TOTAL PATIENT CARE VERSUS TEAM NURSING: DO THEY MAKE A DIFFERENCE IN THE QUALITY OF CARE?

by

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To the Graduate Council of The University of Utah:

I have read the thesis of Bonnie Dee Cook in its final form and have found that (1) its format, citations, and bibliographic style are consistent and acceptable; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the Supervisory Committee and is ready for submission to the Graduate School.

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ABSTRACT

An ex post facto exploratory and descriptive study was conducted to determine if there were differences in the quality of patient care delivered under two forms of nursing care delivery systems. The two systems of nursing care delivery studied were team nursing and total patient care nursing. Both systems were evaluated over successive eight month periods in the setting of a rural 72-bed hospital.

Quality of patient care was assessed by use of four instruments. The four instruments were: a) nosocomial infection rates, b) patient incident reports, c) patient satisfaction questionnaires, and d) patient care quality assurance audits.

The data were analyzed using descriptive and inferential statistical techniques. Significant differences were not apparent between the two systems of nursing care delivery in the areas of nosocomial infection rates and patient satisfaction indices. Total patient care demonstrated statistically significant improvement in the areas of number of patient incidents ($p = .05$), and patient quality assurance

audits (p = .008). Patient falls and medication errors were significantly reduced. Patient care was improved significantly in all areas measured, with the greatest change demonstrated in the areas of: a) the nurse's knowledge of patients' diagnoses, and conditions, b) the patients' treatments and the effects of therapy, c) patient and family teaching with associated charting, and d) increased interdisciplinary communication between health team members.

Implications for nursing are vast. As health care costs and patient expectations continue to soar, the most efficient and effective nursing care delivery system is essential.

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CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

The modern hospital is seen by our society as one of the highest achievements by man. It is concerned with major human experiences of illness, infirmity, aging and death -- the disrupters of life in poor and wealthy countries alike. Its technological triumphs command headlines in the press almost daily. Hope in the fragility of life is invested by men and women of all walks of life, with or without religious faith, in hospital technology and its power to save life and to prolong it.

Health care is a functional aspect of society. Attention to the maintenance of good health and the care of the sick and disabled has been an element of group life throughout recorded history, and in all likelihood, long before then.

Health care as a social activity undertaken within the context of human need and group life develops institutional forms through which ideas and practices are

carried out by members of an organized society, characterized by division of labor and specialization of functions.

Human beings are creators and transmitters of our culture. Thus, in the course of his evolution, man has become increasingly adaptable and capable of modifying not only his environment, but himself as well. One aspect of this capacity is evident in the various ways in which human beings living in groups have tried to deal with the health problems of their fellow human beings. The essentially social nature of health care was recognized very early. Describing the origins of medicine, the author of Hippocratic treatises on "Ancient Medicine" wrote "sheer necessity has caused men to seek and to find medicine because sick men did not, and do not, profit by the same regimen as do men in health."

As long as there has been life on earth, disease has been associated with it. Sickness has plagued man as long as he has existed, and throughout time he has attempted to deal with it to the best of his abilities.

The concept of health needs as envisaged by the nurse, and the challenge of the changing setting to nursing, are often explored with regard to the nurse's contribution to care against the constant background of change. Advances in medical science and technology tend to result in increasing specialization in health

care and a complex organizational structure for its delivery.

Both the manner in which health care services are being delivered to the public as well as the quality of services being delivered are under constant scrutiny.

Although since the early 1050s, investigators have sought to identify valid and reliable criteria to appraise quality of nursing care, empirical assessment of quality care has been difficult for both practitioners and administrators of nursing.

Patient care outcomes reflect a number of uncontrolled variables such as the client's state of health, his coping ability, his therapy, the effect of interventions by other health care providers, and the client's value system. Areas of care related to nursing should be identified and tested to establish the relationship between nursing, nursing intervention, and desirable outcomes, as knowledge of the outcomes is crucial if a practitioner is to select appropriate interventions.

One of the variables that can be controlled by the health care provider is the method employed for the delivery of health care. Thus it becomes the responsibility of that health care institution to determine the most effective method of health care delivery.

Purpose

The purpose of this study was to determine if the quality of nursing care provided to patients changed using two different systems of nursing care delivery: "team nursing" and "total patient care."

Significance

A health service and, more particularly, a hospital service, can most effectively and efficiently meet the needs of their patients by implementing the nursing care delivery method that maximizes benefits of nursing care and most effectively meets the physical, social, and biological needs of the patients in that hospital.

Review of Literature

Evaluation involves an estimate or decision of value, worth, or quality. It is a measurement, a congruence between objectives and performance, or a professional judgment (Stufflebaum, 1971).

An individual is constantly performing the evaluation process. He makes decisions concerning his physical status, his environment, his psychological status, as well as the hundreds of other objectives and expectations in his surroundings. The individual's expectations of the health care system also directly affect his evaluation of that system.

Since the early 1950s, investigators have sought

to identify valid and reliable criteria to appraise quality of nursing care. Three classical approaches to patient care evaluation are: structure, process, and outcome (Donabedian, 1966).

Nursing literature documents the difficulty of identifying nursing-specific criteria. "Criterion measures of patient care and precise instrumentation to measure the effect of nursing practice on patient care are the major gaps in nursing research" (Abdellah, 1960). Evaluation criteria in the nursing care area also vary both in their research base and in their degree of refinement. For example, Sanazara and Williamson (1968) reported four eclectically proposed evaluative criteria for health care outcomes: a) death, b) disease, c) discomfort, and d) dissatisfaction. Abdellah and Levine (1965) report on various evaluative aspects of patient care which include: adequacy of the facilities, effectiveness of the organizational structure, professional qualifications, and competency of personnel providing care, as well as the effect of that care on the consumers.

Evaluation of the performance of the health care system was discussed by the U.S. National Center for Health Services Research and Development (NCHSRD), (1970) in respect to the degree of system efficiency and effectiveness in meeting demands and needs of the

patients. Their criteria for evaluation were further classified into three categories: a) mortality, b) morbidity, and c) patient satisfaction. In each of these examples, evaluation criteria are not absolute; they are relative to the alternatives that are being compared and to the person who is making the evaluation.

The approaches to evaluation of health care services cited above included patient satisfaction as an important criterion of evaluation. Patient satisfaction implies an attitude (Risser, 1975). Although attitudes are defined in various ways, the conception of attitude preferred in this study was that advanced by Shaw and Wright (1967), which limits the theoretical construct of attitude to an effective component which is based upon cognitive processes and is an antecedent of behavior. Patient satisfaction with nursing care can also be conceptualized as the degree of congruency between a patient's expectations of ideal nursing care and his perception of the real nursing care he receives.

A search of the literature revealed no acceptable tool which would provide quantitative data of patient satisfaction with nurses or nursing care, or of patient attitude toward nurses and nursing. In their studies of patient satisfaction with nursing care in ambulatory areas, Lewis and Resnik (1967) and Sussman (1968) used a single direct question to determine patient satisfac-

tion.

Four component areas of patient satisfaction emerged from a review of research focused on patient satisfaction with health care delivery systems:

1. Cost: How much money did the consumer have to pay for the health care service?
2. Convenience: How closely were the patients located to the health care facility and how efficient was the operation of that facility, as viewed by the patient?
3. The provider's personnel qualities and the nature of the interpersonal relationship: Did the patient like the nurse on a personal level and how frequently did they interact on a personal basis?
4. The provider's professional competency and perceived quality of the care which was received: Did the patient perceive the nurse as a competent and safe practitioner? (Donabedian, 1969; Hulka, 1970; Korsh, 1968; U.S.NCHSRD, 1970).

Components which are logically related to nursing care in the hospital include: a) the personalities of the nurses and the nurse-patient interpersonal relationship and b) the nurse's professional competence and the patient's perception of the quality of nursing care received (Risser, 1975). Many studies appeared to sup-

port the selection of a two-component object area as stated above consisting of a) the intra-, interpersonal character and operations of the nurse, and b) technical-professional competencies of the nurse (Reekie, 1970).

Risser (1975) developed an instrument that evaluated patient attitudes toward nurses and nursing care. The tool consists of 25 items subdivided into three subscales:

1. technical-professional behavior of the nurse which fulfills instrumental or goal achievement functions, for example: the nurse's knowledge, physical care for patient, and expertise in implementing medical care;
2. interpersonal education relationship, which relates to the nurse's personality characteristics and the social aspects of nursing care; as well as the informational exchange between patient and nurse, which includes such activities as answering questions, explaining and demonstrating;
3. interpersonal trusting relationship which measures verbal and nonverbal communication interactions, for example, interest in the patient, sensitivity to people and their feelings, and listening to the patient's problems.

This instrument has a scale for each of the 25 items to

which respondents indicated agreement to disagreement in five Likert-type steps.

Evolving definitions of nursing practice were reviewed to identify distinguishing functions for which nursing can be held accountable (Abdellah, 1960; Byrne & Thompson, 1972; Gortner, 1974; Hadley, 1969; Nightingale, 1860; Orem, 1971; Rogers, 1964; Roy, 1976).

Lang (1976) describes the use of outcome criteria for the measurement of nursing care. She describes outcome criteria to be the end result of nursing care or a measurable change in the actual state of the client's health. Outcome criteria answer the question "what happens to the client as a result of nursing intervention and when should it happen?" Along this same line of reasoning, Majesky (1978) indicated that another measurement of nursing care is to maintain or improve the patient's baseline physiologic and psychosocial status exclusive of disease processes and medically initiated therapy. The maintenance of this baseline status is, in itself, measurable. Selection of this function is based on the assumption that the prevention of complications is largely within the control and authority of nursing in health care settings. Complications are a sensitive patient index for the quality of nursing care. A relationship exists between the incidence of complications and the quality of nursing care (Majesky, 1978).

Complications in a hospital can be measured through various methods such as incident reports, nosocomial infection rate, morbidity and mortality rates, etc. Hagen (1972) challenged nurses to stop asking the vague, global questions, "What is the quality of nursing care;" and to start asking more specific questions, such as "To what extent have the nursing care objectives for the patient been achieved?" Aydelotte (1973) further stated what the nurse does for the patient and how she does it have a marked influence on the way a patient responds to illness. The notion that a causal relationship exists between the care the nurse provides for the patient and the patient's recovery is central to the issue.

A review of the literature demonstrates that the authorities agree that "total patient care" implies the care of the total patient. This implies that the patient's psychological, social, emotional, as well as physical, needs are met (Macintosh, 1979; Wilday, 1975; Gibbs, 1980; Blowers, 1979). The literature, however, has extremely limited documentation on "total patient care" as a nursing care delivery system.

CHAPTER II

THEORETICAL FRAMEWORK

Johnson's (1968) nursing model viewed man as a behavioral system with predictable patterns of functioning. The behavioral system is maintained when the interrelated subsystems function adequately; illness results when there is alteration in one or more subsystems. Johnson's model conceptualizes nursing's specific contribution to patient care as the prevention and/or reduction of tensions which cause disruption in man's internal and/or external environment. The occurrence of complications, therefore, can be assumed to be a significant indicator of man's ability to cope with the stresses on the behavioral system. Presence of complications may then be construed as a dynamic reactivity of the behavioral system to threats or stresses which are beyond man's ability to cope according to his usual pattern. Behavioral changes occur as man moves from one phase to another; and these changes over time provide reliable clues to his status in the health - illness continuum.

Man is reviewed as a biopsychosocial being, accor-

ding to Sister Callista Roy (1976), who is in constant interaction with his changing environment. In order to cope with the changing world within and around himself, man possesses both innate and acquired mechanisms. These mechanisms are biological, psychological, and social in origin. They include such responses as the bodily reactions of homeostasis and the psychological defense mechanisms. Through these mechanisms, man attempts to respond to the demands made upon him by the changing environment. This conceptual framework states that one dimension of man's life is health and illness. This dimension can be viewed as forming a continuum along which man can be located at any given time. At the point where man is located, he will have certain stimuli acting upon him to which he must respond. Roy (1976) states that adaptation is a process of responding positively to environmental changes. This positive response decreases the energies necessary to cope with the predominant stimulation and therefore increases sensitivity to complementary stimuli.

These theories apply to this study as they conceptualize man, the recipient of nursing care, as a biopsycho-being who is located at some point along the health-illness continuum. At whatever point man is along that continuum, certain stimuli act upon him and require adaptation or adjustments of the subsystems. The goal

of nursing is to bring about an adapted state in the patient and/or his subsystems and thus freeing the patient to respond to other stimuli. This process may be assumed to conserve the patient's energy expenditure, and thus contribute to the overall goal of the health team by making energy available for the healing process. Nursing's role in promoting adaptation involves two factors -- assessment and intervention. Assessment is the recognition of man's position on the health - illness continuum, as well as the evaluation of the forces acting upon the person and the effectiveness of the person's coping mechanisms within the situation. Intervention involves changing the person's response potential. The response potential is changed by bringing the stimuli within the zone where a positive response is possible.

This study is based on the theoretical framework of adaptation and behavioral systems inherent in man, and studies the effects of nursing care delivered through two different models. The patient's positive adaptation to stresses is measured in four different parameters that reflect the quality of care delivered.

Objective

The purpose of this study was to determine if the quality of nursing care changed in response to two

alternative systems of nursing care delivery, team nursing and total patient care.

Research Questions

The research questions studied in this project were:

1. Will patient satisfaction differ when measured in the setting of team nursing versus total patient care?
2. Will the number of incident reports change when measured in the setting of team nursing versus total patient care?
3. Will the nosocomial infection rate differ when observed under two different nursing care delivery methods?
4. Will the Registered Nurse responsible for the patient demonstrate significant differences in knowledge of her patient in the setting of team nursing versus total patient care?
5. Will the patient's nursing care plan reflect a significant difference when observed under two different forms of nursing care delivery systems?

Operational Definitions of Terms

Care

Care was defined as nursing attention provided to a patient. These acts included such things as technical skills, medication administration, interpersonal skills, meeting the patient's biological needs, and meeting the patient's psychosocial needs, etc.

Hospital

The term hospital was defined as a small, 72-bed rural acute health care facility, providing level III care.

Infection

In this project, infection was the establishment of a pathogen in its host after invasion.

