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An Exploratory Study of Nursing Personnnel Needs in Seventh-day Adventist Hospitals in the Continental United States with a View to Educational Assessment and Planning

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AN EXPLORATORY STUDY OF NURSING PERSONNEL NEEDS IN SEVENTH DAY ADVENTIST HOSPITALS IN THE CONTINENTAL UNITED STATES WITH A VIEW TO EDUCATIONAL ASSESSMENT AND PLANNING

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Robert T. Andrews, Jr.

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ABSTRACT

AN EXPLORATORY STUDY OF NURSING PERSONNEL NEEDS IN SEVENTH-DAY ADVENTIST HOSPITALS IN THE CONTINENTAL UNTIED STATES WITH A VIEW TO EDUCATIONAL ASSESSMENT AND PLANNING

by

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ABSTRACT OF GRADUATE STUDENT RESEARCH

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Problem

The purpose of this study was to collect, organize, and analyze data from Seventh-day Adventist hospitals, nurses, SDA church leadership, and general statistics to provide nursing-personnel resource information for Adventist hospital and nursing education planning.

Some of the objectives of this study were to obtain a descriptive profile of nurses working in Adventist hospitals, to discover personnel selection patterns, turnover rates by position, annual job openings, numbers and percentages of Adventist-educated nurses,

and the supply and demand for nurses in different nursing and administrative positions.

Method

Population of this descriptive study included all nurses working in forty-seven hospitals in the continental United States.

To obtain information desired, two survey instruments were prepared and distributed, one to Adventist hospital administrators and the other to nurses working in Adventist hospitals. Relevant information was also gathered from the church leadership and from published nursing and hospital statistics on nursing and hospitals in the United States. The information obtained from the survey instruments was organized into frequency and percentage tables. Some of the information was converted into unit indices and position transitional probability tables.

Returns from the survey instruments represented 67% to 80% of the nursing population working in SDA hospitals in the continental United States.

Results

The results were related to each of the specific objectives of the study. Some of the information revealed that over 70% of the nurses are RNs, more than two-thirds are married, more than two-thirds are employed full-time, 37.5% are Seventh-day Adventists, and around 25% of the nurses educated in Adventist nursing programs go to work in SDA hospitals when they complete their nursing education. Gradu-

ates from SDA nursing schools work an average of five years in SDA hospitals and hospital replacements needed each year because of attrition are from 1,231 to 1,470. All things considered, SDA nursing schools are unable to supply the yearly demand for nursing personnel in SDA hospitals.

Conclusions

Among the conclusions reached was that it is not reasonable to expect that current Adventist nursing education programs will educate sufficient nurses in the future to satisfy the needs of Adventist hospitals as they currently exist in size and location. The rapid growth in Adventist hospitals has contributed to the problem of nurse staffing. It is questionable that an expansion of Adventist nursing-education programs would solve the problem. Other alternatives will need to be explored.

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CHAPTER I

INTRODUCTION

It has long been the expectation of the Seventh-day Adventist Church that nurses educated in Seventh-day Adventist* nursing programs develop a philosophy of nursing that includes not only a ministry to the body but a ministry to the mind and soul as well. They are expected to demonstrate the love, regard, and devotion to duty that Jesus Christ exhibited during His life on earth. They are encouraged to work in harmony with the total health team for the health of the total person and to do that conscientiously. The spiritual ministry of the nurse is spelled out specifically by Ellen G. White** in her book Ministry of Healing:

> Institutional Nursing
>
> In sanitariums and hospitals, where nurses are constantly associated with large numbers of sick people, it requires a decided effort to be always pleasant and cheerful, and to show thoughtful consideration in every word and act. In these institutions it is of the utmost importance that the nurses strive to do their work wisely and well. They need ever to remember that in the discharge of their daily duties, they are serving the Lord Christ.
>
> The sick need to have wise words spoken to them. Nurses should study the Bible daily, that they may be able to speak words that will enlighten and help the suffering. Angels of

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*Henceforth the name Seventh-day Adventist may be abbreviated to "Adventist" or "SDA."

**Ellen G. White was a pioneer and prophetess of the Seventh-day Adventist Church. Her writings are accepted by Adventists as inspired by God.

