

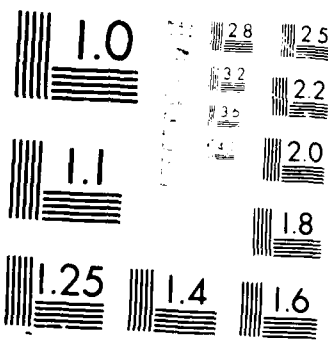
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A STUDY TO DETERMINE THE DISTRIBUTION
OF TIME SPENT BY NURSING PERSONNEL
AT OAK HILLS CARE CENTER
SAN ANTONIO, TEXAS

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OCT 09 1987
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A Problem Solving Project
Submitted to the Faculty of
Baylor University
In Partial Fulfillment of the
Requirements for the Degree
of
Master of Hospital Administration

by

Val J. Bateman, Major, MSC
and
Robert A. Guida, Major, ANC

Approved for public release
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19 ABSTRACT (Continue on reverse if necessary and identify by block number) This study examines the distribution of time spent working, the activities performed, and the skill level required by nursing service personnel in the performance of their duties. This study was a subject interpretation that measured both routine and peculiar work activities of each category of personnel, during each tour of duty. The purpose of this study was to identify the amount of time nurses spent involved in non-nursing activities that did not require nursing skills, and the overall effect of that time on patient care.					
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I. INTRODUCTION

A study of two nursing sections at Oak Hills Care Center, a skilled nursing facility, was conducted to determine the nursing activities and time spent by nursing personnel in the performance of their duties. The study did not measure the quality of performance nor did it show whether the methods of work are effective. The study did show which types of activity were performed most frequently. This information provides to the administrator of the care center a clear picture of the percentage of time spent by each category of personnel in the various activities of nursing care.

Development of the Problem

A. Conditions which prompted the study.

This study was requested by the Administrator, Oak Hills Care Center. This skilled nursing facility consists of 192 beds and four nursing sections (see Appendix A). The patients range from those requiring skilled nursing care to those requiring custodial care.

With the rising costs of personnel and the broad parameters of the job descriptions at the care center, it was deemed appropriate to objectively measure the amount of

time spent by each category of personnel in nursing care. Each tour of duty also carries with it certain routine duties along with unique work activities. The distribution of personnel is based on universal standards as opposed to the peculiarities of the nursing sections. Often this is imposed by state law. This study will attempt to measure both routine and peculiar work activities of each category of personnel and each tour of duty.

B. Statement of the problem.

The problem was to determine the distribution of time spent by nursing service personnel on Sections II and IV, Oak Hills Care Center.

C. Limitations narrowing the problem solving options.

The Administrator and Researchers agreed upon use of observers to be utilized to collect the data. This was not possible. A concerted effort to use nursing students from the University of Texas and volunteers from the Center's pool could not be arranged because of the lack of these individual's time, interest and funds to pay them. Use of the nursing staff was not possible because of the shortage of personnel and the possibility that these personnel would be viewed as "spying" on their fellow workers. This would bias the sample.

Since observers could not be found, it was decided that the sampling of activities would have to be done by

the personnel themselves.

D. Limitations on the observed units.

1. Observations were limited to two nursing sections at Oak Hills Care Center.

2. The director and Assistant Director of Nurses were not observed.

3. One registered nurse on the 1500 to 2330 and 2300 to 0700 shifts acted as supervisor for the entire care center as well as a staff nurse on Section II. This nurse was included in the sample of professional nurses on Section II.

Review of the Literature

Studies of nursing activities have been done to attain knowledge and control of the existing divisions of labor in nursing practice. In 1951, the University of California School of Nursing published a study entitled A Functional Analysis of Nursing Service, which found that "precise and systematic knowledge on who does what in nursing had been seriously inadequate for the purpose of defining clearly and with confidence either the prevailing practice in the division of nursing functions or the optimum potentials in nursing efficiency as correlated with training or rank. In short, much more information on nursing activities, actual or projected, seemed necessary for a factual basis on which to attempt better administration."¹

The question of prevailing practice was addressed by

the leadership in nursing and in 1952 the American Nurses' Association launched a five-year program of research on the problem. An attempt was made to determine systematically what activities contemporary nurses engaged in, how much of their time was spent in certain types of services, which nursing functions could safely be assigned to different categories of personnel, and under what conditions. After five years and \$400,000 investment, many studies were reported and the basic tenet found was that the nursing functions should be independently defined for each major category of nursing personnel.²

Since the 1950s, most of the studies on nursing activities have quantitatively measured distribution of activities on individual work sections or hospitals to determine work being performed so as to better utilize nursing personnel in individual health care facilities.³ Most studies today are designed to measure the quality as opposed to quantity of nursing care performed.

With the advent of management system engineers into the health care field, they have perfected techniques to measure nursing activities. These experts utilize a variety of interview, work sampling, wristwatch, work log and standard data techniques to measure performance.

Problem Solving Methodology

Below is an outline of the specific steps which were

taken to develop the final solution.

1. A visit to Oak Hills Care Center was done to:

a. Become familiar with physical layout of the institution,

b. Determine if the facility possessed any unique structural components that would have to be considered in developing the research methodology,

c. A review of job descriptions for each category of personnel, and

d. A review of standard or recommended staffing and actual staffing of the two sections.

2. A Survey of current literature and search for methods and findings was done to:

a. Determine what methods are used to measure nursing activities,

b. Select the appropriate method from the alternatives found; and

c. Achieve a basic understanding of the methods and measures utilized so a form could be made to capture the data to solve the problem.

3. After a review of the literature it was decided that the codes (see Appendix C), tabulations (see Appendix E), and analytical tables (see Appendix F), would be those prescribed in How to Study Nursing Activities in a Patient Unit.⁴ The only difference would be that instead of observers gathering the data through work sampling, a form

would be devised so that the personnel could record the data by themselves during their tour of duty.

4. The study codes (Appendix C) were analyzed and work with administrator and director of nurses was done to assure that the study codes were applicable to the care center. It assured that all activities in the job descriptions were categorized and coded.

5. A questionnaire for nursing service personnel's estimation of work distribution was created (see Appendix E).

A study of two nursing sections at Oak Hills Care Center was conducted to determine the nursing activities and distribution of time spent in various skill levels (see Appendix G). The two nursing sections were selected by the administrator of the care center.

The method of gathering data to determine activities of nursing service personnel was done by a questionnaire/form administered to all personnel on Sections II and IV of the skilled nursing facility. They were asked to estimate the amount of time spent in the various nursing activities (see Appendix E).