Infection Rate

Infection rate was the percentage of patients that acquired an infection during their hospitalizations.

Incident

An incident was defined as an event that occurred, but was not part of, normal hospital care and/or activity; and that event precipitated or could have potentially caused injury to the individual suffering the event.

Incident Report

An incident report was defined as a formal reporting mechanism that described all events, circumstances, witnesses, participants, and followup related to an incident.

Nosocomial Infection

A nosocomial infection was an infection that was acquired in the hospital by a patient.

Nursing Quality Assurance Studies

Nursing quality assurance studies were defined as process and retrospective chart audits, personal interviews, and nursing care plan audits performed to evaluate patient care, patient education, and nursing knowledge of the patient's diagnosis, condition, and his care.

Patient Questionnaire

For the purposes of this investigation a patient questionnaire was considered a self-addressed and stamped questionnaire given to all patients upon discharge from the hospital requesting information regarding their perceptions of their hospital stay.

Patient

A patient was defined as a client hospitalized for

acute medical care in an acute care hospital.

Patient Satisfaction

The degree to which the hospitalization of the patient fulfilled his expectations, needs, desires and requirements was defined as patient satisfaction.

Team Nursing

Team nursing was defined as a method of delivering nursing care to patients. The registered nurse lead the team and supervised those licensed practical nurses and nurse aides who actually performed the care for the patients.

Total

The term total referred to complete and entire.

Total Patient Care

Total patient care was considered a method of delivering nursing care to patients, where the licensed person (registered nurse or licensed practical nurse) was totally responsible and accountable for providing all care given to that patient during their eight hour shift.

Assumptions

The following assumptions were made. The patients were frank and honest when they responded to the ques-

tionnaires. The nurse who performed the nursing quality assurance studies was fair, reliable, and honest in the audit performance activities. All infections acquired in the hospital were reported to the Infection Control Nurse by the laboratory when results of the cultures were obtained. All incidents were reported on the standard incident report form as policy and procedure indicated. All health care professionals who interacted with the patients displayed no influential biases towards either method of care delivery.

CHAPTER III

METHODS AND RESEARCH DESIGN

Method of Study

The method of this study was inductive. It was based on Glaser and Strauss' grounded theory (1967), which is the generation of theory from experience and data collection. The research induced that there were different levels of patient care rendered under different methods of care delivery. The generalization was developed from these specific observations of patient care.

Design of the Study

The design was exploratory and descriptive. Data were collected that accurately reflected the patient's attitudes and beliefs regarding the quality of nursing care under two different methods of nursing care delivery. This form of survey research was also used to describe differences in infection rates, incident reports, and the nurse's knowledge of the patient's condition, disease processes, education and physical status. This constitutes a form of descriptive research.

The study was also exploratory due to the limited documentation available regarding "total patient care" versus "team nursing." Thus an exploratory study was useful to research a topic in its beginning stages of development.

The study was conducted ex post facto because the research took place after the variations in the independent variables had occurred in the natural course of events. The data were collected by the researcher after the change in the method of nursing care delivery had taken place. The desires of the researcher were to determine the relationships among certain measures that assisted in the documentation of the quality of nursing care that patients received. However, causal relationships were not inferred due to the lack of manipulative control over the variables.

Study Population

The study population consisted of all patients who were admitted to the Medical and Surgical units of Valley View Medical Center, in Cedar City, Utah, and the nursing staff that cared for those patients. Valley View Medical Center is a 72-bed acute care hospital that receives patients from a five county area in Southern Utah: Iron County (the county that Valley View Medical Center is located in), Washington County, Piute County, Garfield

County and Beaver County.

The nursing staff that cared for the patients on the medical and surgical units consisted of both full and part-time employees. There were approximately 54 registered nurses, 21 licensed practical nurses; and 33 nurse aides employed at Valley View Medical Center during the study period. All employees that were included in the study worked on the medical and/or surgical units. There were three male nursing employees included in the study -- one licensed practical nurse and two nurse aides/orderlies. The data were gathered from nurses on all shifts and everyday of the week for a period of 16 months -- eight months prior to the implementation of "total patient care" while "team nursing" was used, and eight months after "total patient care" was implemented. The educational level of the registered nurses consisted entirely of associate degree nurses with only two exceptions. The ages of the nurses studied varied from 19 years to 62 years of age with the mean age being 29 years.

The patients studied ranged in age from one month to 92 years. The mean age was 47 years. The average occupancy rate on the medical and surgical units was 34% with a mean of 22 patients per day. The average length of stay was 4.2 days and the number of admissions during the stay was 2570 with 10796 patient days during

this period. The percentage of female patients was 56% and the percentage of male patients was 44%.

Valley View Medical Center is located in a rural area of Southern Utah, with the chief occupation being farming. The median annual income of a family of four in Iron County was $15,900. Valley View Medical Center is owned and operated by Intermountain Health Corporation based in Salt Lake City, Utah.

Target Population

The target population for this study was all acute care medical and surgical units in small hospitals (under 100 beds). More studies should be conducted to expand the statistics to larger hospitals, intensive care units and obstetrical units.

Description of Nursing Care Systems

"Team nursing" is a popular term used to describe a form of nursing care delivery that came into use in the decade following World War II. During the war, the office of civilian defense and the Red Cross had experimented with trained nurse's aides to augment the wartime shortage of nurses. At first, these aides were allowed to perform only those tasks that were not directly related to patient care, but as the shortage of help worsened, they took on some of the less complicated

patient care tasks. This precedent, which was begun as a temporary expedient, marked the beginning of "team nursing." It demonstrated that much of the work role of the nurse could be delegated to less expensive workers. What previously had been one occupational role was broken down into at least three levels: nursing aide, licensed practical nurse, and registered nurse (Bullough & Bullough, 1974). In "team nursing" the duties and functions of different members of the nursing team vary according to the policies of the agency in which they are employed. The registered nurse's education consisted of two to four years of intensive training in the biological, social, and psychological sciences and the technical skills of nursing. Two year programs emphasized the technical skills while four year programs developed the nurse's background in the sciences and nursing theory. The registered nurse is responsible for coordinating and supervising the work of other less qualified members of the team. The licensed practical nurse has usually had an educational program of nine months to one year in elementary nursing and may perform many routine nursing procedures and treatments under the direction of the registered nurse. The nursing orderly/aide usually assists the registered nurse in the personal care of patients and may do simple nursing tasks. However, the nature of the tasks assigned to nurse aides/orderlies

varies considerably from one agency to another, from tasks that are principally housekeeping in nature, to assisting with the care of the patients. The nurse aide/orderly is frequently trained on the job, or in a course of a few weeks duration. The registered nurse seldom performs direct care for the patients as the duties of this position are one of supervision and accountability. The staffing numbers vary with each institution, but a typical staffing pattern for "team nursing" would include one registered nurse, two practical nurses, and three nurse aides/orderlies for 36 to 40 patients.

Total patient care is a nursing care delivery system that was developed as an alternative to primary care nursing when there were not enough registered nurses to implement primary nursing, or as a step in the progression towards primary nursing. Total patient care, as does primary nursing, combats fragmentation of care that was developed through team nursing. The nursing team is replaced with registered or practical nurses who give total care to a group of patients. The accountability and responsibility for this care rests on the individual who is actually providing the care. Nurse aides/orderlies can be used in total patient care as assistants in housekeeping activities, patient baths, etc. The main differentiation between primary nursing and total patient care is the total length of time that

the nurse is responsible for the patient. Total patient care responsibilities are limited to an eight hour shift. Primary nursing allows registered nurses and licensed practical nurses to give total care on their shifts to a group of patients -- usually 5 or 6 patients each -- as well as planning for the care of those patients on all other shifts. This implies a 24-hour responsibility for the nurse for all nursing activities, very similar to a physician's responsibility for a medical regimen.

Criteria for Inclusion

To be considered for use in this study, the patient must have met the following criteria:

1. The patient must have been admitted as an inpatient to Valley View Medical Center within the period in which the study was conducted and placed on a medical or surgical unit.
2. All patients received patient satisfaction questionnaires upon discharge (or their significant other was given the questionnaire in cases of mental, physical or psychological impairment). All questionnaires returned that met the above criteria, were included in the study.
3. All patients who acquired infections

while in the hospital were included in the study if they were on the medical or surgical units.

4. No selection was performed according to demographic, physical, biological, social or psychological data.

Instruments

Four instruments were used to collect the data for this study.

Infection Rates

Infection rates were obtained by the use of a hospital-wide infection control program. The following information was used to identify an infection that was nosocomial:

1. Urinary tract infection

   1.1 Asymptomatic bacteriuria: colony counts in urine of more than 100,000 organisms per milliliter without previous or current manifestation of infection were classified as nosocomial if an earlier culture taken when the patient was not on antibiotics was negative. If the patient was admitted with a urinary tract infection and a subsequent culture (more than 100,000 organisms per milli-

liter) was of a different pathogen, the new infection was regarded as nosocomial.

1.2 Other urinary tract infections: onset of clinical signs or symptoms of urinary tract infection such as fever, dysuria, costrovertebral-angle tenderness, supra-pubic tenderness, in a hospitalized patient plus one or both of the following factors developed after admission constituted a nosocomial infection:

1.2.1 Colony counts of more than 100,000 pathogens per ml of urine or visible organisms on a gram stain of unspun fresh urine.

1.2.2 Pyuria of more than ten white blood cells per highpower field in an uncentrifuged specimen, with urinalysis negative for pyuria on admission.

2. Respiratory infections

2.1 Upper respiratory infections: All patients who developed clinical manifestations of an upper respiratory infection after admission to the hospital were classified as nosocomial. Signs and symptoms varied widely dependent upon site of infection.

Coryzal syndromes, streptococcal pharyngitis, otitis media, and mastoiditis were all included.

2.2 Lower respiratory infections: clinical signs and symptoms (cough, pleuritic chest pain, fever, and purulence) that developed after admission were regarded as evidence of the development of a lower respiratory infection -- even in the absence of sputum cultures or chest x-rays.

2.3 Other conditions, such as congestive heart failure, postoperative atelectasis, pulmonary embolism, etc. with similar signs or symptoms were differentiated by the clinical course. They were classified as a lower respiratory infection if one or more of the following were present: purulent sputum or suggestive chest x-ray -- with or without a recognized pathogen on the sputum culture. An existing respiratory infection was classified as nosocomial when a new pathogen was cultured from the sputum and/or if clinical or radiologic evidence indicated that the new organism was associated with the deterioration of the patient's condition.

3. Gastroenteritis

3.1 Clinical gastroenteritis with the onset occurring after admission having cultures demonstrating a known pathogen were regarded as nosocomial. If the incubation period for the pathogen was known, then the interval between admission and the onset of symptoms must have been greater than the incubation period.

4. Skin and subcutaneous infections

4.1 Burn infections: purulent drainage from the burn site and/or clinical evidence of bacteremia signified burn infection. The infection was regarded as nosocomial if the clinical onset occurred after admission. Superinfection of burns were regarded as a new nosocomial infection.

4.2 Surgical wound infections: purulent drainage from any surgical wound was considered nosocomial regardless of the source of the organism -- endogenous or exogenous.

4.3 Other cutaneous infections: Any purulent material in the skin or subcutaneous tissue that developed after the patient's admission was classified as nosocomial. This included nonsurgical wounds,

dermatitis, and decubitus ulcers. If the patient, admitted with skin or subcutaneous infections, developed a change in pathogens that were cultured from the infected site, it was regarded as a nosocomial infection.

5. Intraabdominal infections

5.1 Appendicitis, cholecystitis, and diverticulitis were not classified as nosocomial infections unless secondary infections developed postoperatively and if there were clear anatomical and/or temporal separation of the infection processes.

6. Other sites of infections

6.1 Any culture-documented bacteremia in a hospitalized patient admitted with no evidence of bacteremia was regarded as nosocomial.

6.2 Intravenous catheters and needles: Purulent drainage from the site of an intravenous catheter or needle signified nosocomial infection. Inflammation without pus or strong clinical evidence of cellulitis was obtained for culture by aspirating the tissue fluid.

6.3 Endometritis: Purulent cervical discharge accompanied by either a positive

culture for pathogens or systemic manifestations of infection signified nosocomial endometritis if the onset occurred after admission.

6.4 All other sites were considered for potential infection (Infection Control Committee, 1980).

The infection control nurse made rounds on all patients and reviewed their medical records on a daily basis evaluating the potential infectious problems. The laboratory also notified the infection control nurse of all culture results of patients who were currently hospitalized or recently discharged from the hospital. The laboratory had the advantage of being the only one in town, thus all cultures taken by physicians in their offices were sent to this laboratory. This was the method by which infections were identified in patients who had been discharged but had acquired the infectious organism while hospitalized.

The infection rates were then obtained using the number of patient admissions. This was reported on a monthly basis.

The infection control instrument represented a complete sampling of all patients admitted to the medical or surgical units.

Incident Reports

Incident reports were the second method of measurement used in this study. An incident was defined as an event that occurred during a patient's hospitalization that was not part of normal hospital care and/or activity. This event may precipitate injury to, or extend the length of stay of the patient to whom this event occurred.

An incident report was a form (Appendix A) used by the hospital staff for the formal recording and reporting of an incident. The form was confidential and was not part of the patient's chart. It not only described the incident as it happened, but also included the condition of the patient involved in the incident, all witnesses to the incident, and all corrective action taken to prevent the incident from occurring again.

The procedure to follow after an incident occurred included: a) Giving immediate aid to the patient, assessing the patient's physical condition, and recording this assessment in the medical record. Incident reports were never included, nor mentioned, in the medical record. b) Notifying the charge nurse or supervisor immediately. c) Notifying the patient's physician. d) Completion of an incident report which included the following information:

-Name of hospital and location

-Name of patient and patient identification

-Incident date, time, location of incident, report date and time, and names of witnesses

-Name of the nurse filing the report

-Signature of the nurse filing the report, signature of the supervising nurse, and signature of the hospital administrator

-Patient's reason for hospitalization

-Patient's condition before the incident

-Accurate, objective description of the incident as witnessed by the observer

-Incident cause (if known), part of the body injured, and equipment involved

-Physician notification and attendance as well as the physician's assessment

-Corrective actions taken

-Patient and family's attitudes

-Any expectations of residual damage

-Classifications on the reverse side of the incident form included: type of occurrence, location, shift, condition of area, patient's mental condition, personnel involved, activity level and privileges, position of side rails on the bed, restraints and call light position.