> God are in the rooms where these suffering ones are being ministered to, and the atmosphere surrounding the soul of the one giving treatment should be pure and fragrant. Physicians and nurses are to cherish the principles of Christ. In their lives His virtues are to be seen. Then, by what they do and say, they will draw the sick to the Saviour.
>
> *The Christian nurse, while administering treatment for the restoration of health, will pleasantly and successfully draw the mind of the patient to Christ, the healer of the soul as well as the body. The thoughts expressed, here a little and there a little, will have their influence. The older nurses should lose no favorable opportunity of calling the attention of the sick to Christ. They should be ever ready to blend spiritual healing with physical healing. (pp. 222-224)

As this quotation indicates, it is a major part of the philosophy and objectives of SDA nursing programs to teach Seventh-day Adventist nurses to minister to both the physical and spiritual needs of the patient. The nurses' orientation in both these areas makes their education and training "different."

Statement of the Problem

There has been a growing concern among SDA church leaders and hospital administrators that many Seventh-day Adventist operated hospitals have fewer Adventist nursing personnel than is desirable for meeting the spiritual objectives of the Church. In order to fulfill the evangelistic mission to which the Adventist Church and its institutions are dedicated--to restore man to the image of God physically, mentally, and spiritually--Adventist leaders believe that a greater number of SDA nurses (preferably those who have been educated in SDA nursing education programs) are needed in these hospitals. Because of this concern, it is felt that planning should be done which

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*Underscoring supplied

will provide for a more favorable nursing personnel balance and which will enable hospitals to maintain that balance. (See appendix page 176 for minutes of the Committee on Nursing Needs.)

Good planning necessarily requires a clear and complete body of information pertaining to the status quo in terms of all relevant factors (in this setting: number of nurses, training of personnel, training institutions, perceived caliber of the nurses, needs in terms of technical competence, personal qualities, "spiritual dimensions"). It also requires a careful interpretation and assessment of this information. The problem existed because no such information was available to interpret or assess.

Because the required body of information in these areas was not available, it was decided that a study be done to obtain such information. (See appendix page 176 for minutes of the Committee on Nursing Needs.)

Purpose

Planning for nursing personnel resources in Seventh-day Adventist hospitals involves more than simply meeting needs for professional and technical nurses. It involves meeting hospital needs for adequate numbers of nurses who understand and who are prepared to carry out the "total health" program advocated by the Church. This health program includes the healing and restoration of the whole person, spiritually, mentally, and physically. Programs in Adventist nursing-education institutions are unique in that they provide the theory and training for such a nursing

ministry. Therefore, nurses trained in Adventist nursing-education programs probably tend best to meet the nursing-personnel needs of these hospitals.

The purpose of this study was to collect, organize, and analyze data that will provide nursing-personnel resource information for hospital and nursing-education planning. This information should assist Church leaders to plan and to help Adventist hospitals meet their health ministry goals.

Objectives of Study

The purpose of this study is indicated by the following specific objectives:

(1) To describe nurses working in SDA hospitals in the continental U.S.A. in terms of: number, age, sex, education, marital status, religion, position (or type), and full- or part-time employment.

(2) To examine the influences of family and friends upon where nurses live.

(3) To discover personnel selection patterns that hospitals follow in fulfilling nursing vacancies.

(4) To estimate the expected number of years nurses educated in Adventist nursing schools will work in Adventist hospitals within the continental U.S.A.

(5) To obtain the expected turnover rate (by position) in SDA hospitals.

(6) To estimate, by position, annual job openings due to attrition.

(7) To obtain the approximate number of various types of Adventist nurses that hospital leaders consider desirable to meet hospital objectives: (a) presently, (b) two years from now, and (c) five years from now.

(8) To obtain the present ratio of Adventist to non-Adventist nursing personnel, by type.

(9) To obtain the number and percentage of Adventist and non-Adventist nurses, educated in SDA and non-SDA nursing programs, who are employed in North American Adventist hospitals.

(10) To obtain an estimate of the percentage of nurses, educated in Adventist nursing-education programs, who, upon completion of their education, are employed in Adventist hospitals.

(11) To examine the supply and demand for nurses to determine whether or not the denomination possesses the necessary educational facilities and programs to supply both the quantity of nurses and level of training for those nurses to meet the present and future needs of the denomination.

(12) To discover in what SDA hospitals graduates of SDA nursing programs are working.

(13) To examine questions arising from information generated by this study.

