is reflected in the number of reported symptoms.

Findings on satisfaction and patient age, however, are inconsistent between the Young and Hargraves studies and this secondary analysis, with the former finding age positively correlated with satisfaction and the latter finding age negatively correlated with satisfaction.

Burroughs et. al. (2003) cites a study that gathered patient satisfaction data from both phone interviews and mail-in surveys. Higher levels of satisfaction were seen in the surveys done by phone. The explanation for this is related to “positive response bias” (Bear & Bowers, 1998) and social desirability—that is, the tendency of a respondent to give answers they believe the questioner wants to hear, an effect enhanced by direct contact with the questioner. This may account for the higher satisfaction ratings seen in the post-discharge group of the IMPACT study, as the pre-discharge group had less interaction with the researchers in terms of the satisfaction survey itself. Thus, the post-discharge group may report greater satisfaction as a result of positive response bias and social desirability.

Limitations of the Study

Initially, the IMPACT study was designed to collect patient data by phone interview only. Pre-discharge data collection was added at a later time, and the patients at that time were given the choice of either participating by phone interview after discharge or completing the survey pre-discharge. It is possible that survey bias was introduced when some patients were offered a choice of survey completion time and others were given no choice in survey completion time. Those choosing the pre-

discharge method may have had characteristics impacting satisfaction different from the characteristics of those whose choice was limited to agreeing to either a phone interview or not participating at all.

Other limitations include the possibility of greater acquiescent (or positive) response bias in the post-discharge group, and variations in survey administration from one researcher to another for both pre and post-discharge groups. The pre-discharge survey was at times treated as an interview, with the researcher asking survey questions to patients at the bedside, and at other times as a paper questionnaire the researcher left with the patient and returned to pick up later with a minimum of patient contact. No standardization of researcher data collection procedures existed for the IMPACT study.

There is also the possibility that other client and context variables not measured in the IMPACT study exerted an unknown effect on satisfaction. Client variables found in the literature to exert an effect on satisfaction but not studied here include patient gender and education levels (Young, et. al., 2000; and Hargraves, et. al., 2001), and context variables include hospital size (Young, et. al., 2000).

Implications for Nursing

Nursing research is very concerned with outcomes that are linked to nursing care, and patient satisfaction is one such outcome (Mahon, 1997, and Urden, 2002).

The analysis of methodology in patient satisfaction survey administration is germane to bringing greater reliability and validity to satisfaction measurement, and improving reliability and validity increases the likelihood that patient satisfaction can be used more accurately to measure patients' responses to nursing care.

The analysis of the effect of context and client variables on patient satisfaction may be useful in helping nurses define who is at risk for being dissatisfied, and thus who is not receiving quality care, and intervening on those patients' behalf.

Aside from direct application of this secondary analysis to nursing care, it is an important addition to nursing outcomes research. It represents a step in the ability of nursing researchers to understanding the complexities of measuring patient satisfaction.

Recommendations for Future Research

Throughout the literature on satisfaction there is seen a consistent hue and cry for further studies on virtually every aspect of satisfaction. In this secondary data analysis, time of survey administration as a variable impacting satisfaction was the explored aspect. The results were difficult to link to the available literature because of a lack of previous research, and therefore, survey timing is an area of research that bears further study.

While most health care institutions choose a survey administration based on cost effectiveness and to maximize returns (Strasser & Davis, 1991; Kane, 1997; and Minnick & Young, 1999), a better understanding through further research of the timing of data collection may help a hospital or clinic choose a method that is not only cost effective, but whose results are more valid than a method chosen for cost alone.

This study also explored the relationship between satisfaction and client and context variables. While there was some agreement with the literature over patient symptom numbers as they may relate to satisfaction, there is no clear link seen between reported symptom numbers and the patient's relative degree of wellness. Research to discover if symptom numbers stand as a proxy for health status may simplify certain data

collection procedures when researchers do not need to assign acuity based on diagnosis. Further research on the relationship between patient reported symptom numbers and satisfaction will help to clarify the usefulness of collecting symptom data from patients. In the case of patient age, conflicting results between this study and the literature were found. Further study to focus on the effects of patient age can help the development of satisfaction survey methodology that can more easily take that bias into account.