The report was not considered complete until signed by a physician with a notation of the patient's condition with respect to the incident. Following all necessary

review and signatures, the form was sent to the Director of Nursing for review, followup, and reporting to the necessary corporation executives and board members (Cook, 1981).

This study included only incidents that involved patients hospitalized at Valley View Medical Center.

The incident reports represented a complete sampling of all patients who encountered an incident while a patient on the medical or surgical units at the hospital.

Patient Satisfaction Questionnaires

The third instrument used was the patient satisfaction questionnaires. They were utilized to measure the client's view of the nursing care given while they were hospitalized. The questionnaires were given to each patient upon their discharge from the medical or surgical units. Each questionnaire (Appendix B) included instructions for completion and a self-addressed, stamped envelope.

The questionnaire included questions from all areas of the hospital. The results used in this study were the two questions that applied directly to nursing.

Based on the review of literature regarding patient satisfaction ratings, the two questions included in the questionnaire that related to nursing reflected two

areas: a) the nurse's interpersonal skills, and b) the nurse's technical skills.

The questions used in the patient satisfaction study questionnaire were:

4. How friendly and polite were the nurses?

   1 2 3 4 5

5. How would you rate the nursing care you received?

   1 2 3 4 5

Number 1 represented the lowest rating and number 5 represented the highest rating.

The questionnaire contained demographic data such as sex, age, and the unit to which the patient was admitted.

If the patient was mentally or physically unable to complete the questionnaire, it was given to the patient's significant other who accompanied them upon discharge from the hospital.

The Patient Satisfaction Questionnaire constituted a convenience sampling, as only those patients who returned the questionnaire after being discharged from the medical or surgical units were included in the analysis.

Patient Quality Assurance Studies

Patient Quality Assurance Studies were the fourth instrument that was used in the collection of data for

this study (Appendix C). This instrument was developed and used by all Intermountain Health Care hospitals. Permission to use these studies was granted by Intermountain Health Care, Inc. (Appendix D). The data were collected by a registered nurse who had been given special training in the use of the instrument and the art of interviewing and data collection. The data were then sent to the corporation for analysis and the results were returned to the individual hospitals.

The first part of the study was a review of the nursing record. This was summarized under Form A of the audit. The interviewing nurse examined the nursing history taken from the patient upon admission and recorded points for those histories that met the preestablished criteria. The interviewing nurse then examined the nursing care plan for that patient to evaluate the nursing problems that were identified. The third part of Form A was an examination of the patient's chart to determine if the nurse observed and charted about the problems that were identified on the nursing care plan.

Form B of the patient quality assurance study consisted of the interviewing registered nurse meeting with the nurse caring for the patient whose chart had just been reviewed. The nurse was questioned regarding his/her knowledge of the patient's diagnosis, the

nursing care plan and the actual condition of the patient at that time. The nurse was also questioned about the therapeutic measures and treatments that her/his patient was receiving, as well as the patient and family teaching that had occurred. The next part of the interview which was summarized on Form B dealt with the nurse's charting of his/her teaching activities and his/her plans for further teaching. The last question was concerned with the extent to which the nurse had collaborated with other members of the health care team.

All questions were assigned numerical values. The possible scores ranged from zero to one hundred percent.

The quality assurance studies were statistically analyzed with the calculation of the mean percentages for each question, each unit, and each hospital, as well as the standard deviation for each unit's mean score on the corporation level and then returned to the individual hospital.

The patient quality assurance studies represented a sample picked on a random basis from all levels of education in the nursing staff on all shifts and on every day of the week.

Procedure

The study was conducted over approximately two seven-month periods before total patient care was introduced, while team nursing was being practiced and extended over an approximate seven-month period following the initiation of total patient care. The exact time parameters were:

1. Infection rates were collected for a seven-month period during team nursing, prior to total patient care implementation, and seven months after implementation of total patient care.
2. Incident reports were studied for eight months prior to total patient care while team nursing was practiced, and eight months after total patient care was implemented.
3. The patient satisfaction questionnaires were collected for eight months during team nursing and for eight months during total patient care. There were 522 questionnaires returned during this time period. The number of discharges during this time period was 2570, reflecting a return rate of 21%.
4. Patient quality assurance studies were analyzed for six months during team nursing and for six months after total patient

care was implemented.

All data were submitted to the researcher by virtue of her position as Director of Nursing. None of the nursing staff members were aware of the study during its course. The nursing staff were only informed of the study after the completion of data collection to help eliminate biases.

CHAPTER IV

DATA ANALYSIS, FINDINGS AND DISCUSSION

Each instrument of data collection used will be analyzed separately in order to avoid confusion by the reader.

Infection Rates

Infection rates were analyzed using descriptive statistics to describe and synthesize data obtained from empirical measurements. A histogram, frequency polygons, comparison table, and central tendency measurements were used to analyze the data. Inferential statistics were used to determine if significant conclusions about the population could be drawn.

Nosocomial infection rates were collected from August 1980 until February 1981. During this time period, team nursing care was being practiced on the medical and surgical units. Total patient care was implemented March 1, 1981. Statistics were then collected from April 1981 through October 1981.

The range of nosocomial infections during team

nursing ranged from 1.4% to 4.2%. The range of nosocomial infections during total patient care nursing ranged from 1.4% to 3.8%. The mean score for team nursing was 2.8% and the mean score for total patient care nursing was 2.3% (Table 1). The mode score during team nursing was not evident, and during total patient care nursing was 2.4%. The median during team nursing was 2.15%, and during total patient care, the median was also 2.15%.

Part of the nosocomial covered a three-month period (August, September and October, 1980) under team nursing which coincided with a chronologically simi- three-month period (August, September and October 1981) under total patient care, thus allowing a limited comparison on an identical month basis. These months were compared to determine significance (Figure 1); but significance was not established.

The data were then analyzed by summing all months within a specified period. The months were assigned numbers in relationship to when they occurred in the study. Month number one was the first month the measurements were taken on team nursing and also the first month measured following the implementation of total patient care. Month number two was the second month, etc. (Figure 2). Inferential statistics were then employed to establish significance between the two

Table 1

Nosocomial Infection Percentages

Team Nursing			Total Patient Care		
Month No.	Month Name	%	Month No.	Month Name	%
One	Aug. '80	1.9	One	Apr. '81	2.4
Two	Sept. '80	2.0	Two	May '81	2.5
Three	Oct. '80	2.3	Three	June '81	1.4
Four	Nov. '80	4.0	Four	July '81	2.4
Five	Dec. '80	1.4	Five	Aug. '81	1.7
Six	Jan. '81	4.2	Six	Sept. '81	3.8
Seven	Feb. '81	3.3	Seven	Oct. '81	1.9
$\bar{X}$ = 2.8%			$\bar{X}$ = 2.3 %		
Mode = not evident			Mode = 2.4%		
Median = 2.15%			Median = 2.15%		

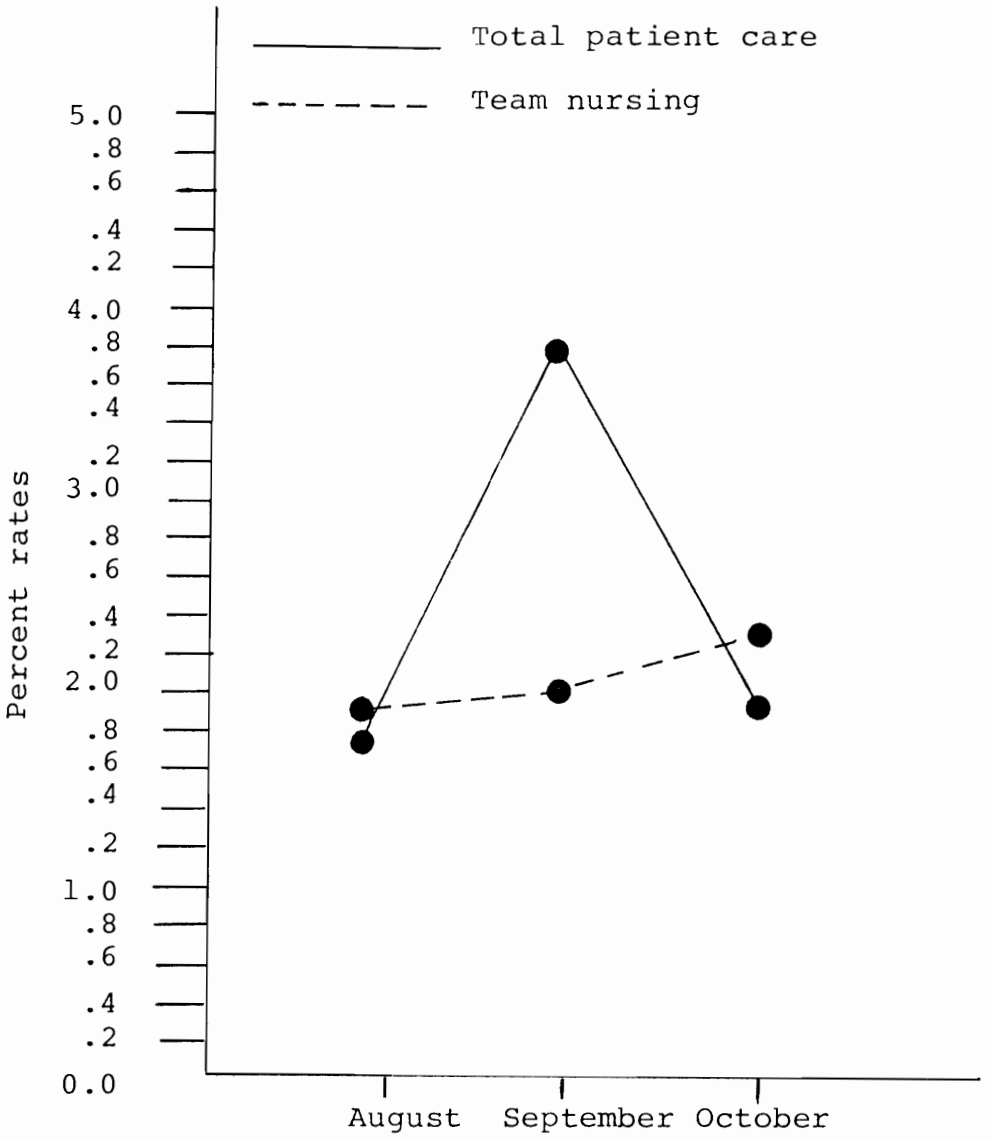

Figure 1. Nosocomial infections rates comparing similar months.

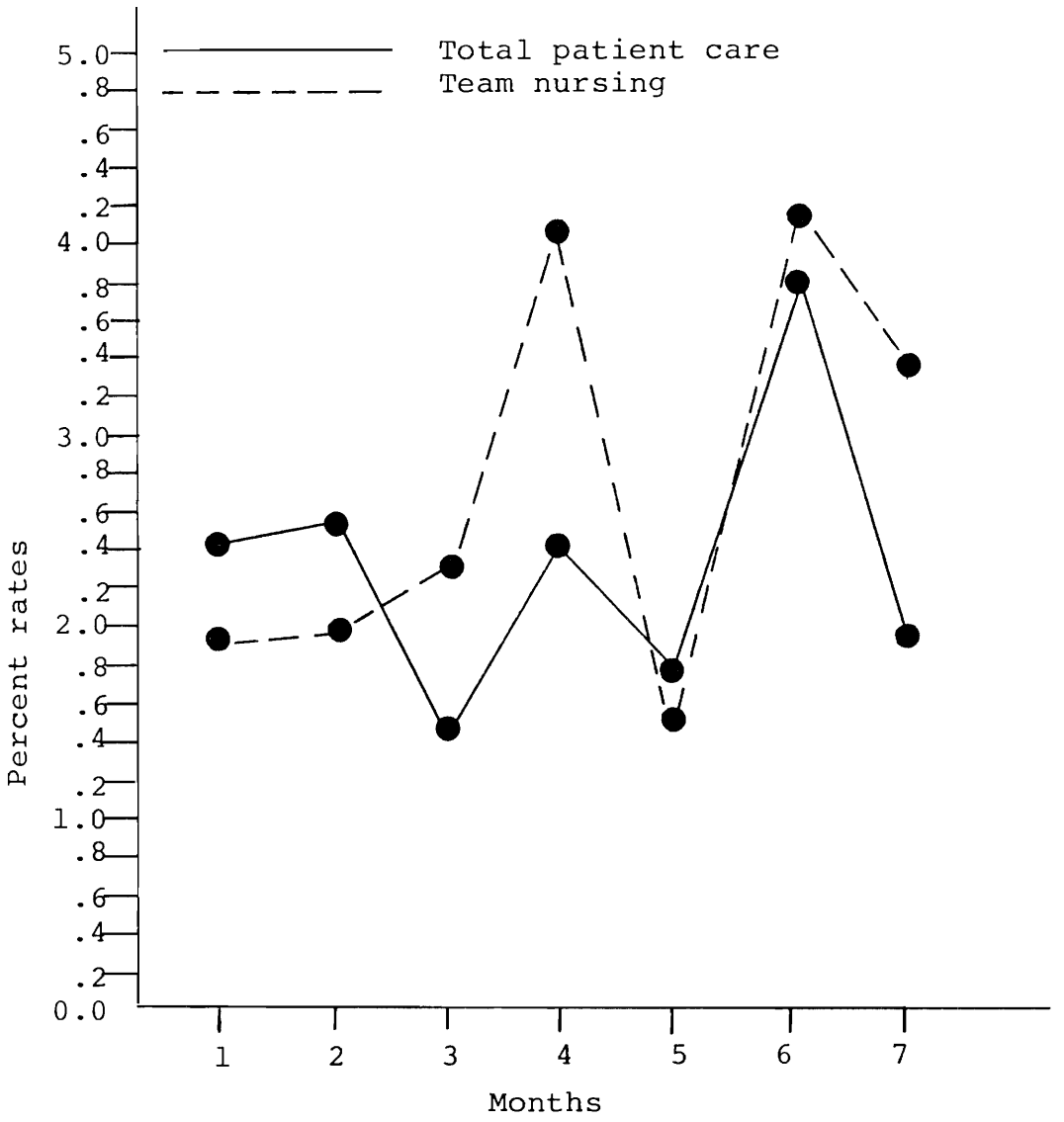

Figure 2. Nosocomial infection rates: Team nursing versus total patient care.

groups of scores. The t-test failed to demonstrate significance.