This data gathering method was administered for a period of five consecutive days excluding weekends. This study period is recommended by the Public Health Service booklet previously mentioned as a reliable sample when it

is selected during a usual work week.⁵ The day (0700-1530 hours), evening (1500-2300 hours), and night (2300-0730 hours) were measured. This was deemed necessary by the care center administrator.

Several packets of information (Appendix F and Appendix G) along with a supply of forms to do the estimation (Appendix E) were provided to each section. The Director and Assistant Director of Nurses were briefed on the methodology of the study and agreed to solve any problems which might be had by the study group. In addition, the researchers visited the facility once a day to answer any questions pertaining to the data gathering.

After the study period, the data was collated and tabulated. The tabulating process consisted of tallying and totaling the number of fifteen minute periods spent in each activity according to the functional area and skill level required (see Appendix F and Appendix G). This was then summarized according to each category of personnel on each section, each shift on each section, and both sections combined. These are reported as percentage of time spent.

Footnotes

¹Virginia Henderson and Les W. Simmons, Nursing Research: A Survey and Assessment (New York: Appleton-Century-Crofts, 1964), p. 225.

²Ibid., p. 227.

³Van dan Kumar M. Trivedi, and Walton M. Hancock, "Measurement of Nursing Work Load Using Head Nurses' Perceptions," Nursing Research 24 (September-October 1975): 371.

⁴United States Public Health Service, How to Study Activities in a Patient Unit, 2d Edition Revised (Washington, D.C.: Government Printing Office, 1964).

⁵Ibid., p. 8.

II. DISCUSSION

Findings

The findings of the study were compiled from the forms returned by the nursing personnel for the five days studied. One factor that must be recognized when examining the results of the study is that only 73 percent of the personnel completed the forms. Additionally 7 percent of those returned could not be used because of non-reconcilable errors. The data collected from the accepted forms indicated that of those units studied, 54.5 percent of the nursing personnel's time was devoted to other than direct patient care. Selected findings by category of personnel and activities is contained in the following table.

TABLE I
SELECTED FINDINGS*

Activities	RN	LVN	Nurse Aide	Med Aide
Direct Patient Care	15.3%	28.0%	52.5%	47.9%
All Other Activities	84.7%	72.0%	47.5%	52.1%
Patient Centered	76.6%✓	79.4%	87.5%	92.0%
Personnel Centered	5.9%✓	3.5%	0.6%	0.0%
Unit Centered	12.2%✓	8.5%	3.8%	0.6%
Other	5.3%✓	8.6%	8.9%	7.4%

* Note: A complete breakdown of the findings can be found in Table III.

TABLE II
PERCENT OF TIME SPENT IN
VARIOUS SKILL LEVELS

Skill Level	All	RN	LVN	Nurse Aide	Med Aide
Admin	5.1%	4.7%	19.8%	0.8%	17.6%
Nursing	47.8%	48.4%	34.5%	52.1%	32.5%
Clerical	11.9%	37.1%	23.1%	6.7%	9.7%
Housekeeping	4.7%	0.0%	2.1%	6.1%	2.4%
Dietary	14.6%	0.0%	4.2%	19.5%	6.1%
Messenger	4.9%	1.6%	0.0%	5.5%	2.1%
Other	11.0%	8.2%	10.3%	9.3%	29.6%**

** There was no specific categorization for preparation of medications

TABLE III

PERCENT OF TIME SPENT IN AREAS OF ACTIVITIES
BY NURSING SERVICE STAFF

Area of Activity	Category of Personnel Observed				
	Total, All Per- sonnel	Profes- sional Nurse	Practi- cal Nurse	Nurs- ing Aide	Medi- cal Aide
Total, all areas	100.0%	100.0%	100.0%	100.0%	100.0%
Total, patient centered	85.3	76.6 ✓	79.4	87.5	92.0
11 Giving care	45.5	15.3	28.0	52.5	47.9
12 Other direct activities	14.1	13.7	12.8	14.0	20.7
13 Exchange of informa- tion	7.4	18.4	8.6	5.9	6.4
14 Indirect care	18.3	29.2	30.0	15.1	17.0
Total, personnel centered	1.4	5.9 ✓	3.5	0.6	0.0
21 Professional staff development	0.8	2.7	1.4	0.5	0.0
22 Personnel: other	0.5	3.2	1.2	0.1	0.0
23 Professional nursing student program	0.1	0.0	0.9	0.0	0.0
24 Practical nursing student program	0.0	0.0	0.0	0.0	0.0
Total, unit centered	5.0	12.2 ✓	8.5	3.8	0.6
31 Environment	0.9	1.1	2.1	0.7	0.6
32 Supplies and Equipment	2.4	4.7	4.7	1.8	0.0
33 Other unit activi- ties	1.7	6.4	1.7	1.3	0.0
Total, other centered	8.3	5.3 ✓	8.6	8.1	7.4
01 Personal	6.5	5.0	7.4	6.1	7.4
02 Standby	1.8	0.3	1.2	2.0	0.0

The definitions for each of these areas and skill levels are contained in Appendix B and Appendix C.

These results show, as was expected, that a very large portion of nursing time is spent in non-direct patient care duties. In fact, the RN and LVN who are the best qualified to perform these functions spend the least amount of time with the patient.

During the study one significant problem was encountered. Only 69 percent of time that should have been reported was in fact accounted for. Even with this the authors believe that the results of the study are accurate and could only be improved upon through the use of observers as was intended at the inception of the study.

Current staffing guides dictated by the state of Texas provide strict limitations on who must be present at all times during the operation of a licensed nursing home. However, we believe every effort should be made to shift the administration workload to less professionally trained personnel and increase the patient contact by the registered and licensed health professionals.

Additionally, we recommend that efforts be made in the future to acquire volunteer help to conduct the direct observation study attempted by the authors to better provide a detailed analysis of the specific duties performed by nursing personnel.

III. RECOMMENDATIONS AND CONCLUSIONS

This study is a subjective interpretation of activities performed and skill levels required in nursing performance. The findings would be more valid if coupled with a study wherein objective data could be used as a comparison.

This data is merely an estimate of nursing activities for the five-day study period. It could be used as a baseline but the assumptions, that staffing quality and patient mix would remain constant, would be inferred. Any modification to the system should be coupled with a new study to judge the effect of that modification.

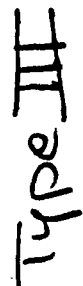
The fact that weekends were not included in the study could be significant if this study is used for any inference to weekend staffing or activities. Weekends should be studied before this is done.