Assumptions

A basic assumption is that having more Adventist nurses who have been educated in SDA nursing-education programs working in Adventist hospitals will enable SDA hospitals to better meet their mission--to restore man to the image of God, physically, mentally,

and spiritually. Obviously the important factor is the nurses' commitment to the whole man, but such an intangible quality is difficult to evaluate and determine. It is recognized that many nurses, who have other church affiliations, may accept a similar philosophy. Yet in a stricter sense this commitment must be interpreted within the framework of the philosophical objectives of the Seventh-day Adventist Church. Commitment to the philosophy of the Seventh-day Adventist Church concerning the medical ministry of Adventist hospitals must serve as background to this assumption.

It is further assumed that this commitment, as defined above, will more likely result from exposure to Adventist nursing philosophy and training in an Adventist nursing institution.

A final assumption is that the nurses who responded to the questionnaire for nurses in SDA hospitals are representative of the nurses working in all Adventist hospitals in North America.

Limitations of the Study

1. This study is limited to SDA hospitals within the continental United States of America.

2. It exists as a single time period and is not an on-going, longitudinal study.

3. Because of the sectarian nature of this study and the unique philosophical premise, this study will not necessarily provide a basis for generalization to the North American nursing population. Its utilitarian features will be useful primarily to the Seventh-day Adventist Church's health care program.

Origin of the Study

This exploratory study is an outgrowth of an extensive information-gathering project sponsored by the General Conference of Seventh-day Adventists, through the Hewitt Research Center, under the direction of Dr. Robert Moon of Andrews University, Berrien Springs, Michigan. The larger project is a study of nursing personnel in the forty-nine Seventh-day Adventist hospitals in the continental U.S.A. This dissertation will concern itself with Adventist nursing personnel and will restrict its scope to the implications of the Adventist nursing-personnel situation to Adventist nursing education in North America.

Definition of Terms*

AD is an abbreviation for Associate Degree.

Adventist is an abbreviated form for Seventh-day Adventist.

BS is an abbreviation for Bachelor of Science Degree.

Church, when capitalized, is used to mean the Seventh-day Adventist Church.

Continental U.S.A. The information collected for this study came from hospitals within the continental United States of America. Projections from this study, however, include Hawaii and Canada, since the nearest source of SDA trained nurses is presently the continental U.S.A.**

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*Technical nursing terminology used primarily in the literature review chapter but not in the other chapters of this paper will be defined in the body of the paper where it appears.

**The hospital nursing program at Bronson Hospital in Canada has recently been discontinued.

Full-time equivalent personnel (FTE) are persons working full time, plus one-half of those working part time (Source Book, 1974, p. 138). No reference is made in this source to a ratio for "occasional personnel"; however, in this study, the occasional nurse is considered as working one-fourth full time.

Health Reform simply stated is a change from unhealthful-living habits to healthful-living habits.* Healthful-living habits as used in this sense are: (a) abstinence from those foods and drugs which are harmful to the body; (b) the judicious use of those foods which are health sustaining; and (c) sufficient physical exercise, fresh air, sunshine, rest, and pure water.

Needs as used in this study refer to nursing positions that nursing directors would like to fill with SDA nursing personnel.

Nursing Need Projection Survey Instrument is the short, information-gathering instrument sent to nursing directors and/or hospital administrators in Seventh-day Adventist hospitals in North America to collect information on projected hospital nursing-personnel needs, presently, two years from now, and five years from now.

Nursing Profile Survey is the instrument used to collect information for this study from nurses in Seventh-day Adventist hospitals in the continental U.S.A. The title "Hospital Nursing Resource Study" was printed on the survey form distributed to nurses because the survey was administered by hospital personnel.

Resources or Personnel Resources are terms used to refer to SDA nurses, or prospective nurses, that can or could fill the needs.

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*These principles are further amplified in the writings of E. G. White.

These resources may be further defined in terms of the specific training and experience required in each of the nursing categories.

RN is an abbreviation for Registered Nurse Degree.