The mean nosocomial scores (2.8% for team nursing and 2.3% for total patient care) indicated only a .5% improvement in infection rates under total patient care. When this .5% is applied to the admission rate at Valley View Medical Center, it demonstrates the elimination of one infection per month. This is not significantly different in terms of inferential statistical methods, but the researcher must note that the average infection that occurs in the hospitalized patient can cost as much as $15,000, and increases the patient's length of stay 9.3 days (LeFrock, 1976). Although not statistically significant, the reduction in one infection a month is very important to the health care provider as well as the patient.

The Center for Disease Control's National Nosocomial Infections Study Report (1981) reported the national mean nosocomial infection rate of 3.4% in acute-care hospitals, with the median infection rate of the individual hospitals at 3.0% with a range of reported rates from 0.8% to 10.8%.

This indicates that the health care institution studied falls below the national average for nosocomial infection rates, and that improvements, though not statistically significant, were made through a change

in nursing care delivery methods. The researcher reasons that the change may be due, in part, to the potential decreased spread of infection by nurses to the patients. One nurse contacts only those five or six patients assigned to him/her and does not care for all patients on the unit as in team nursing; thus the spread of infection is contained to some degree.

Incident Reports

Incident reports were the second instrument used to assess the potential improvement of patient care during the two methods of nursing care delivered.

The incident reports were collected and analyzed during an eight month period of team nursing and subsequently during an eight month period of total patient care nursing. There was a total of 80 incidents during team nursing and 70 incidents during total patient care (Table 2). The incidents were analyzed using descriptive statistics and inferential statistics. A monthly breakdown of incidents (Figure 3) under team nursing compared with total patient care demonstrated a large variance. This can be more clearly demonstrated by the histogram labeled Figure 4.

Central tendency measurements were determined to demonstrate an overall summary of the incident report characteristics. The mode on team nursing was 5, the

Table 2

Patient Incident Reports: Monthly Comparison between Team Nursing and Total Patient Care

Team Nursing			Total Patient Care		
Month No.	Month Name	Number of Incident Reports	Month No.	Month Name	Number of Incident Reports
1	July '80	14	1	Mar. '81	5
2	Aug. '80	5	2	Apr. '81	10
3	Sept. '80	7	3	May '81	7
4	Oct. '80	13	4	June '81	12
5	Nov. '80	5	5	Aug. '81	2
6	Dec. '80	19	6	Aug. '81	2
7	Jan. '81	9	7	Sept. '81	8
8	Feb. '81	8	8	Oct. '81	16
Total		80	Total		70
$\bar{X}$	=	10	$\bar{X}$	=	8.8
Mode	=	5	Mode	=	10
Median	=	8.5	Median	=	9

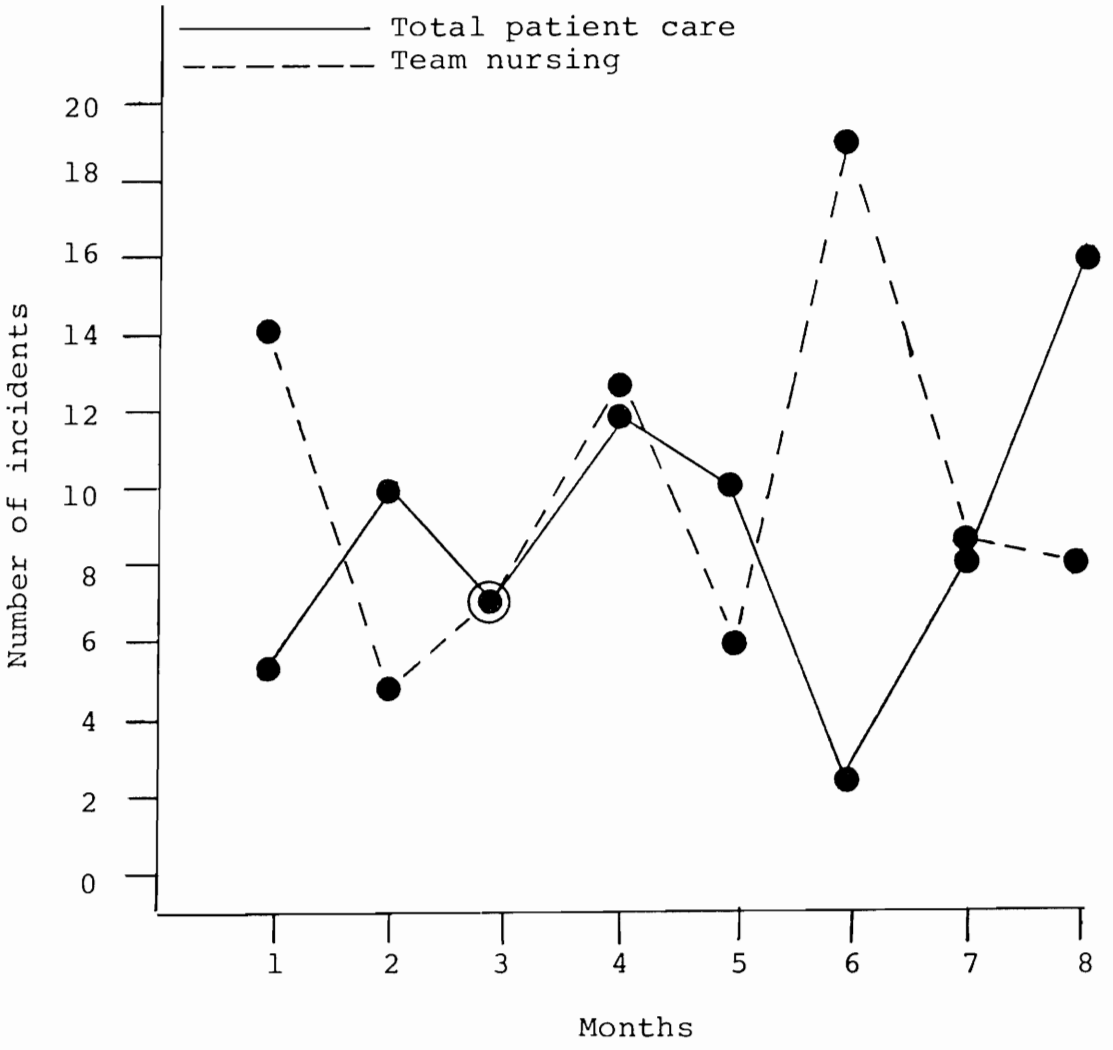

Figure 3. Patient incident reports: Monthly comparison between team nursing and total patient care. Team nursing $\bar{X}$ = 10 incidents per month; Total patient care $\bar{X}$ = 8.8 incidents per month.

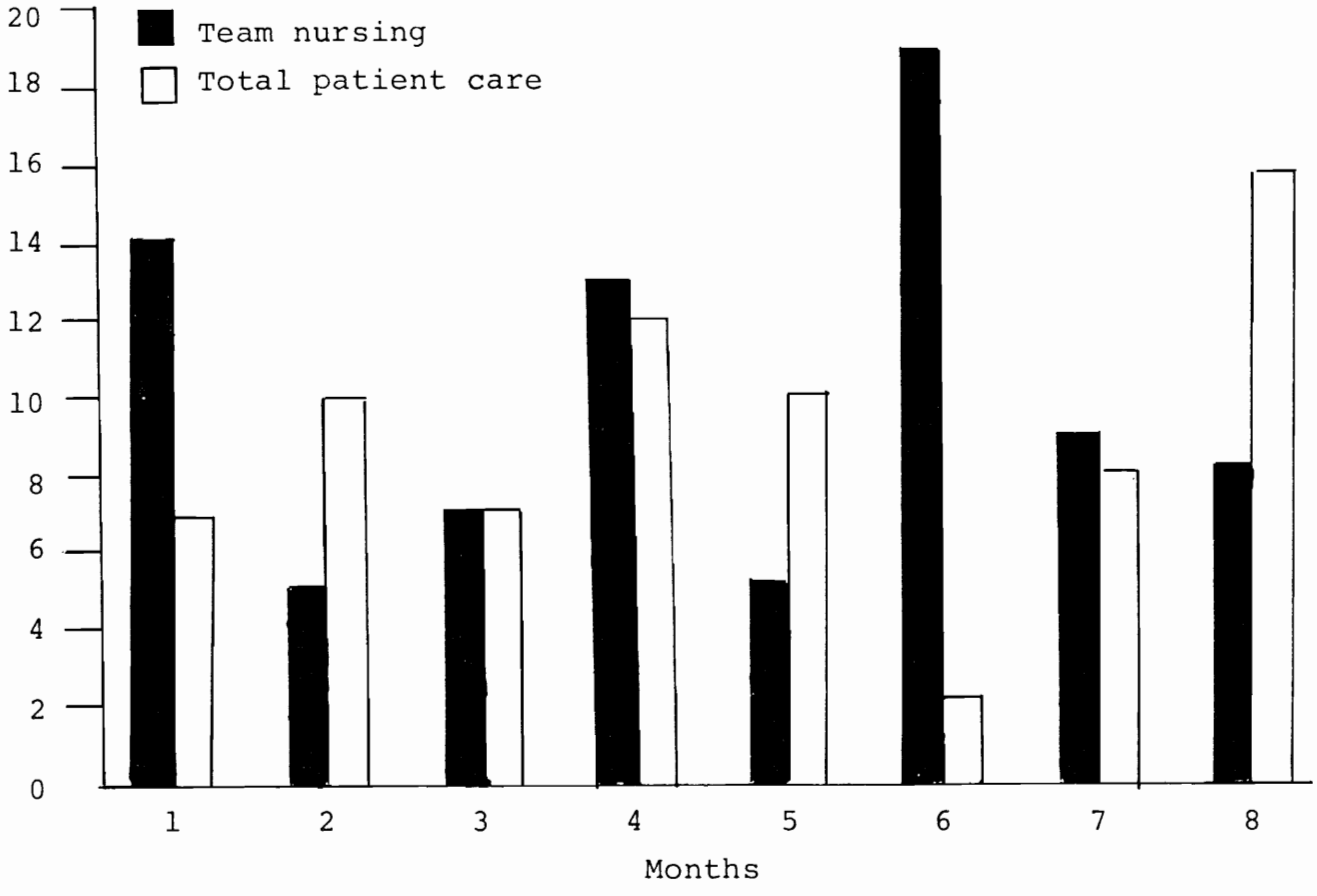

Figure 4. Histogram of comparisons between team nursing and total patient care.

median was 8.5 and the mean was 10 (Figure 5). Graphing this demonstrated a skewed distribution because the mode, median, and mean differ and are nonsymmetrical. In skewed distributions, the mean is always pulled in the direction of the long tail, causing in the case of team nursing, a negative skew. In total patient care, the skew was also negative and the mode, median, and mean were different causing a nonsymmetrical distribution of scores. The mode in total patient care was 10, the median was 9, and the mean was 8.8.

The incident reports were then plotted to evaluate the numbers of incidents occurring during the same months of different years under the two different forms of nursing care delivery (Figure 6). There was a positive correlation between the numbers of incidents occurring and the month in which they occurred, with total patient care demonstrating a mean of 2.5 less incidents than team nursing per month.

The incident reports were evaluated by type of incident (Table 3), demonstrating there were 35 falls (44% of the incidents) and 39 medication errors (47% of the total incidents) while total patient care was studied. The range of falls during team nursing was from one (in months three and eight) to ten (in month six). The range of medication errors varied from two (in month two) to ten (in month six). The range of

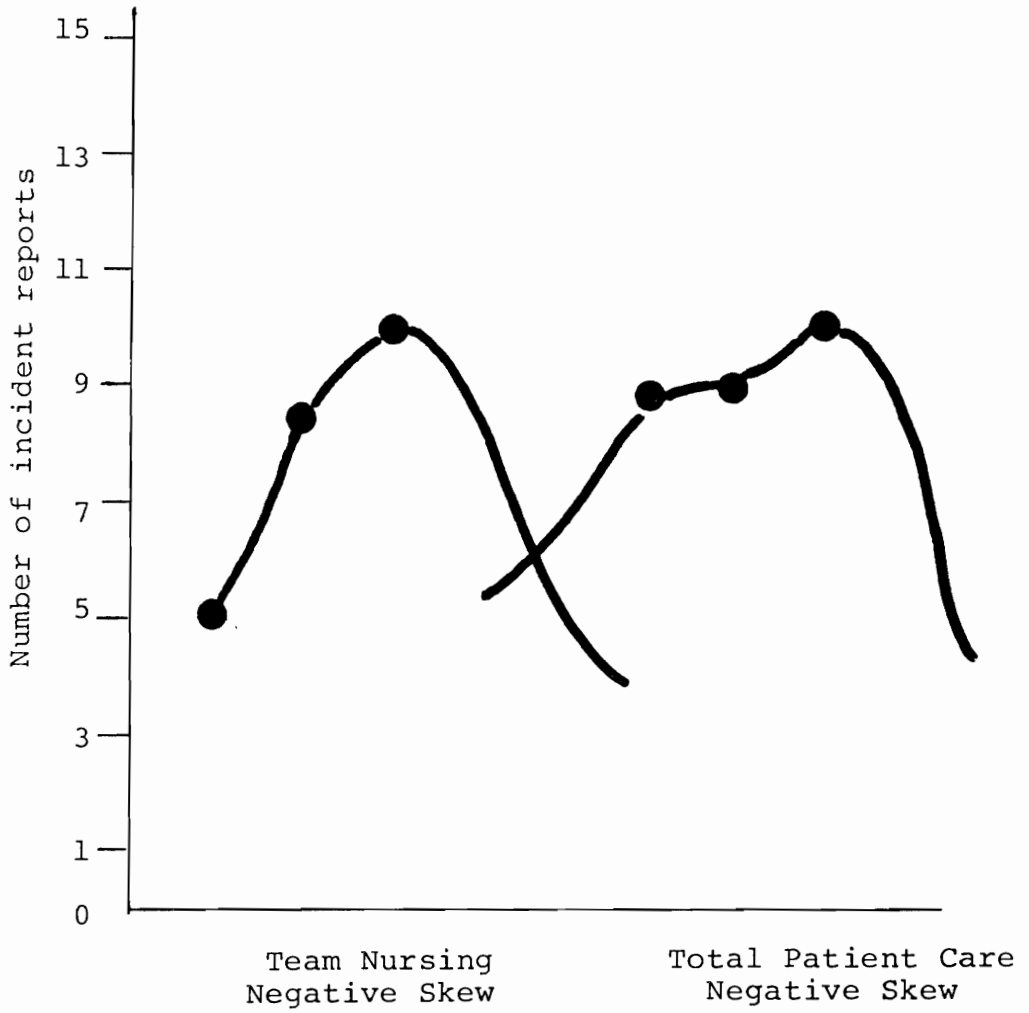

Figure 5. Central tendency comparisons between team nursing and total patient care for incident reports.