The objective of the study, i.e., to determine the distribution of time spent by nursing personnel, was met.

APPENDIX A
SCHEMATIC DESIGN
OF OAK HILLS CARE CENTER

7302 OAK MANOR DRIVE
SAN ANTONIO, TEXAS 78229

1 - 1 - 75



The following persons will be in command in any EMERGENCY, and their instructions shall be followed:

TEXAS DEPARTMENT OF PUBLIC SAFETY 911-9177

17. Await word from person in charge for possible transfer to the hospital or other nursing home. Do not interfere with the work of the fireman. Give reassurance and aid to patients or residents.

(5) Enlist all available aid from the local Civil Defense Agency, Fire, Police and Sheriff Departments.

APPENDIX B
DEFINITIONS

DEFINITIONS

Activity Areas

Four major activity areas have been identified:

Patient Centered - activities which focus on the patient and his care.

Personnel Centered - activities which are directed toward unit personnel including students.

Unit Centered - activities concerned with maintaining a safe and well ordered environment.

Other Centered - activities of personal nature and/or for which no other purpose can be identified.

Some of these areas have been subdivided into more specific categories.

Levels of Activity (Skill Required to Perform a Task)

The levels of activity are differentiated in this study on the basis of the degree and kind of skill, training, authority, and responsibility required to perform the activity successfully and efficiently:

Administration - activities which involve responsibility for planning and providing effective patients care; for development of unit personnel; and for management and operation of the nursing unit.

Nursing - direct and indirect activities involved in giving nursing care to patients.

Clerical - activities concerned with counting, copying, ordering, and recording.

Dietary - activities involved in routine serving of fluids, food, and nourishment.

Housekeeping - activities concerned with the appearance of the unit environment, care of supplies and equipment.

Messenger - activities involved in transport services, escort services, and errands.

Unclassified - activities eliminated by definition from classification under any other code level.

Definitions of Personnel

Charge nurse - the nurse who has full-time responsibility for administration of the nursing unit during the tour of duty.

Professional Nursing Staff - graduate nurses (RN) who give direct care to patients.

Vocational Nurse - licensed practical/vocational nurse.

Nursing Aide and/or Orderly - Nonprofessional nursing personnel, who have completed a formal training program or have one year experience, who assist the nursing staff in giving patient care.

Medication Aide - Nonprofessional nursing personnel, who are certified by the Texas Department of Health Resources

after completion of a course of training, responsible
for administering medication to the patients.

Codes for unit personnel studied:

CN	Charge Nurse
PN	Professional Nursing Staff
VN	Vocational Nurse
NA	Nursing Aide/Orderly
MA	Medication Aide

APPENDIX C
STUDY CODES

STUDY GOALS

Classification of Activities by Area

The areas of activity for this study are four; namely, patient centered, personnel centered, unit centered, and other centered.

Patient Centered Activities

These activities may occur in the patient's presence or away from him. There are four subgroups of patient centered activities with identifying code numbers--11, 12, 13, and 14.

Code Number 11--Giving Care.--Activities occurring in the presence of the patient which involve the giving of care, including: carrying out a nursing procedure, assisting doctors with treatments or procedures, giving/assisting patients with personal hygiene.

Code Number 12--Other Direct Activities.--Activities in the patient's presence not classified as giving care, including: conversing or exchanging pleasantries with the patient; evaluating the patient's need for care; escorting patients; listening to requests, wishes, and complaints of patients; making interpretations to patients; observing the physical condition and behavior of patients; teaching patients.

Code Number 12--Exchange of Information About a Patient (mainly oral communication).--These activities include: discussing an assignment of patient care; examining reports about patients with other members of the unit or hospital staff, physicians, patient's family and friends, or other interested persons or agencies; listening to or giving the morning, afternoon, or evening report; ordering specific drugs, diet, supplies, or equipment by telephone for a particular patient, or a few patients, but not unit supplies; participating in doctor's rounds; receiving or giving an assignment related to patient care.

Code Number 13--Indirect Care.--All patient centered activities not classified under Code Numbers 11, 12, 13, including: Maintaining patient's records; charting care given; checking physician's orders; completing form on patient's condition; making out written requisition for specific drugs, diet, supplies, or equipment for a particular patient; preparing medication and treatment trays; setting up and immediate aftercare of equipment.

Personnel Centered Activities

These activities are primarily concerned with the professional growth and development of nursing service personnel and with personnel management.

Code Number 21--Professional Development of Staff.--Participation in all activities conducive to improved nursing service,

as well as planned and unplanned events which increase the knowledge and skill of the staff, including: demonstrations for teaching staff members individually or collectively; giving or receiving planned or impromptu instruction; observing and evaluating the quality of work performed; orienting new staff members to unit; reading or questioning to gain more information about a drug, treatment, etc.

Code Number 22--Personnel: Other.--Activities having to do with personnel management (personnel centered activities), including: staff meetings; individual conferences on personnel matters which relate to work; maintaining personnel records and conferring about personnel matters.

Code Number 23--Professional Nursing Student Program.--These activities include: discussions about the nursing students' program with unit personnel, physicians, clinical instructors, and others; observing and evaluating the quality of work performed by nursing students; planning and selecting experiences for nursing students; teaching nursing students, impromptu or planned.

Note: Activities in which nursing students are involved must be weighted carefully in terms of whether they are patient centered, or personnel centered. If personnel centered, a determination must be made whether the activity is for the student or for unit staff of which the student is considered to be a part.

Unit Centered Activities

These activities are concerned primarily with the patient's environment and the equipment and supplies for the unit.

Code Number 31--Environment.--Cleaning and maintenance activities for the order and safety of the unit, including: cleaning patient's unit (patient not at bedside); making unoccupied bed (patient not at bedside); terminal care of patient's unit after discharge.

Code Number 32--Supplies and Equipment.--Activities concerned with obtaining, dispensing, or maintaining material for the unit, including: obtaining drug and linen supplies; obtaining required supplies and equipment and all discussions concerning this; obtaining and serving all foods and fluids; terminal care of supplies and equipment.

Code Number 33--Other Unit Activities.--These include: activities related to this study; conversations to maintain rapport with unit and hospital staff, visitors, etc.; delivering mail to patients; discussions, compilation of data, etc., relating to any other studies; errands in search of unit personnel; giving or receiving an interpretation of hospital policy as it affects the unit staff; making unit records such as time sheets and leave records, daily report; reporting on or off duty; serving on committees for the purpose of discussing, revising or formulating hospital and nursing policy and procedure.

