A STUDY TO DETERMINE IF A SYSTEM APPROACH TO WRITTEN NURSING CARE PLANS IS EFFECTIVE

by

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A FIELD STUDY

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CHAPTER I

INTRODUCTION

Introduction to the Problem

Communication is an important aspect of nursing. In today's complex nursing environment, communication becomes the framework of a system of individualized and comprehensive nursing care. Continuity of care can only be realized when nurses in various departments of the hospital, working different tours of duty, relay information about the patient and his problems to one another in some systematic fashion. (14) The nursing care plan is a tool for achieving transmittal of information relative to the patients' needs and indicated nursing interventions. The care plan cannot insure that quality care will be rendered, but it does enhance the possibility that that objective will be met. (13)

Written nursing care plans are the responsibility of professional nurses, but one that is not always accepted. There are probably many reasons why individual nurses fail to record nursing care plans, even though they must have such plans in mind before patient care is undertaken. Nurses may not record care plans for a number of reasons:

current staffing patterns allow little time for an added activity if it has not been a part of the nurses' perception of their role; a fear that the written plan may be criticized as others use it; the barrier may lie within the nurse herself if she does not feel responsible for putting the plan in writing so that it is available for use by others; when plans are not usually written in a given setting, there is a lack of a model for the professional nurse to follow; the nurses' perception of plans may vary from very elaborate to very simple and they may find an obstacle to writing what they think are adequate plans; and the form used for written plans may be so unstructured that little guidance is offered in writing care plans. (13, 14, 16) If professional nurses are to accept responsibility for this vital nursing function, a means of developing skill and interest in writing care plans is needed.

A system approach to nursing care planning offers an analytical method for assessment of patient needs. Consideration of the physiological, social, psychological, teaching-learning, and planning needs of the patient results in a complex body of information that must be sorted and analyzed in order to make optimum decisions about care. The system approach is a way of thinking about complex problems with many interacting forces, and a useful process in decision making. This type of approach coupled with a structured Kardex form for recording a written plan may offer a solution to the dilemma of poor communication about patient care in nursing.

Statement of the Problem

The Joint Commission for Accreditation of Hospitals has published standards for written nursing care plans. (19) Accreditation may be jeopardized in hospitals where nurses fail to meet the standards set forth for all patients. Medicare patients cannot be hospitalized in a non-accredited hospital. These considerations cannot be ignored. Professional nurses must be motivated to follow through the plans developed for patient care with a written account of those plans. The barriers which occur between the cognitive process of planning and the recording must be circumvented.

Planning for individualized patient care is a primary focus of professional nursing. The autonomy of the patient is recognized possibly as never before, and nurses are aware that each patient is an individual with unique needs, though his diagnosis may be very common. The fact that a patient enters the hospital with appendicitis does not automatically assure that all his problems are the same as those of another patient with the same pathophysiology. Each patient is the product of his social environment, his psychological state, and is in need of interventions that will help him return to a state of homeostasis following his hospitalization.

Homeostasis for the patient is achieved by collecting and analyzing data from many sources, and by making nursing decisions about nurse-patient interactions that will offer the most expeditious return to an optimum state of health. The time expended by one nurse to

arrive at appropriate decisions must be duplicated by the next nurse who contacts the patient if communication between the two nurses is faulty. Written nursing care plans expedite care and provide continuity for the patient throughout his hospitalization.

Written plans are often not available because of a lack of ability or initiative in recording the cognitive process. Conventional means of improving the numbers of written plans have not proven entirely successful. A new approach to staff development in the area of written plans may prove beneficial in increasing the number of written plans and improving content.

Purpose of the Study

This study was undertaken to determine if a system approach to written nursing care plans would result in a greater proportion of plans being written than would the conventional approach.

Limitations

This study was limited to a tabulation and analysis of the number of written nursing care plans available to nursing personnel one month prior to participation in a class on development of nursing care plans, and three, and four weeks after the class presentation.

Nursing care plans which were tabulated were those which met the standards set forth by the Joint Commission for Accreditation of

Hospitals. The standards included plans for meeting needs demonstrated relative to physiological, social, psychological, teaching-learning, and planning for short term and long term goals.

Participation in the study was limited to nursing staff regularly assigned to two medical-surgical units of an Oregon proprietary hospital. The nursing personnel were those individuals engaged in direct patient care. Classes in the development of nursing care plans were conducted as ward conferences by the investigator using a lecture discussion method.

Assumptions

It was assumed that the nurses participating in the study were homogeneous for the trait of learning ability, and further, that they had similar backgrounds and experience in nursing.

It was further assumed that physicians, on occasion, ordered nursing procedures for their patients, but that they did not influence nursing personnel in the task of making nursing diagnoses and writing nursing care plans.

Definitions

Nursing care plan: For the purpose of this study, a written plan of care for a patient which was recorded on the ward Kardex, on a form used throughout the hospital in which the study was conducted.

System approach: Analytical consideration of an organized or complex whole in which the parts are interdependent, and in which the whole is equal to a sum greater than that of its individual parts.

Description of the Study

The lack of nursing care plans in the study hospital was noted. A search of literature related to written nursing care plans was made. The inservice department of the study hospital was contacted and expressed agreement with a plan of the investigator to provide ward conferences on the development of written nursing care plans.

The literature regarding the system approach to health care and other applications was investigated and a plan for a lecture-discussion presentation was formulated for a ward conference on the development of written nursing care plans. In addition, a plan was formulated for the presentation of a ward conference on the development of nursing care plans using a patient centered approach.

A statement of the problem and purpose of the study was developed. The study was designed after discussion of the problem and acquiescence of the nursing inservice education department of the study hospital. The regular nursing staff of two units of the hospital were involved in the ward conferences but were unaware that a study was being conducted. No previous inservice program on the development of written nursing care plans had been implemented, though individual nurses, over a long period of time, had been encouraged and offered assistance in writing such plans.