As suggested by this secondary data analysis, the recommendations for further research are:

1. Continued examination of the role that timing of survey administration plays in determining patient satisfaction.
2. Further studies to examine the relative impact the timing of surveys has on satisfaction when compared to client and context variables.
3. Greater understanding of patients' reported number of symptoms as they relate to patient health status, and as this concept of acuity relates to satisfaction.
4. Greater understanding of the impact of patient age in satisfaction.

5. Further work to delineate context variables that impact patient satisfaction.

Summary

Chapter five presents and discusses the findings of this secondary data analysis. Results were compared to the modified SRO model used to describe the research questions and compared and contrasted to the literature on satisfaction.

The findings were discussed relative to its impact on nursing, and finally, recommendations for further research were made.

APPENDIX A**HUMAN SUBJECTS APPROVAL FOR ORIGINAL STUDY**

Human Subjects Protection Program

THE UNIVERSITY OF
ARIZONA
TUCSON ARIZONA

1350 N. Vine Avenue
P.O. Box 245137
Tucson, AZ 85724-5137
(520) 626-6721

6 July 2001

Joyce Verran, Ph.D.
College of Nursing
PO BOX 210203

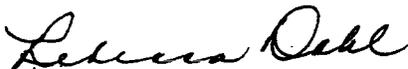
RE: THE IMPACT OF NURSING UNIT CHARACTERISTICS ON OUTCOMES

Dear Dr. Verran:

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 Institutional Review Board.

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

Sincerely,



Rebecca Dahl, R.N., Ph.D.
Director
Human Subjects Protection Program

RD/js

cc: Departmental/College Review Committee

FINAL APPROVED HUMAN
SUBJECTS APPLICATION

APPENDIX B
APPROVAL FOR SECONDARY ANALYSIS

THE UNIVERSITY OF ARIZONA COLLEGE OF NURSING**MEMORANDUM**

TO: Human Subjects Review

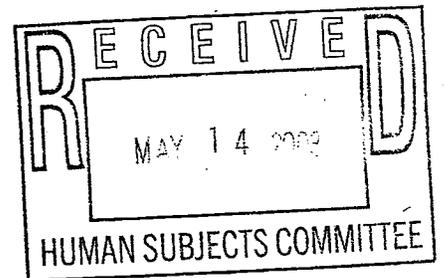
FROM: Joyce A. Verran PhD, RN, FAAN
Principal Investigator

DATE: April 24, 2003

SUBJECT: Approval to Utilize Data



Sue Bond, a Master's student at the College of Nursing has my permission to utilize data from the Impact on Nursing Unit Characteristics on Outcomes (AHRQ, R01 HS11973, 2001-2003) to perform the research described in this proposal for her thesis research. Her project has recieved approval from her committee of myself as Chair, Gerri Lamb PhD, RN, FAAN and Judith Effken, PhD, RN who also serve as Investigators on the Impact study.



APPENDIX C**HUMAN SUBJECTS APPROVAL FOR SECONDARY ANALYSIS**

3 July 2003

Susan Bond, Master's Candidate
Advisor: Joyce Verran, Ph.D.
College of Nursing
PO BOX 210203

RE: PATIENT SATISFACTION: ISSUES IN TIMING OF DATA COLLECTION

We received documents concerning your above cited project. This project involves use of existing, de-identified data [letter granting access to data by PI of project under which data was collected (Dr. Verran) submitted for review]. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101(b) (4)] exempt this type of research from review by our Institutional Review Board.

Exempt status is granted with the understanding that no further changes or additions will be made to the procedures followed (which we have on file) without the review and approval of the Human Subjects Committee and your College or Departmental Review Committee.

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

Sincerely,



Rebecca Dahl, R.N., Ph.D.
Director
Human Subjects Protection Program

RD/js
cc: Departmental/College Review Committee

APPENDIX D
INSTRUMENT

How Well Cared For Were You? (WCF)

Instructions: Fill in the bubble beside the answer that best matches your opinion.