Other-Centered Activities

Code Number 01--Personal.--These activities include: all activities of a personal nature; such as, coffee breaks, conversation about personal affairs, and the like.

Code Number 02--Standby Time.--Time spent waiting for the arrival of a person or thing prior to the start of an activity, including: waiting for a doctor to arrive to assist him with a spinal puncture; waiting for a sterile dressing tray to arrive in order to change a patient's dressing.

Classification of Activities by Skill Level

The skill levels for this study are seven: administration, nursing, housekeeping, dietary, clerical, messenger, and unclassified.

Code A--Administration.--Administration includes activities requiring nursing judgment. These involve responsibility for planning and providing effective patient care, for developing unit personnel, and for managing and operating the nursing unit. Patient care activities include: assigning personnel to meet the individual needs of patients; planning and participating in unit education programs to insure safe and effective nursing care; assisting the physician in his plan for patient care by directing the execution of his orders and reporting to him the patients' symptoms, reactions, and progress; supervising and evaluating the effectiveness of patient care; giving nursing care for the purpose of observing a patient, establishing rapport with a patient, or teaching a member or

members of the nursing staff; promoting, supervising, and evaluating the education and rehabilitation program for the patient and his family; making nursing rounds to assess patient's condition, progress, and immediate environment.

Development of unit personnel includes: planning for and participating in continuous learning experiences for nursing personnel; promoting personal growth and development of unit personnel; written and oral evaluations of the work performance of staff members.

Unit management activities include: planning for and maintaining an environment conducive to the well-being of patients and personnel; promoting good interpersonal relationships; assisting in the development and implementation of objectives and policies of the nursing service.

Code N--Nursing Activities.--Nursing activities include the direct and indirect activities involved in giving nursing care to patients, including: preparation of a nursing care plan for direct patient care; carrying out orders prescribed by the physician for his individual patients; observing and reporting on patient's symptoms, reactions and progress.

Code C--Clerical Activities.--Clerical activities are those concerned with counting, copying, ordering, recording: assembling chart forms for new patients; checking charts after discharge of patients; copying records, such as time sheets; transcribing orders, counting supplies or drugs.

Code D--Dietary Activities.--Dietary activities are those concerned with the routine serving of fluids, food, and nourishment, including: caring for unit diet kitchen; carrying or picking up trays; cleaning water glasses and pitchers and distributing fresh water, chipped ice; preparing and serving nourishment between meals; and setting up trays.

Code E--Housekeeping Activities.--Housekeeping activities are those concerned with the appearance of the unit environment and the care of supplies and equipment, including: making unoccupied beds; cleaning floors, windows, bathrooms, and service rooms; cleaning room after discharge of patient, including cleaning and making up the bed; routine checking of the unit to maintain furnishings in good order; dusting furniture, emptying wastebaskets, general cleaning of the nursing station; and distributing and collecting linens.

Code F--Messenger Activities.--Messenger activities are those requiring absence from the unit for transport services, escort service, and errands, such as: accompanying patients to other parts of the hospital; delivering requisitions, both routine and emergency; picking up drug and supply orders, both routine and emergency.

Code G--Unclassified Activities.--Unclassified activities are those which are eliminated by definition from any of the preceding codes. Code G is used to identify those activities which refer to the person as an individual.

Outline of Codes

Areas of Activities

Patient Centered

- 11 Giving care
- 12 Other direct activities
- 13 Exchange of information about a patient
- 14 Indirect care

Personnel Centered

- 21 Professional development of staff
- 22 Personnel: Other
- 23 Professional nursing student program
- 24 Practical nursing student program

Unit Centered

- 31 Environment
- 32 Supplies and equipment
- 33 Other unit activities

Other Centered

- 01 Personal
- 02 Standby

Levels of Activities

- 1 Administration
- 2 Nursing activities
- 3 Clerical activities
- 4 Housekeeping activities
- 5 Dietary activities
- 6 Messenger activities
- 7 Unclassified activities

APPENDIX D

INSTRUCTIONS FOR UNITS
IN STUDY GROUP

OAK HILLS CARE CENTER
STUDY OF NURSING ACTIVITIES

The primary objective of this study is to analyze the activities performed by nursing personnel on all nursing sections at Oak Hills Care Center. It will take place from the 11th to the 15th of April. It will involve all tours of duty for Sections 2 and 4.

The purpose of this study is to determine how nursing service personnel divide their time between patient care and unit activities. The study is designed to answer such questions as:

What proportion of time are nursing personnel working on tasks that do not require nursing skill?

How much nursing time is consumed by non-nursing tasks?

Is the amount of time nurses are spending on non-nursing functions subtracting from patient care?

You will help with the study by estimating the amount of time you spend in various activities. You will be given a questionnaire to be filled out during the work day. These will be collected by the Director of Nursing/Chief Nurse. This will be done for all three shifts for five days.

Your administrator and director of nursing fully support this study. They are very concerned about you and the time available for your performance of patient care. This study will support them by giving objective information to them to utilize in reports and discussions with the proprietors of Oak Hills Care Center, other health care personnel, and various government officials.

At this time, let us thank you for your assistance with this study.

ROBERT A. RUEDA

VAL J. PATENA

CLASSIFICATION OF ACTIVITIES BY AREA

The areas of activity for this study are four; patient centered, personnel centered, unit centered, and other centered.

Patient Centered Activities

These activities may occur in the patient's presence or away from him. There are four subgroups of patient centered activities.

Giving Care

Activities occurring in the presence of the patient which involve the giving of care, including: carrying out a nursing procedure, assisting doctors with treatments or procedures, giving/assisting patients with personal hygiene.

Other Direct Activities

Activities in the patient's presence not classified as giving care, including: conversing or exchanging pleasantries with the patient, evaluating the patient's need for care; escorting patients; listening to requests, wishes, and complaints of patients; making interpretations to patients; observing the physical condition and behavior of patients; teaching patients.

Exchange of Information About a Patient (Mainly oral communication)

These activities include: discussing an assignment of patient care; examining reports about patients with other members of the unit, staff or family.

Indirect Care

All patient centered activities not classified under the above areas including: Maintaining patient's records; charting care given; checking physician's orders; completing form on patient's condition; making out written requisition for specific drugs, diet, supplies, or equipment for a particular patient; preparing medication and treatment trays; setting up and immediate aftercare of equipment.

Personnel Centered Activities

These activities are primarily concerned with the professional growth and development of nursing service personnel and with personnel management.

Professional Development of Staff

Participation in all activities conducive to improved nursing service, as well as planned and unplanned events which increase the knowledge and skill of the staff.