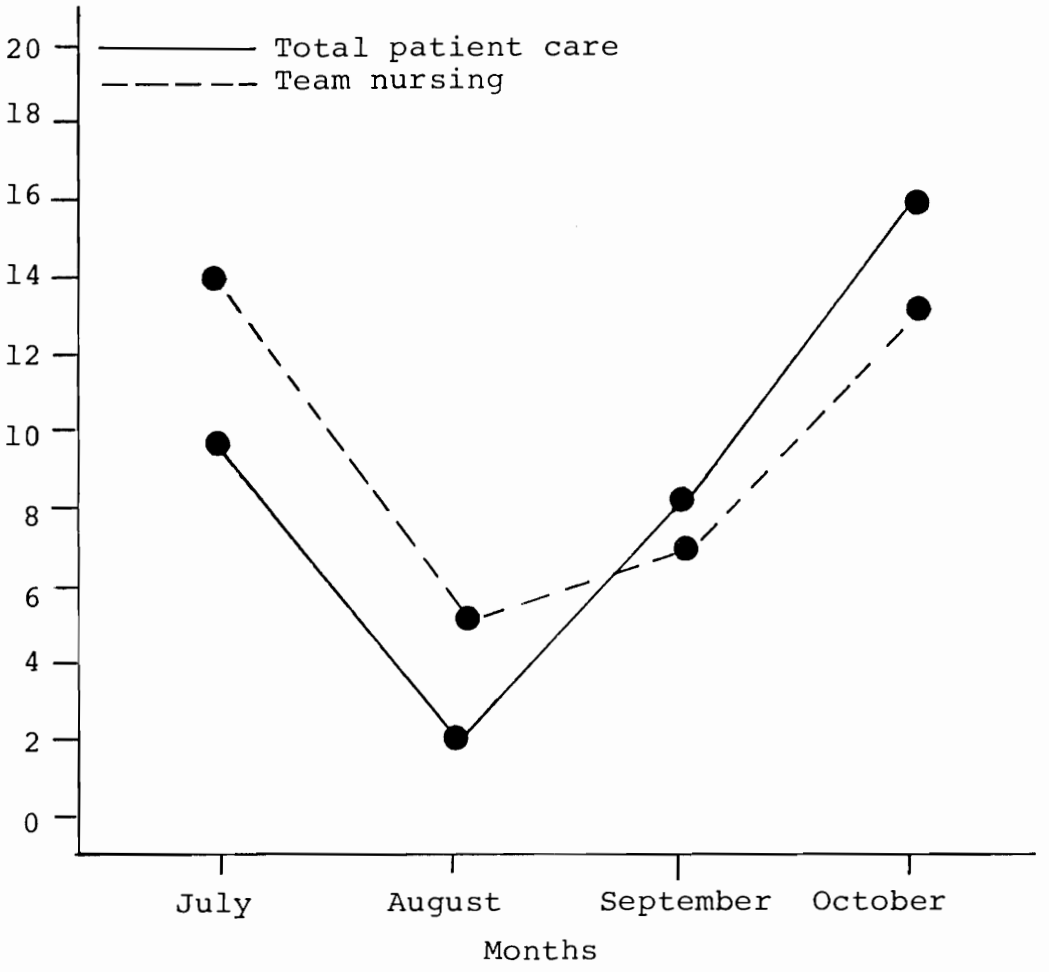

Figure 6. Incident reports: Comparison of similar months.

Table 3

Frequency Distribution of Types of Incident Reports

Type of Incident	Month								Total No.	%
	1	2	3	4	5	6	7	8		
Team Nursing										
Falls	7	2	1	7	2	10	5	1	35	44
Burns	0	0	0	1	0	0	0	0	1	1
Med. Error	7	2	6	5	3	9	3	4	39	49
Treatment	0	0	0	0	0	0	0	1	1	1
Surgical	0	0	0	0	0	0	0	0	0	0
Infection Control	0	0	0	0	0	0	0	0	0	1
Electrical	0	0	0	0	0	0	0	0	0	0
Furniture	0	1	0	0	0	0	1	0	2	3
Equipment	0	0	0	0	0	0	0	1	1	1
Other	0	0	0	0	0	0	0	1	1	1
Total	14	5	7	13	5	19	9	8	80	100
Total Patient Care										
Falls	2	3	3	3	9	1	4	3	28	41
Burns	0	0	0	0	0	0	0	0	0	0
Med. Error	2	2	4	5	1	1	4	13	32	47
Treatment	0	0	0	1	0	0	0	0	1	1
Surgical	1	0	0	0	0	0	0	0	1	1
Infection Control	0	1	0	0	0	0	0	0	1	1
Electrical	0	1	0	0	0	0	0	0	1	1
Furniture	0	1	0	1	0	0	0	0	2	3
Equipment	0	1	0	0	0	0	0	0	1	1
Other	0	1	0	2	0	0	0	0	3	4
Total	5	10	7	12	10	2	8	16	70	100

falls during total patient care varied from one (in month six) to nine (in month five). Medication errors ranged from one (in months five and six) to thirteen (in month eight).

The incident reports were then evaluated by the educational level, i.e., job description, of the person involved in the incident and by the shift upon which the incident occurred (Table 4). The registered nurses were involved in the largest number of incidents during team nursing with a total of 39 incidents (44% of the total incidents). Licensed practical nurses were the second highest with a total of 30 incidents (34% of the total incidents). The greatest number of incidents occurred on the day shift with a total of 40 incidents (50% of the total), with the evening shift reporting a total of 22 incidents (28% of the total) and the night shift having a total of 18 incidents (22% of the total). Total patient care demonstrated that the registered nurse also was involved in the greatest number of incidents with a total of 33 (36% of the total). Licensed practical nurses were again the second highest with a total of 29 (32% of the total). Examination of medication errors indicated a total of 34 incidents occurring on the day shift (49% of the total), 21 occurring on the evening shift (30% of the total), and 15 occurring on the night shift (21% of

Table 4

Frequency Distribution of Personnel Involved in the Incident Report and Shifts they Occurred on

	Month								Total	%
	1	2	3	4	5	6	7	8		
Team Nursing										
Person										
RN	5	1	5	7	2	5	7	7	39	44
LPN	6	1	2	7	2	9	1	2	30	34
SN	0	0	0	0	0	0	0	0	0	0
NA	3	2	2	1	0	2	2	2	14	16
MD	0	2	0	0	0	1	0	0	3	4
Visitor	0	0	0	1	0	0	1	0	2	2
Total	14	6	9	16	4	17	11	11	88	100
Shift										
Day	7	5	5	5	1	9	3	5	40	50
Evening	5	0	2	5	2	4	3	1	22	28
Night	2	0	0	3	2	6	3	2	18	22
Total	14	5	7	13	5	19	9	8	80	100
Total Patient Care										
Person										
RN	2	5	1	5	7	0	0	13	33	36
LPN	3	7	3	5	4	1	0	6	29	32
SN	0	0	2	0	0	0	0	0	2	2
NA	1	4	3	2	1	0	1	0	12	13
MD	0	1	1	0	0	0	0	2	4	4
Visitor	0	3	0	2	2	1	1	3	12	13
Total	6	20	10	14	14	2	2	24	92	100

Table 4 continued

	Month								Total	%
	1	2	3	4	5	6	7	8		
Shift										
Day	2	5	6	7	5	1	2	2	34	49
Evening	3	4	1	3	4	1	2	7	21	30
Night	0	1	0	2	2	0	3	7	15	21
Total	5	10	7	12	10	2	8	16	70	100

the total). All numbers and percentages decreased during total patient care, but only by a few percentage points.

The percentages of nursing staff involved in the incidents were very similar to the nursing staffing pattern percentages; however, during total patient care, the number of licensed personnel increased 10% over team nursing.

The largest percentage of staffing occurred on the day shift. The staffing pattern percentages averaged 44% on the day shift, 34% on the evening shift, and 22% on the night shift. This indicates that there is perhaps a negative correlation between the number of staff and the number of incidents that occur. The researcher has observed that the level of patient activity correlates more positively with the number of incident reports. The patients are more active during the day; thus there is a greater possibility of falling.

Falls and medication errors were plotted on a histogram (Figure 7) to demonstrate more clearly the differences between total patient care and team nursing.

Inferential statistics were used to establish if a significant difference occurred in the number of incident reports and the method of nursing care delivery system used. The hypothesis was established that

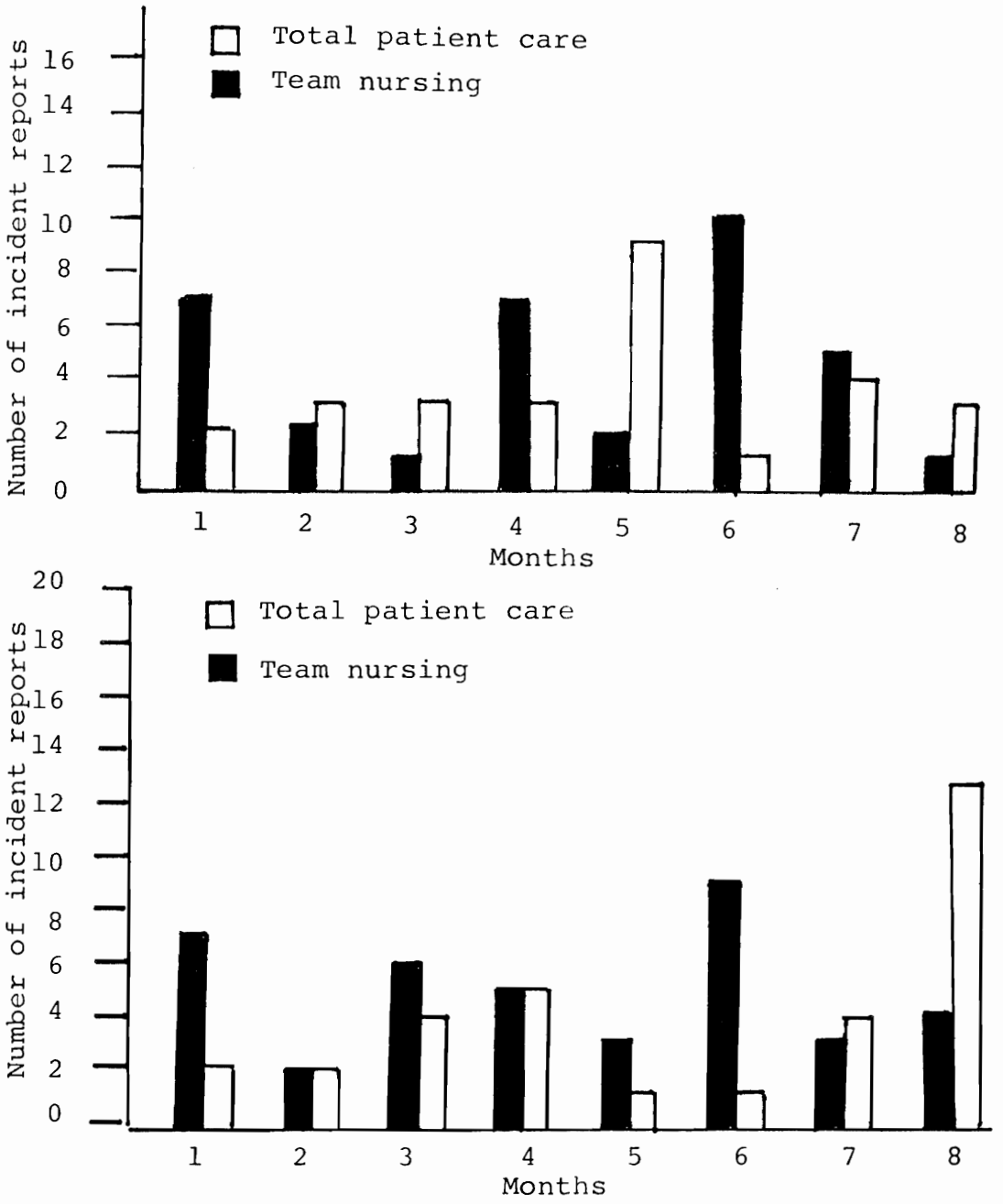

Figure 7. The comparison of patient falls and medication errors between team nursing and total patient care falls.

there would be significantly fewer incident reports generated during total patient care than would occur during team nursing. The test for hypothesis two means, given independent samples were used to decide whether or not the means of normally distributed populations were equal, or whether the difference between the two means was a specified value. The t-test for incident reports were significant at the .05 level, and the values may be reviwed in Table 2. Thus the hypothesis was supported.