The nursing care plans written on the ward Kardex of the two units which met accepted criteria were tabulated by two assistants of the investigator. These were counted on two successive Wednesdays prior to initiation of the ward conferences. The tabulators worked independently and counted opposite units each week. The criteria for a written nursing care plan were those listed in the standards of the Joint Commission for Accreditation of Hospitals: (19)

> STANDARD IV
>
> There shall be evidence established that the nursing service provides safe, efficient and therapeutically effective nursing care through the planning of each patient's care and the effective implementation of the plans.
>
> Interpretation
>
> . . . The plan should indicate what nursing care is needed, how it can best be accomplished, what methods and approaches are believed to be most successful and what modifications are necessary to ensure the best results. It may include:
>
> Medication, treatment and other items ordered by individuals granted clinical privileges and by authorized house staff members;
>
> Nursing care needed;
>
> Long-term goals and short-term goals;
>
> Patient and family teaching programs;
>
> The socio-psychological needs of the patient.

A random selection of the unit to receive conventional inservice was made by drawing from two slips of paper with one unit identification on each. The other unit was then denoted for the system approach. The ward conferences were arranged with the head nurses of the two units.

At the beginning of each ward conference, demographic data were collected for the participants, using a short questionaire. (Appendix A)

A tabulation was again made by two assistants to the investigator, three and four weeks after the conferences, on Wednesdays.

The demographic data were tabulated to determine if the nursing groups were homogeneous related to experience and years in nursing. An attempt was made to analyze variations in these data relative to their effect on the results of the tabulations.

The tabulations of nursing care plans were analyzed by ratio, that is the total number of plans relative to the patient census on the days on which tabulations were made.

The study was summarized, conclusions drawn and recommendations for further study made.

CHAPTER II

REVIEW OF LITERATURE AND RELATED STUDIES

The System Approach in Hospitals

Many areas in the health care field have been influenced in the past two decades by systems theory and the system approach. This analytical, often mathematical, method of problem solving and decision making has opened new approaches to the provision of complex medical care. The adaptability of systems thinking is evident in the broad range of uses to which the process has been applied in the solution of hospital-related problems.

Decision making systems have been evolved in hospitals to make decisions relative to bed occupancy, allocation of nursing resources, allocation of logistic resources, utilization of facilities and medical problems. The use of the system approach stresses the need for adequate information systems to allow for effective decision making by hospital administrations. Hospitals are systems. Historical data concerning patient services rendered are inadequate to meet the dynamic day to day situations that occur. Information systems are designed to provide current and pertinent data as a base for effective decision making. (21)

Staffing patterns have been studied systematically to determine percentages of time spent in direct patient care, nonnursing activity, rounds, oral and written communication, personal business, and amounts of time necessary to care for patients according to a classification system based on the acuity level of patient illness. (5) Studies of salary expense relative to nursing care costs have indicated the necessity of administrators becoming more intimately involved in nursing goals, standards and evaluation techniques in order to attain economic advantages in the most costly area of hospital expense. (18)

Delon reported, in 1970, an elaborate study of the traffic patterns in hospitals using a systematic approach. Numbers of trips between departments and the type of personnel making trips were determined in order to plan corridors effectively--the width, floor covering to keep noise at a minimum level, expected traffic in various departments. The system approach indicated that census as classified by the degree of care needed, and the size of the unit staff in terms of professional and nonprofessional nursing personnel were not good predictors of traffic frequencies. (6)

A finding that nurses have too much standby time resulted from an analytical study of nursing activity at Touro Infirmary, New Orleans, reported by Steiner and Lindquist in 1970. (20) As a result of the study, a patient classification system and automated census data have been recommended to establish staffing with established standby times of twenty percent during the day and twenty-five percent during the evening and night shifts. A further recommendation involved returning

nurses to housekeeping and tray service functions to better utilize time.

Hollywood Presbyterian Hospital in Los Angeles, California, reported a system of patient classification based on the CASH (Commission for Administrative Services to Hospitals) system of allocation of nursing care hours. In the CASH system, nursing care hours are allotted to each of the three nursing shifts, and these are multiplied by a ratio of care needed for each classification of patient, based on 4.5 hours per patient per day. The classifications used are: Minimum care; average care; above average care; and maximum care. The shifts are allotted fifty-one percent for days, thirty-four percent for evenings and fifteen percent for nights. The hospital found the system flexible and reliable in staffing a unit, inasmuch as it allowed sufficient care hours for a full census of maximum care patients, and was also adaptable to a full census of minimum care, and anything in between. (9)

General Systems Theory

The system approach facilitates unification in many fields of knowledge, and has been used in physical, biological, and social sciences as a broad frame of reference. Defined, "A system is an organized or complex whole: an assemblage or combination of things or parts forming a complex or unitary whole." (11) There are geophysical and galaxial systems in the universe. In biological terms organisms

are systems of mutually dependent parts, and many of these have sub-systems.

The general systems theory offers a basis for understanding and intergrating knowledge from a wide variety of specialized fields. von Bertalanffy suggests that various fields in modern science are gradually evolving a parallelism of ideas that is allowing an opportunity to formulate and develop principles which hold for systems in general. (1) He also states that the similar concepts and principles are being discovered in quite different fields by experts in those fields, without each having knowledge of the others' work, or the common trend. This is evidence that the principles of wholeness, of organization, and of the dynamic conception of reality are evident in all fields of science. (1)

Another related idea, that of holism, is permeating many social and physical sciences. Holism is the view that all systems are composed of interrelated sub-systems. The whole is not just the sum of the parts, but the system itself can be explained only as a totality. Holism is the opposite of elementarism, which views the total as the sum of its individual parts. The holistic view is basic to the system approach. (11)

Chin has stated:

> Psychologists, sociologists, anthropologists, economists, and political scientists have been 'discovering' and using the system model. In so doing, they find intimations of an exhilerating 'unity' of science, because the system models used by biological and physical scientists seem to be exactly similar.