Personnel: Other

Activities having to do with personnel management (personnel centered activities), including: staff meetings; individual conferences on personal matters which relate to work; maintaining personnel records and conferring about personal matters.

Apprentice Nursing Student Program

These activities include: discussions about the nursing student program with unit personnel, physicians, clinical instructors, and others.

Unit Centered Activities

These activities are concerned primarily with the patient's environment and the equipment and supplies for the unit.

Environment

Cleaning and maintenance activities for the order and safety of the unit.

Supplies and Equipment

Activities concerned with obtaining, dispensing, or maintaining material for the unit.

Other Unit Activities

These include: activities related to this study; conversations to maintain rapport with unit and hospital staff, visitors, and delivering mail to patients.

Other Centered Activities

Personal

These activities include: all activities of a personal nature; such as, coffee breaks, conversation about personal affairs, and the like.

Standby Time

Time spent waiting for the arrival of a person or thing prior to the start of an activity.

CLASSIFICATION OF ACTIVITIES BY SKILL LEVEL

The skill levels for this study are seven: administration, nursing, housekeeping, dietary, clerical, messenger, and unclassified.

Administration

Administration includes activities requiring nursing judgment. These involve responsibility for planning and providing effective patient care, for developing unit personnel, and for managing and operating the nursing unit. Patient care activities include: assigning personnel to meet the individual needs of patients; planning and participating in unit education programs to insure safe and effective nursing care; supervising and evaluating the effectiveness of patient care; giving nursing care for the purpose of observing a patient, establishing rapport with a patient, or teaching a member or members of the nursing staff; promoting, supervising, and evaluating the education and rehabilitation program for the patient and his family; making nursing rounds to assess patient's condition, progress, and immediate environment.

Development of unit personnel includes: planning for and participating in continuous learning experiences for nursing personnel.

Unit management activities include: planning for and maintaining an environment conducive to the well-being of patients and personnel.

Nursing Activities

Nursing activities include the direct and indirect activities involved in giving nursing care to patients, including: preparation of a nursing care plan for direct patient care; carrying out orders prescribed by the physician for his individual patients; observing and reporting on patient's symptoms, reactions and progress.

Clerical Activities

Clerical activities are those concerned with counting, copying, ordering, recording; assembling chart forms for new patients; checking charts after discharge of patients; copying records, such as time sheets; transcribing orders, counting supplies or drugs.

Dietary Activities

Dietary activities are those concerned with the routine serving of fluids, food, and nourishment, including: caring for unit diet kitchen; carrying or picking up trays; cleaning water glasses and pitchers and distributing fresh water, chilled ice; preparing and serving nourishment between meals; and setting up trays.

Housekeeping Activities

Housekeeping activities are those concerned with the appearance of the unit environment and the care of supplies and equipment, including: making unoccupied beds; cleaning floors, windows, bathrooms, and service rooms.

Pescender Activities

Pescender activities are those requiring a person from the unit for transport services, escort service, and errands, such as: accompanying patients to other parts of the facility; delivering requisitions, both routine and emergency; picking up drug and supply orders, both routine and emergency.

Unclassified Activities

Unclassified activities are those which are eliminated in definition from any of the preceding.

APPENDIX F

ESTIMATION OF WORK DISTRIBUTION

REPORT OF WORK DISTRIBUTION

Unit _____ Date _____ Shift _____ Position: RN LVN Aide Employee: _____

Levels of Activity

Areas of Activity	Admin	Nurs-ing	Cleri-cal	House-keeping	Dict-ary	Cross-enger	Other	Total
Patient Centered								
Living Care								
Other Care								
Activity								
Exchange of info about pt.								
Indirect care								
Personnel Centered								
Professional development								
Personnel-Other								
Prof. Nurse								
Student Prof.								
Practical Nurse								
Student Prof.								
Unit Centered								
Environment								
Supplies & Equipment								
Other Unit Activities								
Other Centered								
Personal								
Standby								
Total								

Enter time in 1/4 hr. increments, total for an 8-hour shift should be 20 quarters.
If less than or more than 20 quarters shift is worked please list the total time worked.

APPENDIX F

WORKTABLES

On the Head Nurse WORKTABLE 1, place a tally mark in the box under the C column on the Area 32 line. On the Practical Nurse WORKTABLE 1, place a tally mark in the box under the N column on the Area 11 line.

Step 5. After all activities have been tallied on the worktable, add together those recorded in each "level" column (vertically) and place each total on the "Total, all areas" line. Then add together those activities recorded in each "area" line (horizontally) and enter each result in the appropriate box in the "Total, all levels" column.

Step 6: Add together the figures in the "Total, all levels" column and place the result in the last box at the bottom of this column.

Step 7. Add together the figures in the "Total, all areas" row. The result should be the same figure which appears in the last box at the bottom of the "Total, all levels" column. Complete daily tally sheets, WORKTABLE 1, for each category of personnel for each of the study days for each unit and for each shift.

NOTE: A set of WORKTABLES 1 for the Head Nurse category for a 5-day study period is included in Appendix B.

WORKTABLE 1.—Daily tally sheet of number of activities on a unit, by personnel observed and area and level of activity

HOSPITAL: Sunnyside

UNIT: 3 South

PERSONNEL OBSERVED: HN

TYPE OF SERVICE: Medical-
Surgical

DAY (mo., day, yr.) OF STUDY:
December 2, 1963

SHIFT: Morning 7 a.m.-3:30 p.m.

Area of activity	Level of activity							Total, all levels
	A	N	C	H	D	M	U	
11	1	(1)	1	(1)				2
12	1	(1)						1
13	1	(6)	11	(2)				8
14	1	(1)		(5)	11	(7)		13
21							1	(1)
22								
23								
24	1111	(4)						4
31								
32			11	(2)				2
33								
01							1	(1)
02								
Total, all areas	13	6	11				2	32

PERSONNEL OBSERVED: IN

DATES OF STUDY: December 2-6, 1963

31

Weekly Tally -WORKTABLE 2

The weekly tally is the total number of observations made during the 5-day study period. Again the data are kept separate for each of the categories of personnel studied by unit and by shift.

Step 1: Identify this worktable by designating the unit, the category of personnel, and shift as listed on WORKTABLE 1.

Step 2: Enter the figures under each level from the first day's tally sheet (WORKTABLE 1) in the first subcolumn (first day) under each level and under "Total, all levels for each day" of WORKTABLE 2.

In a similar fashion, enter the figures from WORKTABLE 1 for each of the 5 days of the study.