SDA is an abbreviation for Seventh-day Adventist. Used as a noun, it may refer either to the church organization or an individual within that organization. Used as a modifier, it delimits its referent to that which is under the auspices of the Seventh-day Adventist church organization, for example, SDA nursing program.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to review the literature pertaining to nursing as a profession--not only Seventh-day Adventist nursing, but that in other contexts and settings. The materials will be treated in terms of three general categories and will provide helpful background information for the overall study. The three categories are: (1) the development, philosophy, and inspirational direction of Adventist nursing education; (2) background, practices, and trends in North American nursing and nursing education in general; and (3) selected statistics from general nursing data gathered in North American and from Adventist leadership. These statistics will serve for background, comparison, and general reference.

Part I

This section of the literature review will concern itself with the development, philosophy, and inspirational direction of Adventist nursing education.

The Development of Adventist Nursing Education

In the early stages of the Adventist health-care program, it became obvious that the Church needed to train its own nurses if it wished to have nurses perform their work in harmony with the princi-

ples held by the Church. As early as 1883 a training program was begun at the Battle Creek Sanitarium, Battle Creek, Michigan. Dr. Kate Lindsay was the founder and "mother" of this first school of nursing, which at the outset was only a three-month practical training program (Spalding, 1962, p. 329).

A short while later, however, it became necessary to expand the program to a two-year course of instruction, which included all the branches of practical and theoretical study necessary "to qualify competent persons to become first-class professional nurses" (Review and Herald, October 23, 1883). As a result of this new program the school of nursing in Battle Creek became better known and the number of applicants increased.

Later, in 1905, the Adventist Church developed an accredited medical school in Loma Linda, California--the College of Medical Evangelists (now called Loma Linda University, School of Medicine). A new school of nursing was created in association with the medical school. Since this early beginning, the Adventist nursing-school program has expanded so that at present there is a nursing-education program associated with each of the ten SDA institutions of higher learning in the United States. Statistics show that in 1975, 770 nurses were graduated from these ten nursing-education programs. Table 2.1 shows the breakdown of the number of students graduating from each of these Adventist colleges and universities along with the types of nursing programs they provide.

Table 2.1

NUMBER OF GRADUATES FROM NORTH AMERICAN SDA RN PROGRAMS IN 1975

School	BS-RN	BS*	AD-RN	Totals
Andrews University	47	8		55
Atlantic Union College			35	35
Columbia Union College	18	5		23
Kettering College			69	69
Loma Linda University	74	8	53	135
Oakwood College			25	25
Pacific Union College			103	103
Southern Missionary	52	11	96	159
Union College	57			57
Walla Walla College	92	17		109
TOTALS	340	49	381	770

*RN nurses who returned to school to obtain a BS Degree.

The Philosophy of the SDA Nursing Program

The philosophy of the SDA nursing program has been developed by the SDA Nursing Council under the auspices of the Department of Health, General Conference of Seventh-day Adventists. It appears below as developed and revised by this council (August 1973).

> The Seventh-day Adventist Church believes that man was made originally in the image of God. The entrance of sin into the world marred the image and resulted in a separation of man from his Maker, to his detriment physically, mentally, and spiritually. The church believes that the health ministry in the relief of suffering and the treatment of disease may contribute directly to the restoration of the whole man. The health ministry of the church--by education, by precept and example, and by making the laws of healthful living understood and accepted--can assist mankind in avoiding these illnesses caused by the violations of health principles. Thus the health ministry may contribute to the avoidance of illness, to the restoration of health here on earth, and to the reconciliation of man to God, which is a preparation for eternal life hereafter.

> Nursing is an integral part of the health ministry and includes the acceptance of the Bible and the writings of Ellen G. White as the foundation for the guiding principles of nursing.
>
> Nursing is a progressive science and art which functions to promote, maintain, and restore health as a part of the total ministry of the church.
>
> Nursing is a broad occupational field involving a multiplicity of functions appropriately performed by individuals with varying levels of preparation.

A unique feature of this philosophy is its concept of the nature of man and the emphasis upon the reconciliation of man to God, and man's preparation for eternal life. While other church-related hospitals have spiritual goals, none were found which had as part of a stated nursing philosophy the preparation of man for the life hereafter.