> Thus, the system model is regarded by some system theorists as universally applicable to physical and social events, and to human relationships in small or large units. (3)

Systems can be viewed in two ways: first, as closed and not interacting with their environment; secondly, as open and interacting with the environment. One characteristic of closed systems is that they move toward a static equilibrium and entropy. Entropy is a term which originated in thermodynamics and is applicable to all physical systems. It is the tendency for any closed system to move toward a chaotic or random state in which there is no further potential for energy transformation or work. A closed system tends to increase in entropy over time, and to move toward greater disorder and randomness. (11)

The open system is in a dynamic relationship with its environment and receives various inputs, transforms these inputs in some way, and exports outputs.

Emery explains the process:

> In contradistinction to physical objects, any living entity survives by importing into itself certain types of material from its environment, transforming these in accordance with its own system characteristics, and exporting other types back into the environment. By this process the organism obtains the additional energy that renders it 'negentropic'; it becomes capable of attaining stability in a time-independent steady state--a necessary condition of adaptability to environmental variance. (7)

Open systems also have internal interactions between components which affect the system as a whole, and these interactions allow the

system to adapt to its external environment. Through continual interaction with the environment, the open system achieves a steady state or dynamic equilibrium while still retaining the capacity for work or energy transformation. (11)

Social systems are not natural like physical or biological systems. They are contrived. They have structure, but the structure of events rather than physical components, and social systems cannot be separated from the processes of the system. They are contrived by human beings for an infinite variety of objectives, and do not follow the same life-cycle pattern of birth, maturity and death as do biological systems. (12)

In viewing organizations as systems, the determination of boundaries is a necessary concept. The closed system has rigid, impenetrable boundaries, whereas the open system has permeable boundaries between itself and a broader supersystem. Every order of system has sub-systems except the smallest. All but the infinite have suprasystems, and these become the parameters of the system. Sub-systems are variables. Every system has a boundary, and this is an area which, to traverse, demands a greater use of energy than does any relationship within the boundary. Finally the environment of a system is everything outside its boundary, which includes its suprasystem. (15)

Booker argues that there can be no such thing as total system unless that system is infinity. (2) Philips states that every system equates with the universe, so that an area cannot be sorted out for study. (17) It becomes necessary to define the boundaries in order

to consider the practical reality. Once defined, all that lies outside the boundary becomes environment, all that lies within, a part of the system.

Katz and Kahn have stated:

> Boundaries are the demarcation lines or regions for the definition of an appropriate system activity, for admission of members into the system, and for other imports into the system. The boundary constitutes a barrier for many types of interaction between people on the inside and people on the outside, but it includes some facilitating device for the particular types of transactions necessary for organizational functioning. (12)

The concept of interface should be considered with boundaries. The interface is the area of contact between one system and another. There are many transactional processes across system boundaries at the interface involving the transfer of energy, materials, people, money, and information. (11)

The steady state for the open system occurs while the system can still maintain its functions and perform effectively. The biological system offers an example. The human body is able to maintain a steady state of body temperature in spite of wide variations in the environmental temperature. There are limits to the degree to which the biological organism or the social organization can maintain a steady state in response to environmental changes. Massive environmental changes may be so great that it is impossible for the system to adapt. The organism then dies, or the social organization is disbanded. (11)

Systems tend to maintain a state of equilibrium. Disequilibrium requires intervention to restore equilibrium. In biological organisms,

the term homeostasis is applied to the organism's steady state. Through the process of feedback, the system continually receives information from the environment which helps it adjust. Feedback is both negative and positive. It is negative when it delivers information that the organism is deviating from a prescribed course and should readjust to a new steady state or equilibrium. (11) Feedback control mechanisms are present in those systems that are self-regulating and goal-directed. In human systems and others some of the output is feedback which becomes input and offers information for altering the system to accomplish a goal. (8)

Another important consideration is systems theory is that of equifinality. The concept of equifinality suggests that final results may be achieved with different initial conditions and in different ways. This means that varrying inputs and internal activities can be responsible for the same output. (15)

Simply defined, the systems approach is one which considers all the parts of a whole in interaction. It utilizes techniques that allow long range planning, and strategy, as well as short-term objectives which may be altered as the result of evaluation of effectiveness. Systems analysis is based upon probability theory and concepts. To determine the likelihood of outcomes, one must consider all possible alternatives leading to that outcome and the chance of success in their implementation. (8)

A System Approach to Nursing Care Planning

Nurses are constantly faced with decisions about patient care. If care given is truly to be professional, then these decisions should be based on a prediction of probable consequences of the possible alternative actions she might take. A body of knowledge is necessary to nursing action, and with the knowledge a development of strategies for applying the knowledge in care of patients. Systems analysis is one tool which can be developed for decision making. (8)

Nursing can be regarded as a dyadic system between the nurse and the patient and can be analyzed according to the inputs and outputs of information and/or energy exchanged. "Nursing functions can be interpreted as bringing a source of energy or information from the distal to the proximal environment in order to maintain the steady state, or as serving as a receptor for 'spilling' along any dimension when the input was excessive and maintenance of steady state required increased output." (15)

According to the concept of equifinality, the organismic system will reach a predetermined point by any of many available pathways. This means that for every species there is a typical or characteristic state.

> This concept is very important in nursing since according to this structure illness can be regarded as the life process regulating toward normalcy after disturbance owing to the equifinality of biological systems--and perhaps with our assistance and intervention.