Step 3: In order to obtain the figures for the "Total, all days" (sixth) subcolumn under each level, add together (across) the figures in

the first five subcolumns under each level and for each area and place this sum in the appropriate box in the "Total, all days" column for each level.

Step 4: As in Step 3, the figures for the "Total, all levels, all days" column are obtained by adding across for each area the figures in the five subcolumns of "Total, all levels for each day."

Step 5: Check your figures to be certain that for each level of the worktable, the figures in the "Total, all days" column and the figures in the "Total, all areas" row add to the same figure.

Likewise, the figures in the "Total, all levels, all days" column and the figures in the "Total, all areas" row under "Total, all levels for each day" should add to the same figure.

Complete WORKTABLE 2 for each category of personnel for each unit and for each shift.

WORKTABLE 3.—Summary sheet of the total number of activities for all days on a unit, by personnel observed and area and level of activity

HOSPITAL: Sunnyside

UNIT: 3 South

PERSONNEL OBSERVED: HN

SHIFT: Morning 7 a.m.-3:30 p.m.

TYPE OF SERVICE: Medical-Surgical

DATES OF STUDY: December 2-6, 1963

Area of activity	Level of activity—all days							Total all levels, all days ²
	A ¹	N	C	H	D	M	U	
11.....	3	4						7
12.....	4							4
13.....	36	1	10					47
14.....	12	16	32					60
21.....	2						2	4
22.....	10							10
23.....								
24.....	14							14
31.....								
32.....			8		2			10
33.....	2							2
01.....							2	2
02.....								
Total all areas, all days.....	83	21	50		2		4	160

¹ Note that information in this column is derived directly from the sixth subcolumn, WORKTABLE 2. Level "A" A similar transfer from WORKTABLE 2 is repeated for every level.

² Derived directly from the last column on WORKTABLE 2.

Step 4. In order to obtain the figures for the "Total, all units" sixth subcolumn under each level, add together across the figures in the first five subcolumns under each level and for each area and place this sum in the appropriate box in the "Total, all units" column for each level.

Step 5. As in Step 4, the figures for the "Total, all levels, all days, all units" column are obtained by adding across for each area the

figures in the five subcolumns of "Total, all units, all levels, all days for each unit."

Step 6. Check your figures to be certain that for each level of the worktable, the figures in the "Total, all units" column and the figures in the "Total, all areas" row under "Total, all levels, all days for each unit" are the same figure.

Complete WORKTABLE 4 for each of the categories of personnel for each shift.

WORKTABLE 4 (Part 2).--Unit tally sheet of number of activities for all days on all units, by personnel observed and area and level of activity

HOSPITAL: Sunnyside

UNITS: 3E; 4D; 3S

PERSONNEL OBSERVED: RN

SHIFT: Morning 7 a.m.-3:30 p.m.

TYPE OF SERVICES: Medical,
Surgical, Medical-Surgical

DATES OF STUDY: November 1, 1954
December 1, 1954

Area of activity	Level of activity																			
	D					M					U					Total, all levels, all days				
	Unit				Total, all units	Unit				Total, all units	Unit				Total, all units	Unit				Total, all units
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11.....																24	32	7		63
12.....						2				2						4	12	4		20
13.....	1				1											32	34	47		113
14.....						1				1						37	57	60		154
21.....											2				2	1		4		7
22.....											1				1		1	10		11
23.....																2	4			6
24.....																		14		14
31.....																3	2			5
32.....	2		2		4	2	1			3						9	13	10		32
33.....																	2	2		4
01.....											16	3	2		21	16	3	2		21
02.....																				
Total, all areas	3		2		5	2	4			6	16	4	4		24	128	160	160		448

¹ Unit 3 is the unit illustrated in WORKTABLE 3.

WORKTABLE 5

Step 1. Identify this worktable so that the headings correspond with those on WORKTABLE 4.

Step 2. Transfer from WORKTABLE 4 the totals for all units studied from each "Level of activity" column and from the "Total, all levels, all days, all units" column to the

corresponding columns on WORKTABLE 5.

Step 3. Be sure that the total of the "Total, all levels, all days, all units" column last column and the total of the "Total, all areas, all days, all units" line bottom line agree.

Complete WORKTABLE 5 for each of the categories of personnel for each shift.

WORKTABLE 5. Summary sheet of the total number of activities for all days on all units, by personnel observed and area and level of activity

HOSPITAL: Seaside		UNITS: 3E, 4D; 3S.				PERSONNEL OBSERVED: HN		
SHIFT: Morning 7 a.m. - 3:30 p.m.		TYPE OF SERVICE: Medical-Surgical				DATES OF STUDY: November 25-29 December 2-6, 1963		
Level of activity—all days, all units								
Area of activity	A	N	C	H	D	M	U	Total, all levels all days all units
11.....	3	60						63
12.....	7	11				2		20
13.....	78	14	20		1			113
14.....	53	60	40			1		154
21.....	2	1					2	5
22.....	10						1	11
23.....	2	4						6
24.....	14							14
31.....				5				5
32.....	3		19	3	4	3		32
33.....	3		1					4
01.....							21	21
02.....								
Total, all areas, all days, all units..	175	150	80	8	5	6	24	448

APPENDIX G
ANALYTICAL TABLE

Preparing Analytical Tables

After the data have been tallied and totaled on the worksheets, the final step is the preparation of the five analytical tables. (To facilitate reproduction, copies of these tables are provided in Appendix A.) Separate tables are prepared for each unit and shift studied and a set of tables combining the data for all of the units is prepared also.

Computation of the complete set of five analytical tables for each unit and shift studied will be derived from WORKTABLE 3. The analytical tables for all units combined will be derived from WORKTABLE 5.

The following instructions are for the preparation of the set of analytical tables for each unit studied. The basic data come from WORKTABLE 3. *When preparing analytical tables for all units combined, the procedure is identical except for two points: substitute WORKTABLE 5 wherever the instructions mention WORKTABLE 3; and substitute FORM 3, which appears at the end of this chapter, wherever the instructions mention FORM 2.*

The steps involved in the preparation of the tables are:

1. Prepare skeleton outlines of the analytical tables. A complete set is comprised of five tables.

ANALYTICAL TABLE 1 shows the distribution of the actual amount of time each category of personnel spent on activities according to levels.

ANALYTICAL TABLE 1A shows time in hours and 1B in percent.

ANALYTICAL TABLE 2 shows the distribution of the actual amount of time each category of personnel spent on activities according to areas.

ANALYTICAL TABLE 2A shows time in hours and TABLE 2B percent of time.