1. How satisfied are you with the amount of help you have received?
 - Quite dissatisfied (1)
 - Indifferent or mildly dissatisfied (2)
 - Mostly satisfied (3)
 - Very satisfied (4)

2. Considering your particular needs, how appropriate are the services you have received?
 - Highly appropriate (4)
 - Generally appropriate (3)
 - Generally inappropriate (2)
 - Highly inappropriate (1)

3. Have the services you received helped you to deal more effectively with your problems?
 - Yes, it helped a great deal
 - Yes, it helped somewhat
 - No, it really didn't help
 - No, it seemed to make things worse

4. How satisfied are you with the amount of nursing care you have received?
 - Quite dissatisfied (1)
 - Indifferent or mildly dissatisfied (2)
 - Mostly satisfied (3)
 - Very satisfied (4)

5. Considering your particular needs, how appropriate is the nursing care you have received?
 - Highly appropriate (4)
 - Generally appropriate (3)
 - Generally inappropriate (2)
 - Highly inappropriate (1)

6. Has the nursing care you received helped you to deal more effectively with your problems?
 - Yes, it helped a great deal (4)
 - Yes, it helped somewhat (3)
 - No, it really didn't help (2)
 - No, it seemed to make things worse (1)

7. When you talked to the person with whom you worked most closely, how closely did he or she listen to you?
- Not at all closely (1)
 - Not too closely (2)
 - Fairly closely (3)
 - Very closely (4)
8. When you talked to the nurse with whom you worked most closely, how closely did he or she listen to you?
- Not at all closely (1)
 - Not too closely (2)
 - Fairly closely (3)
 - Very closely (4)
9. How clearly did the person with whom you worked most closely understand your problem and how you felt about it?
- Very clearly (4)
 - Clearly (3)
 - Somewhat unclearly (2)
 - Very unclearly (1)
10. How clearly did the nurse with whom you worked most closely understand your problem and how you felt about it?
- Very clearly (4)
 - Clearly (3)
 - Somewhat unclearly (2)
 - Very unclearly (1)
11. How competent and knowledgeable was the person with whom you have worked most closely?
- Poor abilities at best (1)
 - Only of average ability (2)
 - Competent and knowledgeable (3)
 - Highly competent and knowledgeable (4)
12. How competent and knowledgeable was the nurse with whom you have worked most closely?
- Poor abilities at best (1)
 - Only of average ability (2)
 - Competent and knowledgeable (3)
 - Highly competent and knowledgeable (4)

13. In an overall, general sense, how satisfied are you with the services you have received?
- Very satisfied
 - Mostly satisfied
 - Indifferent or mildly dissatisfied
 - Quite dissatisfied
14. In an overall, general sense, how satisfied are you with the nursing care you have received?
- Very satisfied
 - Mostly satisfied
 - Indifferent or mildly dissatisfied
 - Quite dissatisfied
15. How satisfied are you with the respect shown to you by your nurses?
- Quite dissatisfied (1)
 - Indifferent or mildly dissatisfied (2)
 - Mostly satisfied (3)
 - Very satisfied (4)
16. How satisfied are you with the nurses' responses to your cultural needs (if any)?
- Very satisfied (4)
 - Mostly satisfied (3)
 - Indifferent or mildly dissatisfied (2)
 - Quite dissatisfied (1)
17. How satisfied are you with the amount of time nurses spent with you?
- Quite dissatisfied (1)
 - Indifferent or mildly dissatisfied (2)
 - Mostly satisfied (3)
 - Very satisfied (4)
18. If a friend were in need of similar care, would you recommend this program to him or her?
- No, definitely not (1)
 - No, I don't think so (2)
 - Yes, I think so (3)
 - Yes, definitely (4)
19. How satisfied were you that the nurse worked on your behalf to get you the care you needed?
- Quite dissatisfied (1)
 - Indifferent or mildly dissatisfied (2)
 - Mostly satisfied (3)
 - Very satisfied (4)

20. How satisfied are you with the amount of input you had into the decisions made about your health care?

- Very satisfied (4)
- Mostly satisfied (3)
- Indifferent or mildly dissatisfied (2)
- Quite dissatisfied (1)

21. How often did you see a Registered Nurse?

- Frequently (4)
- Sometimes (3)
- Seldom (2)
- ~~Never or don't know~~ (1)
- don't know
- couldn't tell

Thank you for completing this questionnaire!