> Recovery would be an expression of the dynamics of living systems maintaining and reestablishing so far as possible the original steady state. Chronic disease or disability would be an altered steady state between available input-output balance (entropy tendency) and equifinal state. (15)

In caring for patients, nurses are concerned with clinical activities which can be characterized as those activities that assist in preventing, reversing, or arresting pathological states in patients. Accomplishment of these goals requires clinical judgment, and clinical judgment can be considered analagous to the computer simulation of the decision making process. (4)

> . . . clinical judgments can be perceived as the symbolic manipulation of the world around the patient. The unintended as well as the intended consequences of doing or not doing an act of intervention in nursing care are mentally rehearsed. All available data concerning each patient at that point in time are ordered appropriately. By this means nursing care becomes a continual process with deliberate end goals instead of a series of tasks performed unwittingly and by ritual. (4)

Models have been developed that assist in understanding the structure of a system. "The main function of theoretical models is explanation, prediction, and control of phenomena. Our thoughts are a progression of symbols which we put into relations and sequences according to established rules." (10) While model may not depict actual reality, it becomes a useable tool in analyzing or abstracting a part of the universe.

A model of an open system shows inputs and demands made by the environment; an internal process with feedback and dynamic interaction

of processes; and decisions or actions which become outputs of the system. A graphic representation is available in Nursing Clinics of North America, September, 1971. (10)

Output from a system may feed back at a very slow or very fast rate. It may alter the input to the system and the resultant action. In professional nursing care, the means of nursing intervention are determined after an analysis of all possible alternatives and a study of their interaction with various sub-systems. When possible outcomes have been determined, the decision making process comes into relevance. A representative model of the system of nursing care can be found in Nursing Forum, Volume VIII, Number 2. (8) Finch states that the operational features of the model are as follows:

> The patient is defined as an individual or a group of individuals and is seen as entering the system with expectations of benefiting from nursing care.
>
> The model is conceptualized as an open system so that the nurse who seldom operates independently of other health personnel, may exchange information with other systems of health care.
>
> It is assumed that anyone can be trained to make observations and carry out nursing action; the professional nurse takes responsibility for assessment and decision analysis.
>
> The professional nurse makes two types of assessments. Operational assessments define the expectations of measurements related to the functional performance of the individual. Comparative assessments discriminate between measurements of an individual's current status and pre-set limits which have been established prior to the measurement.

> Strategic goals are defined as being concerned with over-all objectives of nursing care. Tactical goals are defined as being concerned with "what will help the patient feel better today."
>
> The patient exits from the system when the possible benefits have been derived; the nurse continues to work with the patient as long as movement toward the desired state is feasible. (8)

Finch further described positive values of this type of care planning and implementation. She stated that a primary focus on the patient is maintained throughout the process; the care plan can be altered to accomodate changing conditions and the needs of the patient since a continuous evaluation of patient responses to nursing intervention through feedback control is an integral part of the process; when there are problems in the decision making process, the feedback control mechanism can be used to locate the point of departure from the process; and the vocabulary of systems analysis transfers readily across disciplinary lines, increasing the probability of an accurate interpretation of the nursing care process by others. (8) The model will enable nurses to predict the consequences of their behavior in the nurse-patient interaction, and to therefore make decisions which are in the best interest of the patient. Systems analysis is only a tool, but it can point the direction for professional nursing care.

Summary of the Literature

General systems theory has been applied widely in the health care field to investigate complex problems associated with the delivery of optimal health care. The systems approach offers an analytical tool which can help decision making when it must be accomplished across multi-disciplinary boundaries, with interdependance between sub-systems of the whole health care system.

The use of the systems approach in nursing care planning will allow the patient to become the primary focus of professional care. This approach affords the nurse the means of predicting the outcomes of nursing intervention and the benefit to the patient. Feedback control assures a dynamic process which can be adjusted to meet the patient's needs as he moves through the health illness continuum.

CHAPTER III

REPORT OF THE STUDY

Introduction

This study was undertaken to determine whether a system approach to nursing care planning might result in a greater proportion of care plans being recorded on the Kardex (Appendix C) of the nursing unit being studied. A count of written plans prior to and subsequent to ward conferences about care planning was the method chosen for determination of the effectiveness of this approach. An increase in the proportion of written plans following the conferences would be an indication that the system approach may offer a valuable means to achieving the goal of having a written nursing care plan for each hospitalized patient.

Method

The literature and relevant studies were reviewed related to general systems theory, the use of the system approach in hospitals,

and the system approach to nursing care planning. Following the review, an outline for presentation of ward conferences using a conventional approach to care planning was devised, and, in addition, an outline using the system approach was developed. (Appendix B)

The study was undertaken in a one hundred eighty-six bed general proprietary hospital. The inservice education department of the study hospital was contacted for assistance in counting written care plans on two units of the hospital prior to and after the ward conferences had been conducted. Two nurses from the department used criteria stated by the Joint Commission for Accreditation of Hospitals in judging whether a complete nursing care plan was written. Only complete plans were tabulated. The following criteria were used:

1. Medication, treatment and other items ordered by individuals granted clinical privileges and by authorized house staff members were recorded.
2. There was an indication of nursing care needed.
3. Long-term and short-term goals were stated.
4. There was evidence of patient and family teaching programs.
5. The socio-psychological needs of the patient were indicated.

Nursing care plans on the Kardex of the two units were counted four weeks and three weeks prior to the ward conferences. The nurses on the units were unaware that plans were being counted and that a study was in progress. The inservice department had not given any

formal instruction in writing nursing care plans, but individual nurses had been encouraged and assisted with written plans over a long period of time.

A random selection of the unit to receive conventional inservice was made by drawing from two slips of paper with one unit identification on each. Unit A was chosen for the conventional approach, hence Unit B became the experimental unit. The head nurses of the two units were contacted and times arranged for the ward conferences. It was not necessary to inform the head nurses that a study was in progress since the regular position of the investigator in the hospital included this type of activity.

Description of participants. Seventeen nursing personnel, including those at the registered nurse, licensed practical nurse, and aide level were included in the study. These nursing personnel were regularly engaged in the nursing activities of the two units. Table 1. indicates the distribution of the personnel according to unit and type of instruction, and their professional level.