ANALYTICAL TABLE 3 compares the average amount of nursing care time available

(per patient) from each category of bedside nursing personnel with the average amount of time spent on patient centered activities and all other activities.

ANALYTICAL TABLE 4 shows the average amount of time per patient each category of nursing personnel spent in the presence of the patient.

ANALYTICAL TABLE 5 shows the time distributed over a typical workweek (40 hours) for each category of personnel by each area and level of activity.

ANALYTICAL TABLE 5A shows time in percent and TABLE 5B in hours based on a 40-hour workweek.

NOTE: All tables express numbers and percentage to one decimal place. A double horizontal or vertical line running across or down a table indicates that the numbers below or to the right of the double line should not be added to other categories.

2. Compute each of the analytical tables by proceeding as follows:

ANALYTICAL TABLE 1A. Number of hours spent at different skill levels by nursing service staff.

Prepare one table for each unit and each shift studied.

Step 1: Identify the table by designating the service, shift, unit, and dates of study.

Step 2: Use WORKTABLE 3 to compute figures for ANALYTICAL TABLE 1A. For each category of personnel listed on the stub (personnel observed) use the corresponding WORKTABLE 3—Head Nurse WORKTABLE 3 for the Head Nurse line on ANALYTICAL TABLE 1A. Staff Nurse WORKTABLE 3 for the Staff Nurse line on ANALYTICAL TABLE 1A, etc. (See set of WORKTABLES 3 in Appendix C.)

Step 3. To convert observations to hours, divide by 4 the total number of observations entered for each level on WORKTABLE 3. (See "Total, all areas, all days" line found at bottom of WORKTABLE 3.)

NOTE: To facilitate this step, you may wish to use the table, Tool for Dividing by 4, in Appendix D.

Step 4: Enter the figures obtained in Step 3 in the appropriate spaces on ANALYTICAL TABLE 1A.

Step 5: Obtain the total for all levels for each category of personnel and enter the results in the column, "Total, all levels."

Step 6: Add together the figures for each level for all personnel except nursing students, and enter the figures on the line, "Total, all personnel."

Step 7. The total of the figures in the "Total, all personnel" line should equal the total of the figures in the "total, all levels" column. This total will appear in the box directly under "Total, all levels" and directly across from "Total, all personnel."

NOTE: Nursing students are excluded in obtaining the "Total, all personnel" line.

ANALYTICAL TABLE 1B. Percent of time spent at different skill levels by nursing service staff.

Prepare one table for each unit and each shift studied.

Step 1: Identify the table so that it corresponds with ANALYTICAL TABLE 1A.

Step 2: Use data on ANALYTICAL TABLE 1A to compute the figures for ANALYTICAL TABLE 1B.

WORKTABLE 3.—Summary sheet of the total number of activities for all days on a unit, by personnel observed and area and level of activity

HOSPITAL: Sunnyside		UNIT: 3 South		PERSONNEL OBSERVED: HN				
SHIFT: Morning 7 a.m.-3:30 p.m.		TYPE OF SERVICE: Medical-Surgical		DATES OF STUDY: December 2-6, 1963				
Level of activity—all days								
Area of activity	A ¹	N	C	H	D	M	U	Total, all levels all days ²
11.....	3	4						7
12.....	4							4
13.....	36	1	10					47
14.....	12	16	32					60
21.....	2						2	4
22.....	10							10
23.....								
24.....	14							14
31.....								
32.....			8		2			10
33.....	2							2
01.....							2	2
02.....								
Total, all areas, all days.....	83	21	50		2		4	160

¹ Note that information in this column is derived directly from the sixth subcolumn, WORKTABLE 2. Level "A": A similar transfer from WORKTABLE 2 is repeated for every level.

² Derived directly from the last column on WORKTABLE 2.

Step 3: For each category of personnel listed on the stub, convert the figures from hours to percent by dividing the number of hours for each level by the total number of hours for all levels for that personnel category.

Step 4: Multiply the quotient by 100, or move the decimal point 2 places to the right to convert to percent. Adjust the rounded figures, if necessary, so that the total equals 100.0 percent.

Step 5: Enter the figures obtained in Step 3 in the appropriate spaces on ANALYTICAL TABLE 1B.

Step 6: Repeat the process for each of the personnel categories listed.

Step 7: To compute the figures for the "Total, all personnel" line, follow the same procedure as above for each category of personnel.

EXAMPLE: For the Head Nurse category, divide the hours for each level (ANALYTICAL TABLE 1A—20.75, 5.25, 12.50, 0.50, and 1.00) by the total number of hours (40.00) and convert the figures to percent. Then add together the figures for all levels (ANALYTICAL TABLE 1B—52.0, 13.1, 31.2, 1.2, and 2.5) and enter the total (100.0) in the column, "Total, all levels."

ANALYTICAL TABLE 1A.—Number of hours spent at different skill levels by nursing service staff

SERVICE: Medical-Surgical

SHIFT: Morning 7 a.m.-3:30 p.m.

UNIT: 3 South

DATES OF STUDY: December 2-6, 1963

Personnel observed	Skill level of activity							
	Total, ¹ all levels	A	N	C	H	D	M	U
Total, all personnel.....	312.00	31.75	191.50	26.00	11.75	13.75	20.25	17.00
Head Nurse.....	40.00	20.75	5.25	12.50		0.50		1.00
Professional Staff Nurse.....	80.00	11.00	53.75	5.00	1.75	3.75	3.75	1.00
Practical Nurse.....	80.00		60.00	2.50	2.50	3.00	2.50	9.50
Nursing Aide.....	112.00		72.50	6.00	7.50	6.50	14.00	5.50
Clerk.....								
Professional nursing student.....								
Practical nursing student.....	40.00		26.50	2.50	2.50	2.50	4.00	2.00

¹ Number of hours nursing students spent on levels of activities are not included.

ANALYTICAL TABLE 1B.-Percent of time spent at different skill levels by nursing service staff

SERVICE Medical-Surgical

SHIFT Morning 7 a.m. - 3:30 p.m.

UNIT 3 South

DATES OF STUDY: December 2-6, 1963

Personnel observed	Total, all levels	Skill level of activity						
		A	N	C	H	D	M	U
Total, all personnel	100.0	10.2	61.4	8.3	3.8	4.4	6.5	5.4
Head Nurse	100.0	52.0	13.1	31.2		1.2		2.5
Professional Staff Nurse	100.0	13.8	67.2	6.2	2.2	4.7	4.7	1.2
Practical Nurse	100.0		75.0	3.1	3.1	3.8	3.1	11.9
Nursing Aide	100.0		64.7	5.4	6.7	5.8	12.5	4.9
Clerk								
Professional Nursing Student								
Practical Nursing Student	100.0		66.3	6.3	6.2	6.2	10.0	5.0

ANALYTICAL TABLE 2A. Number of hours spent in areas of activities by nursing service staff.