Patient Satisfaction Questionnaires

Patient satisfaction questionnaires were analyzed according to the rating they received by the patient using a weighted scale value to establish a numerical value for a subjective answer. If the patient gave a question a "5" rating, it was multiplied by 5 and thus totalled 25 points. If the patient gave the question a "1" rating, it was multiplied by 1 to establish its numerical value. Thus, the more positive the rating, the higher the numerical value. The mean for question number four under team nursing was 4.66 and under total patient care the mean was 4.68. This demonstrated only a .02 improvement under total patient care -- certainly not a significant difference. Question number five had a mean of 4.45 under team nursing (Table 5) and a mean

Table 5

Patient Satisfaction Questionnaires Summary Totals

Question #4: How friendly and polite were the nurses? 1 2 3 4 5 (1 lowest, 5 highest)

Team Nursing

Rating	Number	Weighted value
5	170	5 X 170 = 850
4	33	4 X 33 = 132
3	9	3 X 9 = 27
2	0	2 X 0 = 0
1	6	1 X 6 = 6
Totals	n = 218	218 1015

$\bar{X}$ = 4.66

Total Patient Care

Rating	Number	Weighted value
5	232	5 X 232 = 1160
4	54	4 X 54 = 216
3	12	3 X 12 = 36
2	3	2 X 3 = 6
1	3	1 X 3 = 3
	n = 304	304 1421

$\bar{X}$ = 4.68

Table 5 Continued

Question #5: How would you rate the nursing care you received? 1 lowest 2 3 4 5 highest

Team Nursing								Total Patient Care							
Rating	Number	Weighted value						Rating	Number	Weighted value					
5	147	5	X	147	=	735		5	217	5	X	217	=	1085	
4	42	4	X	42	=	168		4	60	4	X	60	=	240	
3	15	3	X	15	=	45		3	16	3	X	48	=	48	
2	5	2	X	5	=	10		2	10	2	X	20	=	20	
1	8	1	X	8	=	8		1	3	1	X	3	=	3	
Totals	n = 217			217		966			n = 306			306	=	1396	
	$\bar{X}$ = 4.45								$\bar{X}$ = 4.56						

of 4.56 with total patient care. This demonstrates a difference of .11. Again, significant differences between the two scores were not demonstrated.

The researcher speculates that the less than significant differences in these statistics may be due to the "small town effect." The "small town effect" is one fact that most patients had known the nurses that worked at the hospital for years. It is much harder to change a person's opinion of an individual's friendliness and technical skills when there are years of friendship and/or personal knowledge behind their opinions. The insignificant differences are apparent when the data is graphed in a histogram (Figure 8).

Patient Care Quality Assessment Audits

Patient care quality assessment audits were the last instrument used to evaluate the potential change in the quality of patient care. Descriptive statistics were used to graph the mean score values (Figure 9). Total patient care scored higher on the graph than were the scored means of team nursing. Figure 9 scores represented the mean total scores for the numerous audits that were performed each month. During team nursing, there was a total of 139 audits performed. Each audit contained two parts, Form A and Form B. Form A collected data regarding the documentation that had been

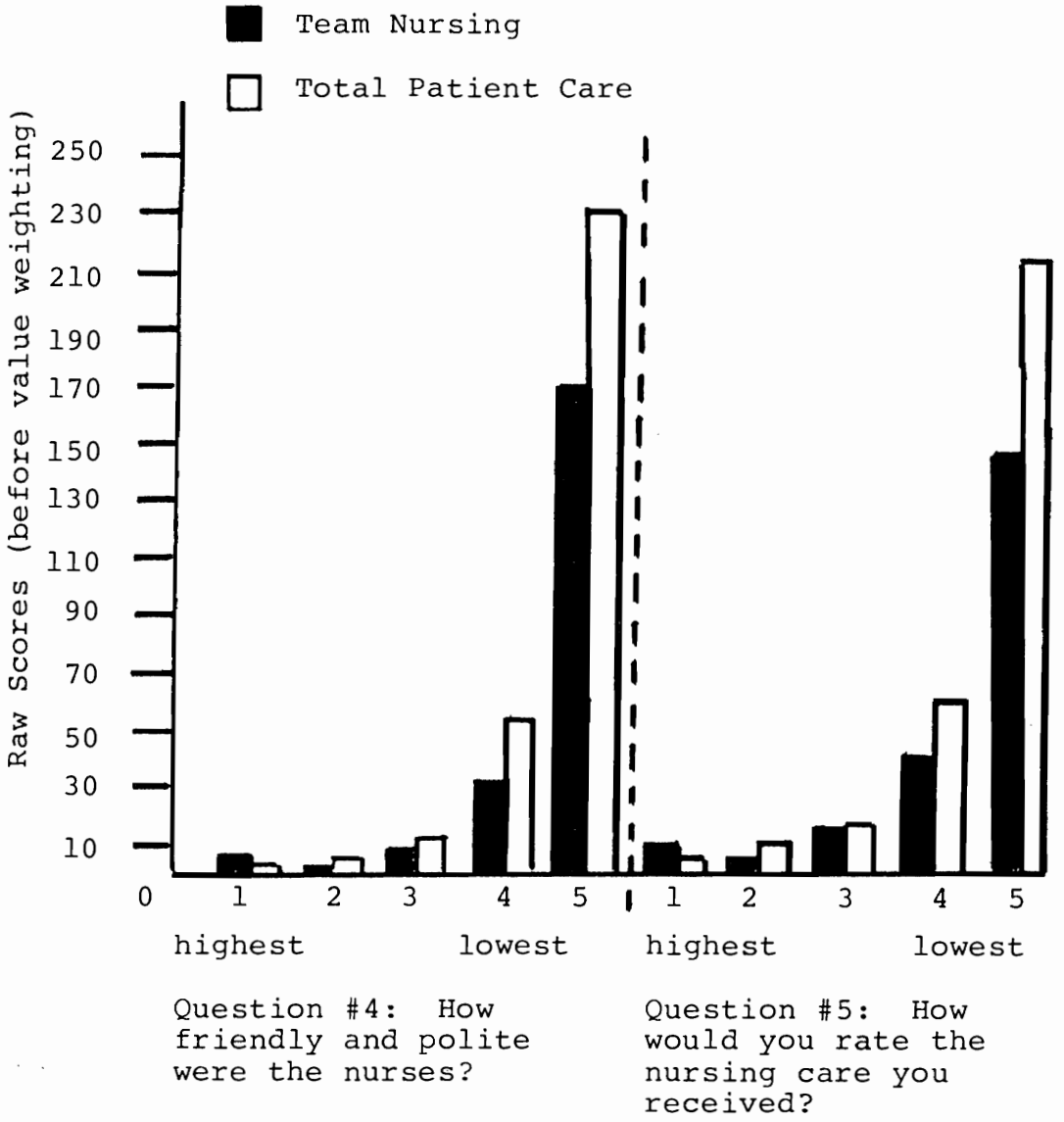

Figure 8. Patient satisfaction questionnaires.

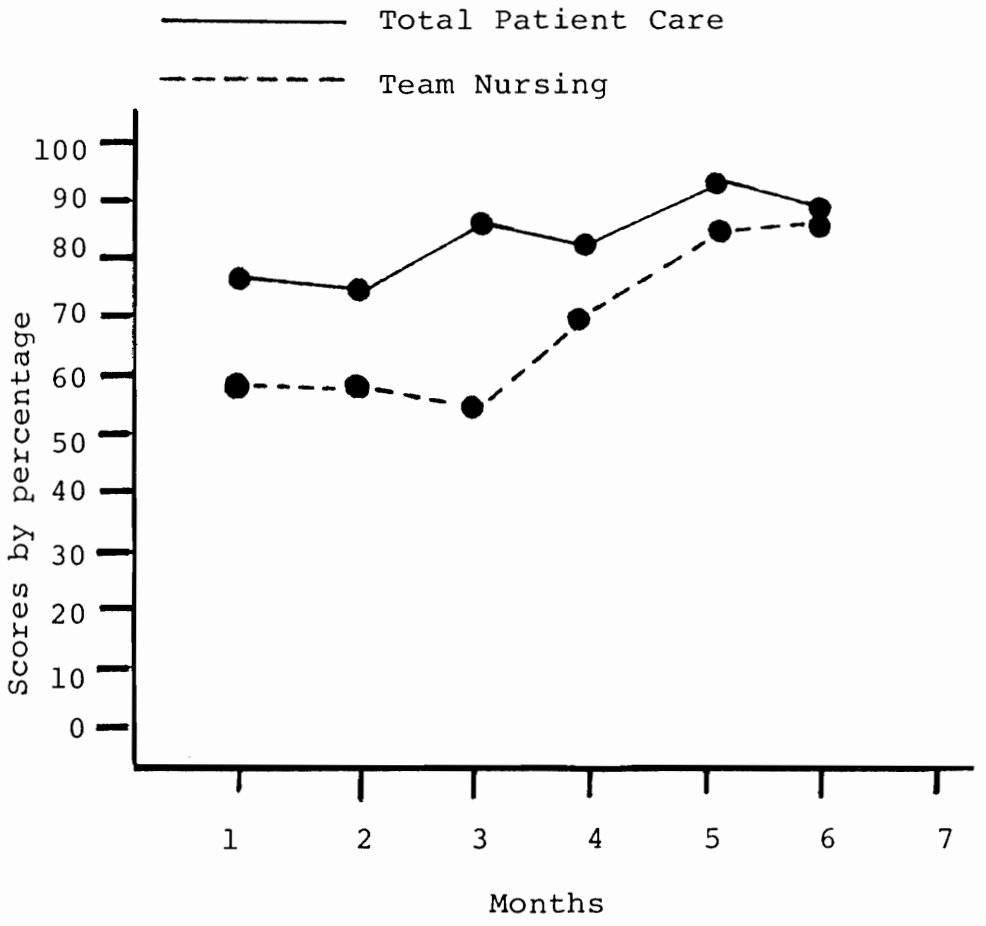

Figure 9. Patient care quality assessment comparison of scores by percent between team nursing and total patient care.

completed on a patient, i.e., nursing history, nursing care plan, and charting in the medical record regarding the nursing care plan objectives. Form B assessed the nurse's knowledge of the patient's condition, treatments, teaching, etc. Table 6 demonstrates the total mean scores for the audits completed each month during team nursing and total patient care. During total patient care, there was a total of 82 audits performed. The mean score for team nursing was 69%; the mean score for total patient care was 83.7%. The range of scores during team nursing was from 24.6% to 86.6% with a median score of 65.2%. Total patient care demonstrated a range of mean scores from 75% to 92%, with the median score being 85.8%.

The scores were then analyzed further by dividing the test down into two components: a) documentation, evaluated by Form A, and b) nursing knowledge and skills, evaluated by Form B (Table 7). Team nursing had a mean score of 68.2% on Form A, and 69.7% on Form B. Total patient care demonstrated a mean score of 85.1% on Form A and 82.3% on Form B.

Further analysis of the audits elaborated test results that were scored for each question (Table 8) on Form A. All areas showed significant improvements during total patient care, with the largest change demonstrated by the completion of nursing histories and

Table 6

Patient Care Quality Assurance Audits Summary

Comparisons Between Score Percentages of

Team Nursing and Total Patient Care

Team Nursing				Total Patient Care			
Month	N	Score (%)	Name of Month	Month	N	Score (%)	Name of Month
1	61	59.6	Sept. '80	1	15	78.1	April '81
2	16	57.2	Oct. '80	2	14	75.0	May '81
3	16	54.6	Nov. '80	3	12	85.5	June '81
4	13	70.7	Dec. '80	4	16	82.4	July '81
5	18	85.0	Jan. '80	5	14	92.0	Aug. '81
6	15	86.6	Feb. '81	6	11	88.8	Sept. '81
N = 139		$\bar{X}$ = 69.0%		N = 82		$\bar{X}$ = 83.7%	

T value = - 2.67

p = .008

Table 7

Patient Care Quality Assurance Audits Comparisons Between Form A and Form B in Team Nursing and Total Patient Care

Month	N	Form A		Form B		Total	
		$\bar{X}$ (%)	S.D.	$\bar{X}$ (%)	S.D.	$\bar{X}$ (%)	S.D.
Team Nursing							
1	61	53.7	23.4	65.5	21.2	59.6	17.1
2	16	53.4	26.0	61.1	23.3	57.2	17.3
3	16	44.4	22.2	64.9	21.7	54.6	16.8
4	13	70.0	19.1	71.3	24.7	70.7	16.8
5	18	94.4	11.4	75.6	18.2	85.0	12.5
6	15	93.3	12.2	79.9	13.9	86.6	9.1
		$\bar{X}$ = 68.2%		$\bar{X}$ = 69.7%		$\bar{X}$ = 69.0%	
Total Patient Care							
1	15	74.8	15.9	81.4	11.8	78.1	10.1
2	14	75.7	20.2	74.2	17.6	75.0	12.9
3	12	88.8	16.4	82.8	10.9	85.8	8.8
4	16	83.3	18.4	81.5	12.2	82.4	12.1
5	14	95.2	12.1	88.8	10.2	92.0	8.3
6	11	92.9	13.4	84.8	18.1	88.8	14.8
		$\bar{X}$ = 85.1%		$\bar{X}$ = 82.3%		$\bar{X}$ = 83.7%	

Table 8

Patient Care Quality Assurance Audit Comparisons Between Documentation for Team Nursing and Total Patient Care (Form A)