Table 1. Distribution of Personnel According to Unit, Type of Instruction, and Professional Level.

Unit	Type of Instruction	Professional Level RN N	LPN N	Aide N	Total N
A	Conventional approach (Control Group)	3	4	1	8
B	System approach (Experimental Group)	5	4	0	9
Total sample size		8	8	1	17

Demographic information. A brief demographic questionaire was developed to be used in determining the homogeneity of the personnel on the two units involved in the study. It was thought that a wide variation in years in nursing, and years employed in the study hospital could influence the attitude of nurses toward written nursing care plans. At the beginning of each ward conference the participants were asked to complete the questionaire so that it could be collected at the end of the conference. Seventeen questionaires were distributed and fifteen were completed and returned, including seven from registered nurses, seven from licensed practical nurses, and one from an aide.

Item 1 was concerned with the professional level of the participating nursing personnel, and the educational preparation of the registered nurses. Table 2. indicates the distribution of registered nurses according to unit and preparation for nursing. It is of note that the registered nurses on the experimental unit had a wider variety of educational preparation than those on the control unit. One registered nurse did not return the questionaire.

Table 2. Distribution of Registered Nurses According to Unit and Nursing Education.

Unit	Nursing Education			Total
	Associate Degree	Diploma	Baccalaureate	
A	0	2	0	2
B	2	2	1	5
Total	2	4	1	7

Item 2 requested the year of graduation from nursing school. This information was thought to be relative to the emphasis in recent years on nursing care planning and the influence that might have on the number of written nursing care plans. Table 3. delineates the distribution of participants according to unit, range of years since graduation, and mean number of years since graduation. One registered nurse and one licensed practical nurse did not return the questionaire. The aide did not complete a formal course in nursing. While the range varies widely, the means are fairly close for units A and B.

Table 3. Distribution of Personnel According to Unit, Range of Years Since Graduation, and Mean Number of Years Since Graduation.

Unit	N	Range of Years Since Graduation	Mean Number of Years Since Graduation
A	5	3-9	6.4
B	9	0-25	8.1

Item 3 asked the number of years of nursing experience. This was considered a relevant item in that the more experienced nurse has had greater opportunity to have practiced in a setting where written nursing care plans were used very routinely. Table 4. shows the distribution of personnel according to unit, range of years nursing experience and mean number of years of nursing experience. While the range for Units A and B are similar, there is approximately a four year difference in the mean years of experience.

Table 4. Distribution of Personnel According to Unit, Range of Years of Nursing Experience, and Mean Number of Years of Nursing Experience.

Unit	N	Range of Years of Nursing Experience	Mean Number of Years of Nursing Experience
A	6	3 - 25	11.3
B	9	0 - 25	7.7

Item 4 elicited the number of years experience in the study hospital. This was considered an important factor since stability of the nursing unit is affected by turnover, and could in turn affect the team concept which is important to the need for and use of written nursing care plans. Table 5. indicates the distribution of nursing personnel according to unit, range of years of experience in the hospital, and mean years of experience in the hospital. In this instance, the range differs somewhat, and the mean considerably; however, the lower mean of Unit B which is 2.2 years probably still indicates a fairly stable nursing staff.

Table 5. Distribution of Personnel According to Unit, Range of Years of Nursing Experience in the Study Hospital, and Mean Number of Years of Nursing Experience in the Study Hospital.

Unit	N	Range of Years of Nursing Experience in the Hospital	Mean Number of Years of Experience in the Hospital
A	6	3 - 8	5.8
B	9	0 - 6	2.2

Item 5 was concerned with the attitude of the personnel regarding the value of written nursing care plans. They were asked to respond "yes" or "no" to the question of whether they felt nursing care plans were valuable. Among the RN's and LPN's the answer was unanimously yes.

Item 6 requested an indication of whether the individual regularly writes nursing care plans. The LPN's all indicated that they did not though one indicated that "I try to." The RN's on both units A and B were evenly divided into a group which does and one which doesn't. One aide responded that she does not. It could be expected that the LPN's would not routinely write care plans since this is primarily a responsibility of professional nurses.

Item 7 asked for "comments" without any direction as to what they might be. The following are the responses received:

"Only as a student."

"These care plans are especially helpful to me as I float from department to department."

"Have used nursing care plans in school and another hospital--great help."

"Help the RN to write the care plan."

There seemed to be fairly general agreement that written nursing care plans are valuable and some indication that the non-professional nurses were interested in participating in the formulation of written care plans.

Description of the study. The nursing personnel of Unit A served as the control group in this study, and a ward conference was arranged

with the head nurse for a time convenient to her and her staff. A Wednesday was chosen. An outline was used for presentation of a conventional approach to planning nursing care. (Appendix B) A discussion followed the presentation, with a question and answer period. There was some distraction in this group since one RN had come to the unit for the conference on her day off and brought two pre-school children. The staff as a whole was fairly attentive in spite of the minimal distraction.

The nursing personnel of Unit B served as the experimental group, and a ward conference was arranged with the head nurse in a similar manner. The original time chosen had to be changed when activity on the unit precluded time for the conference. It was scheduled for the next day, a Friday (two days after the conference on Unit A) and the participants were attentive and interested. An outline for a system approach to planning nursing care was used for presentation, with a discussion and question and answer period following. (Appendix B) The outline contained most of the information presented to Unit A, with additional material about a system approach. Copies of system models were distributed to the participants, and literature left with them which they might peruse at their convenience.

Collection of the data. Two registered nurses from the inservice department of the study hospital assisted in counting of the nursing care plans. Each counted one unit four weeks and three weeks prior to the ward conferences. The section of the nursing Kardex titled

"Nursing Care Plan" was examined and the criteria for a complete plan applied to the information recorded under headings of "Problem" and "Approach," along with that shown on a checklist on the face of the Kardex card, and under the titles, "Medications" and "Treatments." Counting was accomplished on Wednesdays, normally high census days for the week.