Inspirational Directions from the Writings of Mrs. E. G. White

The Adventist Church has been guided by the Bible and counsels from the writings of Ellen G. White, an Adventist prophetess who died in 1915. Concerning the purpose of Adventist health institutions Ellen White (1948) wrote:

> The Lord years ago gave me special light in regard to the establishment of a health institution where the sick could be treated on altogether different lines from those followed in any other institution in our world. It was to be founded and conducted upon Bible principles, as the Lord's instrumentality, and it was to be in His hands one of the most effective agencies for giving light to the world. It was God's purpose that it should stand forth with scientific ability, with moral and spiritual power, and as a faithful sentinel of reform in all its bearings. . . . (White, 1948, Testimonies for the Church, vol. VI, p. 223)
>
> As our work has extended and institutions have mutliplied, God's purpose in their establishment remains the same. (p. 224)

These quotations state the unique nature and principles that Adventist hospitals should possess. Adventist hospitals are to be founded upon Biblical principles. They are to be dispensers of spiritual light. They are not to emphasize the scientific aspects of health alone, but the moral, spiritual, and mental aspects as well.

Employees of Adventist Health Institutions

Mrs. White also says something about the character of employees who work in these hospitals. "All who should act a part in it were to be reformers, having respect to its principles, and heeding the light of health reform (healthful living) shining upon us as a people" (p. 223). Health reform, as used in the above context, has reference to the principles of healthful living as understood and taught by the Seventh-day Adventist Church. The important implication of this statement is, however, that all employees within Adventist hospitals should respect, heed, and promote the principles for which these institutions stand. With this thought in mind it is understandable that Mrs. White would advocate that nurses working in SDA health-care institutions should be firm in the faith (White, 1901, Ms. 104, pp. 5, 6).

Location of Nursing-Education Programs

> I have clear instruction that, wherever it is possible, schools should be established near to our sanitariums, that each institutions may be a help and strength to the other, . . . that they may become efficient mediums in training men and women for the work of ministering to suffering humanity. (White, 1948, Testimonies for the Church, vol. IX, p. 178)

In some cases this counsel has been followed, but not in all cases. It will be interesting to observe if proximity of Adventist hospitals to Adventist nursing-education institutions is directly related to the percentage of Adventist nurses working in these hospitals.

Kind of Teachers and Teaching to be Found in Adventist Nursing Schools

Kind of teachers needed:

> The best teachers are to be employed in the educational work, men and women who will walk circumspectly, depending wholly upon the Lord. If the teachers in medical lines will stand in their place in the fear of God, we shall see a good work done. With Christ as our educator, we may reach a high standard in the knowledge of the true science of healing. (White, 1948, Testimonies for the Church, vol. IX, p. 177)

What the students are to be taught:

> (1) That which is of the most importance is that the students be taught how to represent aright the principles of health reform. Teach them to pursue this line of study faithfully combined with other essential lines of education. (p. 177)
>
> (2) Let the students follow closely the examples of the One who purchased the human race with the costly price of His own life. Let them appeal to the Saviour, and depend upon Him as the One who heals all manner of diseases. (p. 177)
>
> (3) The Lord would have the workers make special efforts to point the sick and suffering to the great Physician who made the human body. (p. 178)
>
> (4) Institutions that send forth workers (medical and nursing) who are able to give a reason for their faith, and who have a faith that works by love and purifies the soul, are of great value. (p. 178)
>
> (5) The nurses who are trained in our institutions are to be fitted up to go out as medical missionary evangelists, uniting the ministry of the word with that of physical healing. (p. 171)

> (6) . . . every nurse, every helper, who has anything to do in God's service, must aim at perfection. Nothing short of this standard is pleasing to Him who has called us to be colaborers with Him. . . . Theirs is a most exacting calling, and their preparation must be painstaking and thorough. (White, Counsels to Teachers, 470)

From these statements it becomes clear that Adventist nursing education has a unique character. Essential lines of education are to be taught, and the prospective nurse is to pursue them diligently and thoroughly. In addition to the basic essential of a nursing program, principles of health reform (healthful living as regarded by the Adventist Church) and spiritual ministry are to be part of the curriculum. These last two aspects are not appendages but integral parts of the total education and training of the Adventist nurse.

Part II

This section of the literature review will concern itself with background, practices, and trends in North American nursing and nursing education in general.

The Nurse

Types of Licensed Nurses

Before exploring the nature of nursing practice it might be well first to define certain basic categories of nurses. The American Nurses' Association (ANA) defines a nurse as "any person prepared and authorized by law to practice nursing and, therefore deemed competent to render safe nursing care" (Am. Journal of Nursing, Dec. 1965). This definition points out two very important qualifications for nursing practice. (1) A person must be permitted

(authorized) to practice nursing by the state (law), and (2) she/he must be evaluated (deemed competent) by some system that will assure that she/he is capable to serve safely in the position of a nurse.