REFERENCES

- American Nurses Association. (1995). *Nursing Care Report Card for Acute Care*. Washington, D.C.: American Nurses Publishing.
- Bear, M. & Bowers, C. (1998). Using a nursing framework to measure client satisfaction at a nurse-managed clinic. *Public Health Nursing, 15(1)*, 50-59.
- Benkert, R., Barkauskas, V., Pohl, J., Corser, W., Tanner, C., Wells, M., & Nagelkirk, J. (2002). Patient satisfaction outcomes in nurse-managed centers. *Outcomes Management, 6(4)*, 174-181.
- Brewer, B. B., Greenberg, M. E., McEwen, M. M., Doyle, M. D., Lamb, G., Effken, J., & Verran, J. A. (2001). *The Systems Research Organizing Model*. Unpublished manuscript, University of Arizona College of Nursing, Tucson.
- Brooten, D. (1997). Methodological issues linking costs and outcomes. *Medical Care, 35(11)*, 87-95.
- Burrows, T. E., Waterman, B. M., Cira, J. C., Desikan, R., & Duncan, W. C. (2001). Patient satisfaction measurement strategies: A comparison of phone and mail methods. *The Joint Commission Journal on Quality Improvement, 27(7)*, 349-361.
- Ferketich, S., Phillips, L., & Verran, J. (1993). Development and administration of a survey instrument for cross-cultural research. *Research in Nursing and Health, 16(3)*, 227-230.
- Ford, R. C., Bach, S. A., & Fottler, M. D. (1997). Methods of measuring patient satisfaction in health care organizations. *Health Care Management Review, 22(2)*, 74-89.
- Hargraves, J. L., Wilson, I. B., Zaslavsky, A., James, C., Walker, J. D., Rogers, G., & Cleary, P. D. (2001). Adjusting for patient characteristics when analyzing reports from patients about hospital care. *Medical Care, 39(6)*, 635-641.

- Hogan, A. J. (1997). Methodological issues in linking costs and health outcomes in research on differing care delivery systems. *Medical Care, 35(11)*, 96-105.
- Kane, R. L. (1997). *Understanding Health Care Outcomes Research*. Gaithersburg, MD: Aspen Publishers, Inc.
- Lamb, G. S. (1997). Outcomes across the care continuum. *Medical Care, 35 (11)*, 106-114.
- Larsen, D. L., Attkisson, C. C., Hargreaves, W. A., & Nguyhen, T. D. (1979). Assessment of client/patient satisfaction: Development of a general scale. *Evaluation and Program Planning, 2*, 197-207.
- Maas, M. L., Reed, D., Reeder, K. M., Kerr, P., Specht, J., Johnson, M., & Moorhead, S. (2002). Nursing outcomes classification: A preliminary report of field testing. *Outcomes Management, 6(3)*, 112-119.
- Mahon, P. Y. (1996). An analysis of the concept "patient satisfaction" as it relates to contemporary nursing care. *Journal of Advanced Nursing, 24(6)*, 1241-1248.
- Mahon, P. Y., (1997). Review of measures of patient satisfaction with nursing Care. *Image—The Journal of Nursing Scholarship, 29(2)*, 196.
- Minnick, A., & Young, W. B. (1999). Comparison between reports of care obtained by postdischarge telephone interview and pre-discharge personal interview. *Outcomes Management for Nursing Practice, 3(1)*, 32-37.
- Mitchell, P. H., Ferketich, S., & Jennings, B. M. (1998). Quality health outcomes model. *Image—The Journal of Nursing Scholarship, 31(1)*, 43-46.
- Polit, D. F., & Hungler, B. P. (1995). *Nursing Research—Principles and Methods*. Philadelphia: Lippincott.

- Sidani, S., & Braden, C. J. (1998). *Evaluating Nursing Interventions—A Theory-Driven Approach*. Thousand Oaks, CA: Sage Publications.
- Strasser S., & Davis, R. M. (1991). *Measuring Patient Satisfaction for Improved Patient Services*. Ann Arbor, MI: American College of Healthcare Executives.
- Thomas, L. H., & Bond, S. (1996). Measuring patients' satisfaction with nursing: 1990-1994. *Journal of Advanced Nursing*, 23, 747-756.
- Urden, L. D. (2002). Patient satisfaction measurement: Current issues and implications. *Lippincott's Case Management*, 7(5), 194-200.
- Verran, J., Effken, J., & Lamb, G. (2001). Patient Safety Initiative from the Agency for Health Research and Quality CROI HS 11973, 2001-2004.
- Weaver, M., Patrick, D. L., Markson, L.E., Martin, D., Frederic, I., & Berger, M. (1997). Issues in the measurement of satisfaction with treatment. *The American Journal of Managed Care*, 3(4), 579-594.
- Young, G. J., Meterko, M., & Desai, K. R. (2000). Patient satisfaction with hospital care: Effects of demographic and institutional characteristics. *Medical Care*, 38(3), 325-334.