The second counting period was three weeks and four weeks after the ward conferences. The same two registered nurses counted the written care plans using the areas of the Kardex and criteria mentioned above. During the interval between the first count prior to the ward conferences and the last count after, there were community college nursing students in their first year present on the wards. These students, however, were not involved in writing nursing care plans during the course of the study. The personnel regularly employed as staff for units A and B were the only persons writing nursing care plans.

No attempt was made to determine whether the care plans were being utilized by nursing staff, or whether indications of approach were evident on the patients' charts. The quality of nursing care was not studied relative to the nursing care plans.

The data were summarized after collection. The proportion (p) of nursing care plans written was determined by dividing the number of written plans (n) by the patient census (N) at the time of the count: $p = \frac{n}{N}$

Findings of the Study

Unit A. The participants in the study on this unit had not had any previous inservice program directed toward written nursing care plans. They had been encouraged by Nursing Service personnel and the inservice department to develop their skills as individuals in preparing such plans, and had received individual assistance when requested. The participants were unaware that a study was in progress and that their written nursing care plans had been counted using specific criteria for a complete care plan.

The topic of the ward conference had been announced at the time the arrangements were made with the head nurse. An outline was used to guide the conference (Appendix B) and each participant was given a copy of it, along with a copy of the Joint Commission for Accreditation of Hospitals Standard IV regarding written nursing care plans. The conference presented the reasons for care plans, who is responsible for making assessments and writing plans, when they should be written and the steps to be taken in writing a nursing care plan. The presentation, discussion, and question and answer period covered a one-hour time span.

Six of the eight participants of Unit A returned the demographic questionaire distributed at the beginning of the ward conference. The head nurse of Unit A has considerable interest in written nursing care plans and had on several occasions sought individual assistance in planning patient care. The registered nurse staff of Unit A are all diploma graduates with four to nine years of nursing experience.

Table 6. indicates the census, number of complete written care plans, and proportion of written nursing care plans four weeks and three weeks prior to the ward conference, and three weeks and four weeks after the conference. The number of complete nursing care plans increased considerably after the conference, however the increase shown three weeks after the conference was not sustained to the fourth week, though still considerably higher than prior to the conference. Ideally, the first conference should have been followed with others to reinforce learning and offer on-going assistance. This was not done in the interest of obtaining study data.

Table 6. The Census, Number of Complete Written Care Plans, and Proportion of Written Nursing Care Plans on Unit A Three and Four Weeks Prior to Conference and Three and Four Weeks After Conference.

	Four Weeks Prior to Conference	Three Weeks Prior to Conference	Three Weeks After Conference	Four Weeks After Conference
Census	33	32	32	31
Number of Plans	2	2	7	4
Proportion	.06	.06	.22	.13

Unit B. The participants in the study on this unit had not had any previous inservice program directed toward written nursing care plans. They had been encouraged by Nursing Service personnel and the inservice department to develop their skills in preparing such plans, and had received individual assistance when requested. The participants were

unaware that a study was in progress and that their written nursing care plans had been counted using specific criteria for a complete care plan.

The topic of the ward conference had been announced at the time the arrangements were made with the head nurse. An outline was used to guide the conference (Appendix B) and each participant was given a copy of it, along with a copy of the Joint Commission for Accreditation of Hospitals Standard IV regarding written nursing care plans. Also distributed was a copy of a system model for nursing care planning. The reasons for nursing care planning were discussed, the persons responsible for writing care plans, and when they should be written. Instruction differed from Unit A in that an explanation of the system model followed, along with terms used in discussing systems. The system approach to care planning was delineated and the steps in using the system approach. A means of structuring the Kardex was suggested which would make it adaptable to the system concept. The presentation, discussion and question and answer period covered a one-hour time span. Literature related to system planning for nursing care was left with the participants to review at their convenience.

Nine demographic questionaires were distributed at the beginning of the conference and all were returned. The participants seemed interested and were unusually inquisitive. They asked about applying the system approach to specific patients on the ward.

Table 7. indicates the census, number of complete written care plans, and proportion of written nursing care plans on the unit Kardex

four weeks and three weeks prior to the ward conference, and three and four weeks after the conference. The number of written plans had increased (doubled) prior to the conference between the two counts, and this was followed by additional increases both three and four weeks post conference. It would seem that ideally, the single ward conference should be followed with others in order to sustain the improvement and move to an even higher level.

Table 7. The Census, Number of Complete Written Care Plans, and Proportion of Written Nursing Care Plans on Unit B Three and Four Weeks Prior to Conference and Three and Four Weeks After Conference.

	Four Weeks Prior to Conference	Three Weeks Prior to Conference	Three Weeks After Conference	Four Weeks After Conference
Census	38	39	28	30
Number of Plans	5	10	8	12
Proportion	.13	.26	.29	.40

A comparison of the proportion of written plans on Unit A and Unit B is shown in Table 8. It is notable that Unit B was at a higher level prior to the presentation of the system approach to care planning, and that the increase during the counting period represents a near tripling of the complete written nursing care plans. Unit A which began at a very low level increased to the same degree during the three week post count but fell below that point at the time of the final count.

Table 8. Proportion of Nursing Care Plans Written on Unit A and Unit B Four Weeks and Three Weeks Prior to Conference and Three Weeks and Four Weeks After Conference.

Unit	Four Weeks Prior to Conference	Three Weeks Prior to Conference	Three Weeks After Conference	Four Weeks After Conference
	4	3	3	4
A	.06	.06	.22	.13
B	.13	.26	.29	.40

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to determine if a system approach to written nursing care plans would result in a greater proportion of plans being written than would the conventional approach. The measure employed for determining effectiveness was a count of nursing care plans written by the nursing staff of two units in a general proprietary hospital.