In order to satisfy the first of these two requirements, state governments authorize nurses to practice nursing by licensing them and, in connection with this authorization, set forth the limits of their practice. Second, in order to assure safe nursing care, state governments indicate acceptable standards or levels of education and examine the nursing candidate before licensing her/him to practice nursing.

The state of Michigan, in a pamphlet entitled Michigan Statute and General Rules Relating to the Practice of Nursing, defines the work of a "Registered Nurse" as follows:

> (i) Act requiring substantial specialized judgment and skill founded on formal education which provides knowledge and application of the principles of nursing based on biological, physical, and social sciences, in the care, counsel, treatment, or observation of the ill, injured or infirm, or for the maintenance of the health or the prevention of illness of others.
>
> (ii) Of the supervising, directing, or teaching of less skilled personnel in the carrying out of delegated nursing activities.

The work of a "Practical Nurse" is further defined in the same source as

> . . . acts in the care, treatment, or observation of the ill, injured, or infirm, or for the maintenance of the health or the prevention of illness of others, performed in accordance with education and preparation which has provided the practitioner with a lesser degree of specialized skill, knowledge, education, or training than that required to practice as a registered nurse. A licensed practical nurse shall perform such acts only under the direction of a registered nurse, licensed physician, or dentist.

These definitions indicate the difference between the two nursing categories. The Registered Nurse, as stated above, acquires a greater degree of specialized skill, knowledge, and education than the Practical Nurse; therefore, the Practical Nurse works in a subordinate relationship to the Registered Nurse wherever Registered Nurses are employed.

Nurse Categorical Trends

As stated earlier, the above nurse distinctions (Registered Nurse and Practical Nurse) are traditional distinctions. In 1965, however, the American Nurses' Association (ANA) adopted a position paper (Am. Journal of Nursing, Dec. 1965) which subdivided nurses into two "new" categories--"Professional Nurses" and "Technical Nurses."* This comparatively new position on nurse classification has resulted in a trend toward a general upgrading of the nursing profession. It might be well at this point to see what prompted this development.

Implications of the ANA 1965 Position Paper for the Nurse

Within the nursing profession there has been considerable confusion over the label "Registered Nurse." This confusion resulted from the fact that a student might become a Registered Nurse through any one of four distinctly different educational programs: (1) a diploma program which provided two to three years of theory and practice in a hospital, with all teaching and training on the hospital grounds; (2) a diploma program which provided for the nurse to

*Definitions will be presented later.

spend one year at a college or university and an additional year in training at an associate hospital; (3) an associate degree program which provided for the nurse to receive two years of theoretical training on a junior college level with some hospital experience being obtained within that program; and (4) a baccalaureate program which provided for the nurse to receive four to five years of education in a college setting augmented by a variety of experiences in hospital and clinical settings. In all four instances the nurse received the status of a Registered Nurse, although the degree, extent, and type of education could differ considerably. Even within each of the four educational systems mentioned above there was considerable variation.

Thus in 1965 the ANA took the position that "the education of all those who are licensed to practice nursing should take place in institutions of higher learning" (p. 107). This resulted in a phasing out of the hospital-based nursing program for Registered Nurses where total education and training take place on hospital grounds. This ANA position on education was intended to provide a more uniform educational environment for licensed nurses and to place nursing education on a level with other professional disciplines.

The Professional Nurse

The ANA (1965) also took the position that "minimum preparation for beginning professional nursing practice . . . should be baccalaureate degree education in nursing." All other nursing or attendant persons should be recognized as "supporting personnel" (p. 107).

The emphasis that the ANA has given to the baccalaureate program for professional nursing status has resulted in an increased number of baccalaureate programs in nursing and a corresponding growth in the number of graduates of these programs. There is also a growing number of Registered Nurses returning to college to fulfill the requirements for the baccalaureate degree.

The increased emphasis upon higher education is due to the ever-broadening expectations and functions, which may be summarized by the words "care, cure, and coordination," of the professional nurse (p. 107). Below is a list of professional nursing responsibilities culled from the ANA position paper.