Prepare one table for *each unit* and *each shift* studied.

Step 1: Identify the table by designating the service, shift, unit, and study date.

Step 2: Use WORKTABLE 3 to compute figures for ANALYTICAL TABLE 2A. For each category of personnel included on the table under "Category of nursing personnel observed," be sure to use the corresponding WORKTABLE 3.

Step 3: To convert observations to hours, divide by 4 the total number of observations entered for each area on WORKTABLE 3. (Total number of observations per area is found in the last column under, "Total, all levels, all days.")

NOTE: To facilitate this step, you may wish to use the table, Tool for Dividing by 4, in Appendix D.

Step 4: Enter the figures obtained in Step 3 in the appropriate spaces on ANALYTICAL TABLE 2A.

Step 5: Compute the subtotals and the totals for each category of personnel by adding the appropriate figures upward in each column.

Step 6: To obtain the figures for the "Total, all personnel" column, add together the figures for all categories of personnel (except the nursing students) for each area of activity (row).

Step 7: Check the total and subtotal figures in the "Total, all personnel" column, by adding across the figures which constitute the total and subtotal and also adding up the figures which constitute the total and the same subtotal to make certain that both of these additions (up and across) are equal to the same number; namely, the number which appears on your table in the total or the subtotal space.

ANALYTICAL TABLE 2A Number of hours spent in areas of activities by nursing service staff

SERVICE: Medical Surgical

SHIFT: Morning 7 a.m. to 3:30 p.m.

UNIT: 4 South

DATES OF STUDY: December 2 to 6, 1963

Category of personnel observed

Area of activity	Total, all per- sonnel	Head nurse	Profes- sional nurse	Practi- cal nurse	Nursing aide	Student	
						Profes- sional nurse	Practi- cal nurse
Total, all areas	312.00	40.00	80.00	80.00	112.00		40.00
Total, patient centered	242.25	29.50	66.25	62.50	84.00		23.00
11 Giving care	91.00	1.75	17.25	30.00	42.00		12.50
12 Other direct activities	42.00	1.00	5.25	10.00	25.75		5.50
13 Exchange of information	41.00	11.75	13.50	7.50	8.25		1.00
14 Indirect care	68.25	15.00	30.25	15.00	8.00		4.00
Total, personnel cen- tered	18.50	7.00	6.00	2.50	3.00		10.00
21 Professional staff devel- opment	7.75	1.00	1.25	2.50	3.00		
22 Personnel, other	4.75	2.50	2.25				
23 Professional nursing stu- dent program							
24 Practical nursing student program	6.00	3.50	2.50				10.00
Total, unit centered	38.00	3.00	7.00	8.00	20.00		5.00
31 Environment	11.75		1.75	2.50	7.50		2.50
32 Supplies and equipment	23.00	2.50	5.00	5.50	10.00		2.50
33 Other unit activities	3.25	0.50	0.25		2.50		
Total, other centered	13.25	0.50	0.75	7.00	5.00		2.00
01 Personal	8.25	0.50	0.75	2.50	4.50		0.50
02 Standby	5.00			4.50	0.50		1.50

ANALYTICAL TABLE 2B Percent of time spent in areas of activities by nursing service staff.

Prepare one table for each unit and each shift studied.

Step 1: Identify the table so that it corresponds with ANALYTICAL TABLE 2A

Step 2: Use ANALYTICAL TABLE 2A to derive figures for ANALYTICAL TABLE 2B.

Step 3: For each category of personnel included on this table divide the hours in each area by the total hours for that personnel category found on the "Total, all areas" line.

Step 4: Multiply the quotient by 100, or move decimal point 2 places to the right to obtain percent. Adjust the rounded figures, if necessary, so that the total equals 100.0 percent.

Step 5: Enter the figures obtained in Step 4 in the spaces on ANALYTICAL TABLE 2B.

Step 6: Repeat the process for each of the

personnel categories listed.

Step 7: Compute subtotals and totals for each category of personnel by adding the appropriate figures in each column upward.

Step 8: To compute the figures for the "Total, all personnel" column, follow the same procedure as above for each category of personnel.

ANALYTICAL TABLE 2B.—Percent of time spent in areas of activities by nursing service staff

SERVICE: Medical-Surgical

SHIFT: Morning 7 a.m.-3:30 p.m.

UNIT: 3 South

DATES OF STUDY: December 2-6, 1963

Area of activity	Category of personnel observed						
	Total, all per- sonnel	Head nurse	Profes- sional nurse	Practi- cal nurse	Nursing aide	Student	
						Profes- sional nurse	Practi- cal nurse
Total, all areas.....	100.0	100.0	100.0	100.0	100.0	-----	100.0
Total, patient centered.....	77.6	73.8	82.8	78.1	75.0	-----	57.5
11 Giving care.....	29.2	4.4	21.5	37.5	37.5	-----	31.3
12 Other direct activities.....	13.4	2.5	6.6	12.5	23.0	-----	13.7
13 Exchange of information.....	13.1	29.4	16.9	9.4	7.4	-----	2.5
14 Indirect care.....	21.9	37.5	37.8	18.7	7.1	-----	10.0
Total, personnel cen- tered.....	5.9	17.5	7.5	3.4	2.7	-----	25.0
21 Professional staff develop- ment.....	2.5	2.5	1.6	3.1	2.7	-----	-----
22 Personnel: other.....	1.5	6.3	2.8	-----	-----	-----	-----
23 Professional nursing stu- dent program.....	-----	-----	-----	-----	-----	-----	-----
24 Practical nursing student program.....	1.9	8.7	3.1	-----	-----	-----	25.0
Total, unit centered.....	12.2	7.5	8.8	10.0	17.8	-----	12.6
31 Environment.....	3.8	-----	2.2	3.1	6.7	-----	6.3
32 Supplies and equipment.....	7.4	6.3	6.3	6.9	8.9	-----	6.3
33 Other unit activities.....	1.0	1.2	0.3	-----	2.2	-----	-----
Total, other centered.....	4.3	1.2	0.9	8.8	4.5	-----	4.9
01 Personal.....	2.7	1.2	0.9	3.1	4.0	-----	1.2
02 Standby.....	1.6	-----	-----	5.7	0.5	-----	3.7

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