Counting of nursing care plans was undertaken four weeks and three weeks prior to ward conferences on written nursing care plans, and three weeks and four weeks after the conferences. The participants were regularly employed nursing staffs of the units used for study, and included registered nurses, licensed pratical nurses, and one aide.

Two different plans were used in presenting the ward conferences. In the control situation, a conventional approach to nursing care planning was used. In the experimental situation, a system approach to nursing care planning was used.

Conclusions

This study was conducted with a very limited number of participants on only two nursing units. It would be unwise to generalize the findings due to this limiting factor.

The ward conferences on written nursing care plans seemed to be well received and the participants were active questioners after the formal presentation was completed. This indication of interest was greater than expected and greater than anticipated due to the great number of negative feelings that are expressed by nurses in various hospital settings.

There was an increase in written nursing care plans on both units studied but the increase was greater on the experimental unit, indicating that possibly the analytical system approach to nursing care planning is an effective means of assisting nursing personnel with this important task.

The demographic questionaire showed that most of the participants considered that written care plans are valuable.

Recommendations for Further Study

Based on the findings and conclusions of this study, the following recommendations were made:

1. Replication of this study in a larger number of nursing units and in several hospitals, including those with and without

student nurses. The system approach may offer a better way to teach the student care planning and a study would be helpful in making a determination of its value to students.

2. Attempt to assess the value of nursing care plans written as the result of a system approach and analytical thinking, in terms of the quality of patient care given with these plans.
3. Attempt to determine whether there is a correlation between care planning and the quality of charting of patient care, and whether the system approach to care planning assists in better recording of patient care.
4. Study the overall effect of conventional care planning and planning with the system approach to the total health needs of the patient, particularly the needs arising beyond the immediate hospital environment.
5. Study the attitude of professional nurses for differences regarding conventional approaches to writing of care plans and system approaches to writing of care plans.
6. Present the system approach to the control unit, with reinforcement on both units, and study the effect over a longer period of time--six months to one year.

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APPENDICES

APPENDIX A

Demographic Questionaire

and

Summary of Responses to

Questionaire

No._____ Questionaire

Position:

RN_____(AD___Diploma___BS___)

LPN____

Aide___

Year of graduation from

Nursing School_____

Years experience in

nursing_____

Years experience in

this hospital_____

Do you feel Nursing Care Plans are valuable? Yes____ No____

Do you regularly write nursing care plans? Yes____ No____

Comments:

Questionaire

Summary of Responses

Position:

RN 7 (AD 2 Diploma 4 BS 1)

LPN 7

Aide 1

Year of Graduation from Nursing School:

		1947--1	1967--1
		1952--1	1969--2
		1960--1	1970--1
		1963--3	1971--2
		1966--1	1972--1

Years experience in nursing:

0	5	18
½	5½	20
2	8	25 (2)
2½ (2)	9	
3	12	

Years experience in this hospital:

0 (3)	5½ (2)
1½ (3)	6
2½	7
3	8
3½	

Do you feel Nursing Care Plans are valuable? Yes 15 No 0

Do you regularly write nursing care plans? Yes 3 No 10

Comments:

"Only as a student."

"These care plans are especially helpful to me as I float from department to department."

"Have used nursing care plans in school and another hospital--great help."

"Help RN to write the care plans."

APPENDIX B

Ward Conference Outlines

Conference Outline For

Written Nursing Care Plans

Conventional Approach

WHY should we write nursing care plans?

1. Nursing care needs to become more systematized.
2. Intershift communication - avoidance of duplication.
3. Individual needs of patients.
4. Philosophy of Nursing Care in this hospital.
5. Make hospitalization as minimally disruptive as possible.
6. Help set priorities for patients.
7. Assist in evaluation of response to treatment.
8. JCAH Standards

WHO should write care plans?

1. Responsibility of Team Leader.
2. Responsibility of other staff members.

WHEN should care plans be written?

1. Nursing care begins with admission, terminates with discharge.
2. Needs of patient should be immediately evident.

STEPS in care planning

1. Nursing history.
2. Survey of chart information.
3. Contact with family.
4. Survey of old charts.
5. Assess needs of the patient:

    a. Physical needs - nursing care.
    b. Socio-Psychological needs.
    c. Patient and family teaching.
    d. Short and long term goals.

6. Establish priorities of needs.
7. Plan approaches to problems.

8. Record the plan.
9. Evaluate effect.
10. Update and revise as indicated.

Conference Outline For

Written Nursing Care Plans

System Approach

WHY should we write nursing care plans?

1. Nursing care needs to become more systematized.
2. Intershift communication - avoidance of duplication.
3. Individual needs of patients.
4. Philosophy of Nursing Care in this hospital.
5. Make hospitalization as minimally disruptive as possible.
6. Help set priorities for patients.
7. Assist in evaluation of response to treatment.
8. JCAH Standards

WHO should write care plans?

1. Responsibility of Team Leader.
2. Responsibility of other staff members.

WHEN should care plans be written?

1. Nursing care begins with admission, terminates with discharge.
2. Needs of patient should be immediately evident.

SYSTEM APPROACH - TERMS:

System	System Approach
Boundaries	Closed System
Inputs	Open System
Outputs	Environment
Feedback	Parameter

SYSTEM APPROACH TO CARE PLANNING:

Analytical Thinking Process.

Equifinality: Many possible alternatives to desired outcome.

Health Care System: Hospital, nurses, physicians machines, techniques AND standard of living, cultural heritage, family background, work environment, sick role.