1. Promote health and healing
2. Assist patients in understanding their health problems
3. Provide patient comfort and support
4. Administer medication and treatment
5. Determine patient care needs
6. Use judicious hospital and other resources to help the patient toward recovery
7. Participate in community health programs
8. Participate in preventive and maintenance health programs
9. Coordinate and synchronize medical and other professional and technical services as they affect patients
10. Supervise, teach, and direct all those who give nursing care
11. Evaluate nursing practice itself

12. Participate in research that adds to the body of general knowledge
13. Transmit the growing body of knowledge in nursing to those within and outside the profession

All of the above responsibilities are a part of the basic functions of nursing--care, cure, and coordination. The author of this paper, however, observes a fourteenth function which may be implicitly understood, but which he feels should be explicitly stated--the function of communication. In transmitting health information to the public and to the staff both as teacher and promoter, the function of the professional nurse as a communicator is a clear and vital area for concern.

The current expectations of a baccalaureate graduate might be briefly summarized in this definition of nursing practice developed by a Special Committee of the New York State Nurses Association, 1970, and cited in the NLN's (National League for Nursing) Professional Nursing Practice, 1973:

> The practice of the profession of nursing as a registered professional nurse is defined as diagnosing and treating human responses to actual or potential health problems through such services as casefinding, health teaching, health counseling, and provision of care supportive to or restorative of life and well-being, and executing medical regimens prescribed by a licensed or otherwise legally authorized physician or dentist. (p. 50)

The Technical Nurse

The traditional counterpart of the Technical Nurse is the Practical Nurse. Traditionally the Practical Nurse has worked in a subordinate relationship to the Registered Nurse. Until recently

the Practical Nurse has received most, if not all, of her/his training in a hospital and, after successfully passing a state board examination, has received a license as an "LPN." The ANA position (Am. Journal of Nursing, Dec. 1965) would phase out this level of licensing in preference to the licensing of a nurse designated as a "Technical Nurse." "The minimum preparation for beginning technical nursing practice . . . should be associate degree education in nursing (two years of college)" (p. 108).

The role of the Technical Nurse, however, is not one of subservience to the Professional Nurse. It is a supporting role but not a subservient role. The education of the Technical Nurse is technically oriented and scientifically based, whereas the education of the Registered Nurse includes more knowledge of evolving theory. Thus the practice of the Technical Nurse is "limited in scope, yet unlimited in depth" (p. 108). According to ANA:

> Technical nursing practice is carrying out nursing measures as well as medically delegated techniques with a high degree of skill, using principles from an ever-expanding body of science. It is understanding the physics of machines as well as the physiologic reactions of patients. It is using all treatment modalities with knowledge and precision.
>
> Technical nursing practice is evaluating patients' immediate physical and emotional reactions to therapy and taking measures to alleviate distress. It is knowing when to act and when to seek more expert guidance.
>
> Technical nursing practice involves working with professional nurse practitioners and others in planning the day-to-day care of patients. It is supervising other workers in the technical aspects of care. (p. 108)

Paraprofessionals

In addition to the licensed nurse practitioners there are the paraprofessionals, or nonlicensed personnel. These are usually designated as assistants, attendants, nurses' aides, and orderlies. Other designations may also be used and it may well be that within a few years the LPN/LVN group will also be included in this category. In fact, some writers already refer to LPNs as paraprofessionals (Guinee, 1970, p. 7).

Role of the Nurse

There is a difference of opinion among professionals and nonprofessionals within and without the nursing arena concerning the role of the nurse. Some individuals hold to the more traditional role, while others are convinced that the nurse must broaden her/his horizons, changing and expanding her/his duties and functions as the health-care needs change within the society. Obviously the role of the nurse is not static; but like all other social phenomena it is dynamic, expanding, and changing. Developments in modern science, technology, and even social and health legislation affect and alter the role of the nurse. Nursing is seen as a major community health program, "providing a necessary and highly personal service for individuals in need of health care" (Notter & Spaulding, 1976, p. 28) and therefore adjusting its needs to that changing community.