Documentation	Months											
	1		2		3		4		5		6	
	TN[a]	TPC[b]	TN	TPC	TN	TPC	TN	TPC	TN	TPC	TN	TPC
1. Nursing history complete												
No history	14.7%	0.0%	18.7%	14.2%	18.7%	0.0%	0.0%	6.2%	5.5%	0.0%	13.3%	0.0%
1st item recorded	14.7	6.6	12.5	0.0	37.5	0.0	0.0	6.2	0.0	0.0	0.0	0.0
2nd item recorded	19.6	20.0	43.7	7.1	6.2	15.3	6.2	11.1	0.0	0.0	0.0	0.0
3rd item recorded	50.8	73.3	25.0	78.5	37.5	100.0	84.6	81.2	83.3	100.0	86.6	100.0
2. Nursing care plan												
No care plan	68.8	60.0	68.7	57.1	75.0	14.2	69.2	43.7	5.5	14.2	86.6	100.0
1st item defined	9.8	0.0	6.2	0.0	12.5	0.0	0.0	0.0	5.5	0.0	6.6	0.0
Plan of action	6.5	0.0	18.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0
2nd item defined	9.8	26.6	18.7	0.0	0.0	0.0	15.3	0.0	0.0	0.0	0.0	9.0
Plan of action	20.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd item defined	11.4	13.3	6.2	42.8	12.5	85.7	15.3	56.2	88.8	85.7	80.0	72.7
Plan of action	19.6	20.0	25.0	42.8	12.5	85.7	30.7	56.2	88.8	85.7	80.0	72.7
3. Charting												
No acceptable charting	4.9	0.0	6.2	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st item defined	18.0	0.0	18.7	7.1	12.5	0.0	7.6	0.0	0.0	0.0	0.0	0.0
Nsg action	18.0	0.0	12.5	7.1	25.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0
2nd item defined	24.5	0.0	12.5	0.0	56.2	0.0	15.3	0.0	0.0	0.0	0.0	0.0
Nsg action	31.1	6.6	31.2	0.0	43.7	6.6	15.3	0.0	0.0	0.0	0.0	0.0
3rd item defined	52.4	100.0	62.5	92.8	25.0	92.8	76.9	100.0	100.0	100.0	100.0	100.0
Nsg action	40.9	93.3	43.7	92.8	18.7	92.8	76.9	100.0	100.0	100.0	100.0	100.0
Form A subtotal $\bar{X}$	53.7	74.8	43.4	75.7	44.4	88.8	70.0	83.3	94.4	95.2	93.3	92.9
SD	23.4	15.9	26.0	20.2	22.2	16.4	19.1	18.4	11.4	12.1	6.6	13.4

Note. [a]TN = team nursing; [b]TPC = total patient care.

nursing care plans. The researcher attributed these changes to the fact that total patient care allowed the nurse to have more complete knowledge about a fewer number of patients; whereas in team nursing, the nurse must have some knowledge about all the patients. As the nurse would have more knowledge about her/his patients, the charting of this knowledge in the nursing care plan, nursing history and medical record would be facilitated. Form B analysis (Table 9) revealed that during total patient care, significant improvements in the following areas occurred: a) the nurse's knowledge of the patient's condition, b) the identification of the patient's problems and therapeutic measures, and c) the interdisciplinary conferences regarding the care and treatment of the patient. Again, the researcher postulated that the nurse's increased familiarity regarding the patient enhanced the nurse's knowledge and confidence levels. Thus, the identification and treatment of the patient's problems were more effectively and efficiently facilitated. The nurse's increased confidence level also encouraged the sharing of information and observations with other health team members.

The audits were also evaluated according to the staffing patterns used during team nursing and total patient care (Table 10). During team nursing, the

Table 9

Patient Care Quality Assurance Audit Comparisons Between Nursing Care Knowledge and Practice for Team Nursing and Total Patient Care (Form B)

	Months											
	1		2		3		4		5		6	
	TN[a]	TPC[b]	TN	TPC	TN	TPC	TN	TPC	TN	TPC	TN	TPC
4. Nurse's knowledge of pt's diagnosis	86.8%	93.3%	81.2%	78.5%	81.2%	93.7%	84.0%	93.7%	94.4%	100.0%	93.3%	90.0%
5. Has the nurse read the care plan today	19.6	13.3	25.0	21.4	12.5	30.3	23.0	31.2	33.3	35.7	20.0	45.4
6. Nurse's observation regarding pt's condition:												
none	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st observation	3.2	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd observation	13.1	0.0	12.5	0.0	6.2	0.0	23.0	0.0	11.1	0.0	13.3	0.0
3rd observation	83.6	100.0	87.5	100.0	87.5	100.0	76.9	100.0	83.3	100.0	86.6	100.0
7. Pt's problems/therapy:												
discomfort identified	85.2	100.0	87.5	71.4	75.0	100.0	100.0	100.0	88.8	85.7	86.6	100.0
therapy identified	78.6	100.0	87.5	71.4	75.0	100.0	76.9	100.0	88.8	85.7	86.6	100.0
effects identified	77.0	93.3	87.5	71.4	75.0	100.0	76.9	100.0	88.8	85.7	86.6	100.0
8. Current teaching:												
none	29.5	20.0	50.0	7.1	31.2	25.0	7.6	25.0	22.2	7.1	13.3	18.1
plan 1	21.3	0.0	18.7	28.5	12.5	6.2	7.6	6.2	11.1	7.1	13.3	0.0
plan 2	49.1	80.0	31.2	64.2	56.2	68.7	84.6	68.7	66.6	85.7	13.3	81.8
9. Was teaching recorded	16.3	20.0	12.5	21.4	6.2	37.5	38.4	37.5	50.0	64.2	46.8	36.3
10. Plan for teaching												
none	59.0	26.6	68.7	42.8	62.5	18.7	38.4	18.7	38.8	0.0	33.3	0.0
plan 1	18.0	20.0	18.7	7.1	12.5	6.2	30.7	6.2	16.6	14.2	26.6	0.0
plan 2	21.3	53.3	12.5	50.0	25.0	75.0	30.7	75.0	44.4	85.7	40.0	100.0
11. Discussion of plan of care with:												
no one	14.7	0.0	25.0	0.0	6.2	6.2	15.3	6.2	11.1	0.0	0.0	0.0
nurse/dr/other health pro.	8.1	0.0	6.2	0.0	6.2	6.2	15.3	6.2	16.6	0.0	0.0	0.0
patient/significant other	11.4	0.0	12.5	7.1	0.0	11.2	15.3	12.5	27.7	0.0	6.6	0.0
all of the above	65.5	100.0	56.2	92.8	87.5	75.0	53.6	75.0	44.4	100.0	93.3	100.0
Subtotal $\bar{X}$	65.5	81.4	61.1	74.2	84.9	82.8	71.3	81.5	75.6	92.0	79.9	84.8
SD	21.2	11.8	23.3	17.6	21.7	10.9	24.7	12.2	18.2	8.3	13.9	14.8

Note. [a]TN = team nursing; [b]TPC = total patient care.

Table 10

Patient Care Quality Assurance Audits Comparisons Between the Staffing Patterns in Team Nursing and Total Patient Care

	Months											
	1		2		3		4		5		6	
	TN[a]	TPC[b]	TN	TPC	TN	TPC	TN	TPC	TN	TPC	TN	TPC
Staff Classifications:												
Nurse Aide	32.7%	26.6%	43.7%	7.1%	25.0%	7.1%	30.7%	12.5%	38.8%	7.1%	26.6%	36.3%
Licensed Practical Nurse	34.4	40.0	25.0	42.8	37.5	42.8	46.1	37.5	38.8	21.4	46.6	9.0
Registered Nurse	32.6	33.2	31.2	49.8	22.9	49.8	22.9	49.9	22.1	71.3	26.6	54.5
Employment Status:												
Full-time	78.6	86.6	62.5	64.2	100.0	68.7	76.9	68.7	66.6	50.0	86.6	63.6
Part-time	21.2	13.2	37.4	35.6	0.0	31.2	23.0	31.2	33.3	50.0	13.3	36.3
Unit Assignment												
Regularly assigned	98.3	86.6	100.0	71.4	100.0	86.6	100.0	87.5	100.0	78.5	93.3	72.7
Pulled	1.6	13.3	0.0	28.5	0.0	13.3	0.0	12.5	0.0	21.4	6.6	27.2
Total N	61.0	15.0	16.0	14.0	16.0	12.0	13.0	16.0	18.0	14.0	15.0	11.0

Note. [a]TM = team nursing; [b]TPC = total patient care.

staffing pattern trends were toward increasing the percentages of nurse aides and licensed practical nurses, and to decrease percentages of registered nurses ($\overline{X}$ = 32.9% NA; $\overline{X}$ = 38.1% LPN; and $\overline{X}$ = 26.4% RN). The opposite of this was demonstrated during total patient care ($\overline{X}$ = 16.1% NA; $\overline{X}$ = 32.3% LPN; and $\overline{X}$ = 51.4% RN). However, the number of full-time employees decreased (team nursing $\overline{X}$ = 78.6; total patient care $\overline{X}$ = 70%) during total patient care. The researcher hypothesizes that this is due to the number of registered nurses that historically prefer to work part-time. This audit analysis also revealed that during total patient care, staffing patterns were more flexible. The percent of staff pulled to work in another unit increased from a mean of 1.4% during team nursing to a mean of 19.4% during total patient care, without demonstrated increases in either incidents or decreased levels of patient care as evidenced by this study.

The use of inferential statistics to analyze this study validated the significance as $p < .008$. A two-tailed test was used with a t-value of -2.67 and df = 200.74).

CHAPTER V

SUMMARY AND IMPLICATIONS

Summary

Rationale and Objective

The purpose of this study was to determine if there would be a difference in the quality of nursing care using two different forms of nursing care delivery. With the knowledge of the most effective system of nursing care delivery established, nursing leaders and administrators can design organizational and system changes to enhance the quality of care given to the patient.

The five research questions arising from the objective were:

1. Will patient satisfaction differ when measured in the setting of team nursing versus total patient care?

2. Will the number of incident reports change when measured in the setting of team nursing versus total patient care?

3. Will the nosocomial infection rate differ

when observed under two different nursing care delivery methods?

4. Will the registered nurse responsible for the patient demonstrate significant differences in knowledge of his/her patient in the setting of team nursing versus total patient care?

5. Will the patient's nursing care plan reflect a significant difference when observed under two different forms of nursing care delivery systems?

Sample and Methodology

Four instruments were used to collect data that related to the quality of nursing care delivered under two different systems of nursing care provision, team nursing and total patient care. The study was conducted at a small 72-bed hospital in southern Utah, for eight months, during which time team nursing was practiced for eight months while total patient care was employed.

The instruments used to collect data were: a) nosocomial infection rates, b) patient incident reports, c) patient satisfaction questionnaires, and d) patient quality assurance audits.

The researcher was able to use to the following descriptive statistics: frequency distributions, histograms, polygons, tables, percentile ranks, range, means, modes, medians, and standard deviations. Inferen-

tial statistics were used to compare differences between the scores of the two groups. The t-test was used to calculate if significant differences existed between the two groups' scores.

Clinically Significant Findings

The study indicated that there was a significant difference between the quality of patient care as measured by incident reports and the patient care quality assurance audits. Total patient care was significantly better than team nursing. Nosocomial infection rates and patient satisfaction questionnaires did demonstrate a small improvement numerically, but this was not statistically significant.

Staffing patterns indicated that the ratio of registered nurses increased in total patient care over licensed practical nurses and nurse aides. Part-time employees increased also, but the flexibility of the staff increased, demonstrated by the increased pulling from unit to unit, without a significant decrease in the quality of patient care.

The most significant changes in the nursing care were demonstrated in the area of the nurse's knowledge of the patient's condition, treatments, and problems which increased under the total patient care nursing care delivery system. The charting of patient care

objectives, patient and family teaching, and the nursing history also increased significantly during the use of total patient care, as did the nurse's involvement with the interdisciplinary health care team in regards to the patient's condition and treatment.

Limitations

The study was conducted in a small hospital with a relatively small sample consisting of subjects from southern Utah. Therefore, the results can only be applied to other small hosptials under similar circumstances.

The patient satisfaction questionnaire was limited in the amount of information it requested that specifically applied to nursing. A more complete questionnaire that increased the information regarding the nurse's interpersonal relationships with the patient, as well as the patient's perception of the nurse's technical skills, would be extremely beneficial.

The "small town effect" that the researcher hypothesized occurred with the patient satisfaction questionnaires was not controlled. The stability of preconceived opinions was a limitation that this researcher had not accounted for in the study design. The known variation in the reporting of incidents when they occurred was not controllable.

The validity and reliability of the interviewing nurse was established during training sessions at the Intermountain Health Care Corporation level. However, this testing was not reproduced by the researcher.

All variables in the environment during the collection of data were not controllable. A study design that included this would not be possible when the study includes the human subject components.

Implications for Nursing

As health care costs continue to soar along with the patient's expectations of health care providers, it becomes readily apparent that nursing administrators and leaders must implement changes in nursing that are both effective and efficient. The system of nursing that is used to deliver nursing care expected by the consumer can, according to this study, make a difference in the quality of care that is provided.

This study demonstrated that total patient care nursing is adaptable to a small rural health care institution where staffing, specialties, and resources are limited. Also demonstrated in this study was the statistically significant finding that this adaptation resulted in improved patient care in extremely important areas of nursing care.

This study only begins to define measurable cri-

teria that can be used to establish the optimal system of nursing care delivery. Future studies should define cost parameters involved in the different systems of care delivery, evaluating not only staffing pattern costs, but also including orientation costs, turnover rates, supply costs, needed structural changes, etc.

Future studies could also be used to decide what type of nursing care should be implemented dependent upon the available structural facilities of the health care institiution, i.e., what architectural design would best facilitate which system of nursing care delivery?

Another implication for nursing study relates to job satisfaction and the nursing care delivery system. Is there a correlation between nursing job satisfaction and total patient care versus team nursing?

This study could be expanded to include primary nursing care as a form of nursing care delivery, and measure the quality of patient care under this system versus total patient care and/or team nursing.

Future implications for nursing research should address patient satisfaction as well as the definition of attitudinal changes by categories including such areas as the patient's sex, diagnosis, mental and physical condition, age, etc.

As the process of nursing is studied for the most

effective and efficient methods, one must include the patient's outcome as an important criterion for measurement and evaluation. Does the care provided under a specific nursing care delivery system affect the patient's condition and outcome positively?

APPENDIX A

INCIDENT REPORT FORM

Incident Report

VALLEY VIEW MEDICAL CENTER
(a member of Intermountain Health Care, Inc.)

IMPORTANT -- PLEASE PROVIDE ALL INFORMATION REQUESTED BELOW

[1] [2] [3] REPORT DATE:_____

Sex	Age	Incident Date	Incident Time	Incident Location

Name and address of patient or visitor involved

Admitting Diagnosis:_____
Surgical Procedures:_____
Given within 12 hours previous to incident — Sedatives and/or narcotics:_____
Other pertinent medication:_____
Notified doctor_____ at TIME:_____ The doctor responded: in person___ by phone ____ phone no.:_____
Witness name_____ Address:_____ phone no.:_____
Witness name_____ Address:_____ phone no.:_____

Describe in sequence what happened:

List steps taken to assist person involved in incident:

Action taken to prevent recurrence:

Physician's statement regarding condition of person involved after the incident?