Models

STEPS IN SYSTEM APPROACH TO CARE PLANNING:

1. OBSERVATION:

   a. Nursing History
   b. Chart data input
   c. Visual input
   d. Family input
   e. Input from physician

2. Recognize Alternatives - Select nursing action.

3. Observe external feedback

4. Alter input

WRITTEN PLAN:

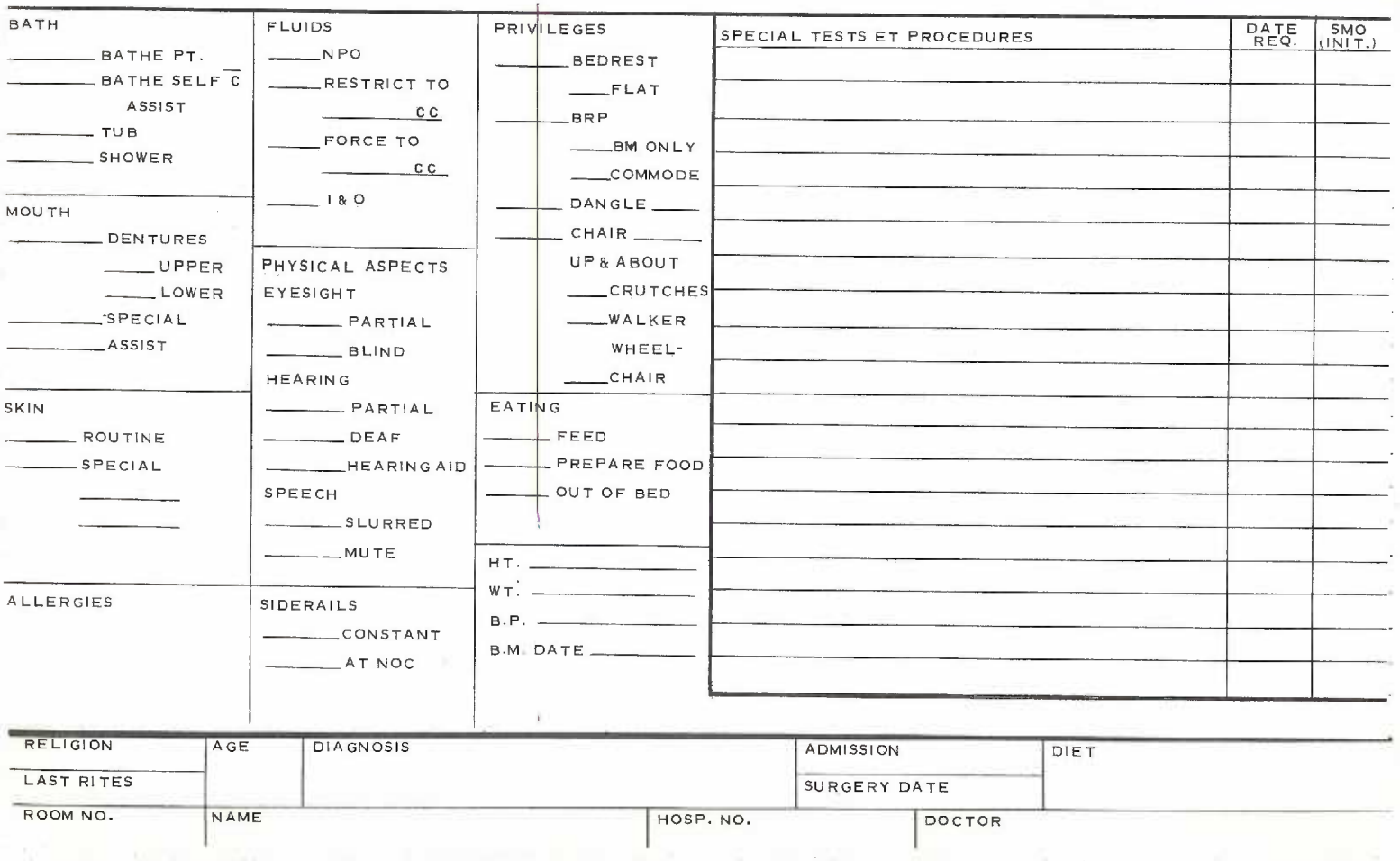
1. Structure kardex to assist analysis.

2. Record beginning plan.

3. Revise P.R.N.

APPENDIX C

Kardex Form



Kardex Form In Use At The Study Hospital

AN ABSTRACT OF THE FIELD STUDY OF

FLORENCE M. RHEA

For the MASTER OF NURSING

Date of receiving this degree: June 9, 1972

Title: A STUDY TO DETERMINE IF A SYSTEM APPROACH TO WRITTEN NURSING CARE PLANS IS EFFECTIVE.

Approved: _____
Lucile Gregerson, M.Ed. Field Study Adviser

The purpose of this study was to determine if a system approach to written nursing care plans would result in a greater proportion of plans being written than would the conventional approach. The measurement of effectiveness was the counting of nursing care plans recorded on the nursing Kardex.

The study was conducted on two medical-surgical nursing units in a general proprietary hospital. Data were collected before and after ward conferences in which the system approach and a conventional approach to written care plans was discussed. Participants in the study were the nursing personnel regularly assigned to the two units.

Conclusions

This study was conducted with a very limited number of participants and on only two nursing units. It would be unwise to generalize the findings due to this limiting factor.

There was an increase in written nursing care plans on both units studied, but the increase was greater on the experimental unit, indicating that possibly the analytical system approach to nursing care planning is an effective means of assisting nursing personnel with this important task.

A demographic questionaire completed by the participants indicated that there was unanimous agreement that nursing care plans are valuable. Non-professional nurses shared in this opinion.

Recommendations for Further Study

Based on the findings and conclusions of this study, the following recommendations were made:

1. Replication of this study in a larger number of nursing units and in several hospitals, including those with and without student nurses. The system approach may offer a better way to teach the student the planning of nursing care and a study would be helpful in making a determination of its value to students.
2. Attempt to assess the value of nursing care plans written as the result of system approach and analytical thinking, in terms of the quality of patient care given with these plans.
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6. Present the system approach to the control unit, with reinforcement on both units, and study the effect over a longer period of time--six months to one year.