Physician's Name:_____

1. Would you expect residual damages?
   yes____ no____
   If yes, please describe
   _____
   _____

2. Will injuries sustained lengthen hospital stay?
   yes____ no ____ If yes, how long?
   _____

3. Is person aware of incident?
   yes____ no ____
4. Is family aware of incident?
   yes____ no ____
5. What is person's or family's attitude?
   _____

Name, position and home address of person preparing report
Name: Position: Home Address:

Confidential report for improvement of hospital facility and patient care --
NOT PART OF MEDICAL RECORD
Pursuant to (Title 26, Chapter 18 Utah Code Annotated)
(Title 39, 1392 Idaho Code Annotated)

Check applicable boxes only

TYPE OF OCCURRENCE	✓	TYPE OF OCCURRENCE	✓	TYPE OF OCCURRENCE	✓	TYPE OF OCCURRENCE	✓
FALLS		SURGICAL		LOCATION		PERSONNEL INVOLVED	
From Bed		Informed Consent		Patient room		RN	
While entering or leaving bed		Wrong count		Patient bathroom		LVN	
From stretcher		Retention of sponge, instrument, needle		Common Area		LPN	
From chair		Anesthesia reaction		X-ray		Student nurse	
While ambulatory		Wrong anesthesia dosage		Elevator		NA	
While being aided		Anesthesia (other)		Operating room		Doctor	
While using ambulating device		Cardiac arrest		Recovery room		Aide	
Fainting		Technical error		Emergency room		Orderly	
		Surgical site contamination		Clinic/outpatient department		Visitor	
		Other		Surgical unit		Other patient	
BURNS (Patient)				Medical unit		Other	
From cigarette		INFECTION CONTROL ERROR*		OBGYN			
From treatments		Postoperative infection		Pediatrics		AMBULATING PRIVILEGES	
From coffee,tea,soup		Contact infectious disease postop		Nursing station		Unlimited	
From other		Other		Psychiatry		None	
				Exterior of building		Commode w/ assistance	
		ELECTRICAL (Biomedical)		Satellite location		Commode w/o assistance	
		Electric shock		Other		Limited w/ assistance	
		Electrical interference				Limited w/o assistance	
		Electrical (other)		SHIFT		Other	
MEDICATION ERROR				Day		POSITION OF BED	
Delayed stat order		FURNITURE OR FIXTURES		Evening		High	
Wrong patient		Struck by		Night		Low	
Wrong dosage		Struck against		CONDITION OF AREA		Intermediate	
Wrong drug		Caught between		Wet floor		SIDE RAILS	
Wrong time		Other		Ice condition		Yes ordered	
Wrong route				Malfunctioning equipment		Not ordered	
Omitted dosage				Broken equipment		Up	
Repeated dosage		EQUIPMENT		Broken equipment		Down	
Unordered medication		Struck by		Collapsed equipment		Single	
Wrong I.V.		Struck against		Other obstruction		Double	
Wrong blood		Caught between		Other			
Blood necessity		Other				RESTRAINTS	
				PATIENT MENTAL CONDITION		Ordered	
				Apparently well-oriented		Not ordered	
TREATMENT OCCURRENCE		OTHER		Apparently slightly confused		Intact	
Misdiagnosis		Patient alteration		Apparently depressed		Not Intact	
Delay in treatment		Patient elopement		Uncooperative			
Catheter related				Unconscious		CALL LIGHT	
Ingested thermometer				Unresponsive medicated		On	
Other				Language barrier		Off	
						Within reach	

*Unexpected infection

APPENDIX B

PATIENT SATISFACTION QUESTIONNAIRE

PATIENT QUESTIONNAIRE
Valley View Medical Center

This questionnaire has been developed to allow you to give us honest and anonymous feedback, in order that we can give better patient care. Please fill out and mail in the enclosed postage-paid envelope. Thank you very much.

Sex _____ Age _____ Surgery _____ Medical _____ Maternity _____

On questions asking that you rate personnel or services, circle a number from 1 to 5, with 5 being high, 1 being low.

Lowest ... Highest

ADMITTING

1. Were you admitted promptly?.....Yes ___ No ___
2. How helpful and courteous were the admitting personnel?.....1 2 3 4 5
3. Did admitting personnel provide orientation regarding locations, services and procedures?.....Yes ___ No ___

NURSING CARE

4. How friendly and polite were the nurses?.....1 2 3 4 5
5. How would you rate the nursing care your received?.....1 2 3 4 5

COMMENTS:

PHYSICAL SURROUNDINGS

6. Please rate the physical atmosphere of the corridors and rooms.....1 2 3 4 5
7. Please rate the cleanliness of the hospital and your room.....1 2 3 4 5

COMMENTS:

FOOD

8. How would you rate the hospital food?.....1 2 3 4 5
9. Were you visited by a dietitian?.....Yes ___ No ___

COMMENTS:

EXIT

10. How would you rate the people who assisted you when leaving the hospital?...1 2 3 4 5
11. Was the policy regarding your bill explained?.....Yes ___ No ___
12. If you had questions regarding your bill, were they answered satisfactorily?.....Yes ___ No ___

COMMENTS:

OTHER HOSPITAL DEPARTMENTS

13. Please rate the following other departments according to their level of friendliness and politeness:
    - Laboratory.....1 2 3 4 5
    - Physical Therapy.....1 2 3 4 5
    - X-Ray.....1 2 3 4 5
    - Respiratory Therapy.....1 2 3 4 5

COMMENTS:

14. If you had to say something positive about Valley View Medical Center, what would it be?

15. If you had to say something negative about Valley View Medical Center, what would it be?

(Any additional comments about any area of concern may be entered on the reverse side.)

APPENDIX C

PATIENT CARE QUALITY ASSURANCE AUDIT

Intermountain Health Care, Inc.
Department of Nursing

Quality Assurance Program in Nursing — Revised: May 1980

Nurse Interviewed_____

Observer_____

Chart Number_____ Date_____ Diagnosis_____

		POINTS	CODE
Hospital_____	(Col. 1 & 2 (See code)		1 (1 2 3)
Nursing Unit: _____	(Col. 4,5,&6 see code)		(4 5 6)
Type of Unit:_____	(Col. 7 Team (1); Total (2); Primary (3)		7
Shift:_____	(Col. 8: 11-7 (1); 3-11 (2); 7-3 (3)		8
Patient Category:_____	Col. 9: Class I (1)		
_____	II (2); III (3); IV (4)		9

Form A

	POINTS	CODE
1. What signs, symptoms, and/or active problems that require nursing intervention are being experienced by the patient as recorded on the patient history at the time of admission? Diagnosis/surgical procedure are not acceptable. Descriptions of physical or emotional behavior of the patient are acceptable.		
a. No history _____ (Col. 10: Code 0)	0	10
b. _____ (Col. 10: Code 1)	(1) _____	
c. _____ (Col. 10: Code 2)	(1) _____	
d. _____ (Col. 10: Code 3)	(1) _____	
Comments: _____		
2. What signs, symptoms, and/or active problems are identified on the Nursing/patient care plan? (Does not apply to just the medical plan of care.)		
a. No care plan _____ (Col. 11: Code 0)(Col. 12: Code 0)	0	11
b. _____ (Col 11: Code 1)	(1) _____	
Plan of action? _____ (Col. 12: Code 1)	(1) _____	
c. _____ (Col. 11: Code 2)	(1) _____	
Plan of action? _____ (Col. 12: Code 2)	(1) _____	12
d. _____ (Col. 11: Code 3)	(1) _____	
Plan of action? _____ (Col. 12: Code 3)	(1) _____	
Comments: _____		

	POINTS	CODE
3. What signs, symptoms, and/or active problems are identified on the patient care plan that are also identified and described in the patient charting? New problems are also acceptable. Time frame: current day and preceding 48 hours.		
a. No acceptable charting._____ (Col. 13: Code 0) (Col. 14: Code 0)	0	
b. _____ (Col. 13: Code 1)	(1)____	
Nursing action?_____ (Col. 14: Code 1)	(2)____	13
c. _____ (Col. 13: Code 2)	(1)____	
Nursing action?_____ (Col. 14: Code 2)	(2)____	
d. _____ (Col. 13: Code 3)	(1)____	14
Nursing action?_____ (Col. 14: Code 3)	(2)____	
Comments_____		
_____		
* * * * * * * * * * * * * * * * * * * *	* * * * *	* * * * *
Form B		
Nurse interviewed: Aide (1); LPN (2); 2 yr RN (3); 3 yr RN (4); 4 yr RN (5); Master's (6) [Col. 15]		15
Full or part time: Full time (1); Part time 2 days or less (2); part time 3 days or more (3); Hospital Nursing Pool (4); Outside Nursing Pool (5) [Col. 16]		16

	POINTS	CODE
Unit Assignment: Regularly assigned to this unit (1) Pulled to unit for this shift (2)[Col. 17]		17
Workload: Total Care____[Col 18-19]		18 19
Partial Care____[Col 20-21]		20 21
Meds____[Col 22-23]		22 23
IV's____[Col 24-25]		24 25
Charge____[Col 26-27]		26 27
4. What is your patient's active diagnosis?_____		
PENALTY POINTS FOR MAJOR DIAGNOSIS IF UNKNOWN OR INACCURATE: (-3)	(3)___	
Inaccurate/Unknown_____ [Col 28: Code 1]		28
Known and Accurate_____ [Col 28: Code 2]		
5. Have you read the nursing/patient care plan today?		
No NCP but read_____ [Col 29: Code 1] (-3 points)	(1)___	29
No_____ [Col 29: Code 2] (0 points)		
Yes_____ [Col 29: Code 3] (1 point)		
6. What observations have you made today about your patient concerning his condition?		
a. No acceptable observations [Col 30: Code 0]	0	
b._____ [Col 30: Code 1]	(1)___	30
c._____ [Col 30: Code 2]	(1)___	
d._____ [Col 30: Code 3]	(1)___	

	POINTS	CODE
7. Is your patient having any discomfort/concerns, and, if so, what therapeutic measures are being taken to alleviate this problem?		
a. No problem identified [Col 31: Code 0]	0	31
Problem identified [Col 31: Code 1]	(1)	
b. No therapeutic measures identified [Col 32: Code 0]	0	32
Therapeutic measures identified [Col 32: Code 1]	(1)	
c. No effects of therapeutic measures [Col 33: Code 0]	0	33
Effects identified [Col 33: Code 1]	(1)	
8. What has been taught or explained to the patient and/or his family?		
a. No teaching [Col 34: Code 0]	0	34
b. Teach #1 [Col 34: Code 1]	(1)	
c. Teach #2 [Col 34: Code 2]	(1)	
9. Was this information recorded?		
a. Not recorded [Col 35: Code 0)	0	35
b. Location indicated [Col 35: Code 1)	(1)	
10. What plans are you aware of for further teaching with this patient?		
a. No plan [Col 36: Code 0]	0	36
b. Plan #1 [Col 36: Code 1]	(1)	
c. Plan #2 [Col 36: Code 2]	(1)	

	POINTS	CODE
11. Have you spoken to the patient or health professionals about the patient's current plan of care? (Possible of 3 points total possible for this question).		
a. No one ______ [Col 37: Code 0]	0	___ 37
b. Nurse/Physician/Health Professionals ______ [Col 37: Code 1]	(1) ____	
c. Patient/Significant Ohter ______ [Col 37: Code 2]	(2) ____	
d. All of the above (b plus c) ______ [Col 37: Code 3]	(3) ____	

* *

	POINTS	CODE
From A Subtotal(# 1-3) Column 38-39	____ (18)	____ 38 39
Form B Subtotal(# 4-11) Column 40-41	____ (18)	____ 40 41

Intermountain Health Care, Inc.
Nursing Quality Assurance

Hospital_____ Month_____
Unit_____
Number of Audits_____

Form A

1. Nursing History	-No history -First item recorded -Second item recorded -Third item recorded
2. Nursing care plan	-No care plan -First item defined plan of action -Second item defined plan of action -Third item defined plan of action
3. Charting	-No acceptable charting -First item defined nursing action -Second item defined nursing action -Third item defined nursing action
Form A Subtotal -	Mean Standard Deviation
Staff Classification	-Aide -LPN -2 yr RN -3 yr RN -4 yr RN -Masters
Employment Status	-Full time -Part time 1-2 days -Part time 3-4 days -Hospital med pool -Outside med pool
Unit-Assignment	-Regularly assigned -Pulled

Form B

4. Patient diagnosis

5. Read Nursing care plan

6. Observations regarding patient condition

   a. none
   b. first observation
   c. second observation
   d. third observation

7. Patient problems/therapy

   a. discomfort/concern identified
   b. therapeutic measure identified
   c. effects identified

8. Current teaching

   - none
   - plan 1
   - plan 2

9. Teaching recorded

10. Plan for teaching

   -none
   -plan 1
   -plan 2

11. Discussion: plan of care

   a. no one
   b. health professional
   c. patient/s.o.
   d. health pro. and patient/s.o.

Form B Subtotal — Mean
Std. Dev.

Unit Total — Mean
Std. Dev.

IHC Goal — Mean
Std. Dev.

Intermountain Health Care, Inc.
Hospital Summary

Hospital_____

Month_____

Number of Audits_____

Unit	N	Form A Mean	Form A S.D.	Form B Mean	Form B S.D.	Unit Total Mean	Unit Total S.D.
ICU/CCU							
Obstetrics							
Medical/ Surgical							
Hospital Average							

APPENDIX D

VALLEY VIEW MEDICAL CENTER CONSENT

Valley View Medical Center
595 S. 75 E., Cedar City, UT
84720
(801) 586-6587
Reginald L. Hughes, Administrator

July 1, 1981

To Whom It May Concern:

This letter is to affirm our support of the Research Project being conducted by Bonnie Dee Cook, R.N., entitled "Does Total Patient Care Make a Difference in the Quality of Nursing Care Delivered?"

The Administration at Valley View Medical Center does support and assist in the advancement of nursing knowledge through the research process.

Sincerely,

Valley View Medical Center
Administration

Mr. R.L. Hughes Administration	Mr. Mark Dalley Assistant Administrator/ Finance	Ms. Bonnie Cook Assistant Administrator/ Patient Care

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