Articulating the Role of the Nurse

Since the 1965 ANA position paper on nursing, nothing has affected the field of nursing as much as have the reports on the

planning and implementation efforts of the National Commission for the Study of Nursing and Nursing Education. This National Commission, set up by the ANA and NLN (National League for Nursing) and funded heavily by the Kellogg Foundation, firstly developed certain recommendations published in the book An Abstract for Action. Then it set out to test some of the major recommendations and published these test results in a succeeding report entitled From Abstract into Action. One of the recommendations proposed in An Abstract for Action was a "development and expansion of nursing practice together with a reexamination of role relationships among the health professions" (From Abstract into Action, p. 3). This study resulted in an attempt to articulate and clarify the nursing role and the relationship of that role to the medical profession. The results of this effort are reported in From Abstract into Action.

Episodic and Distributive Nursing Practice

Traditionally nursing practice has primarily emphasized the treatment of grave illness, injury, or disease, although it has for a long while included "elements of health maintenance, disease prevention, and nonacute patient care" (From Abstract into Action, p. 105).

Yet in spite of this "acute" care emphasis, "fewer than 12% of actual health care problems are those related to cure" (p. 105). Eighty-eight percent of the health difficulties with which people are confronted have to do with care--"education for health, periodic examination, dietary advice, long-term, nonacute regimes" (p. 105). Yet, ironically, the greatest resources and

the largest institutional health thrust are directed at the "cure dimension" of the problem. The emphasis is on cure, not on care, maintenance, and prevention.

In order to clarify this problem and to establish a conceptual framework for its consideration, the National Commission "urged that two companion patterns of nursing practice be established (p. 106):

> 1. One career (episodic) would emphasize practice that is essentially curative and restorative, generally acute or chronic in nature, and most frequently provided in the setting of the hospital and the in-patient facility.
>
> 2. The second career pattern (distributive) would emphasize the nursing practice that is designed essentially for health maintenance and disease prevention, generally continuous in nature, seldom acute, and most frequently operative in the community or in newly developing institutional settings. (From Abstract into Action, p. 106)

These terms "episodic" and "distributive" could be important terms for describing the nurse-role patterns in all future literature.

To illustrate the imbalance in the use of nurse resources, the National Commission used the following diagram (p. 106).

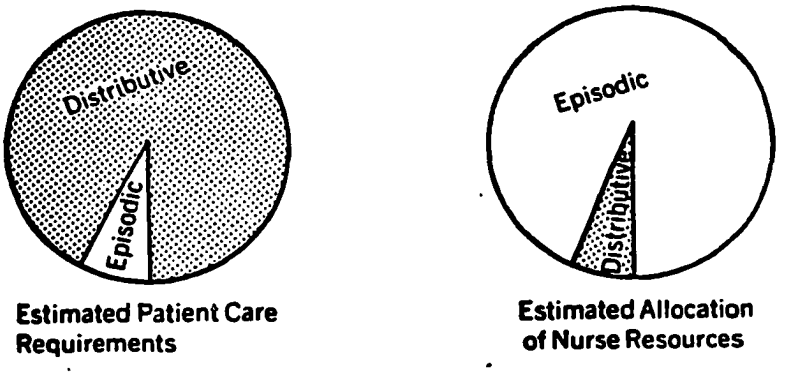

Figure 1. Diagrammatic comparison of consumer needs and nurse-resource allocation for episodic and distributive care.

The Three Dimensions of Nursing Practice

The three dimensions of nursing practice as conceptualized by the National Commission have to do with (1) nursing behaviors, (2) patient conditions, and (3) environmental setting.

Nursing behaviors include "assessment or diagnosis, actual intervention or treatment, and instruction of the consumer, his family, or other health workers in the continuation of a determined regimen for care" (From Abstract into Action, p. 108). These three aspects of nursing care--assessment, intervention, and instruction--summarize the major roles or functions of the nurse in terms of behavior.

The second dimension--patient condition--characterizes the health condition of the patient who is diagnosed, treated, or instructed by the nurse. The patient may be in any point on a continuum from well to unwell. However, for convenience the National Commission chose to speak of the condition of the patient as well, mildly well, unwell.

The third dimension is the environmental setting, which includes the in-patient center, the out-patient facility, and the community and home. The in-patient facility is usually the hospital. The out-patient facility may include the neighborhood center, community clinic, and the health-maintenance organization. The community/home setting includes situations as the office, the factory, the school, and many others.

Below is a "cubistic" interactive model illustrating how these dimensions interact to produce the basic functions, conditions, and settings of the nurse (p. 108).

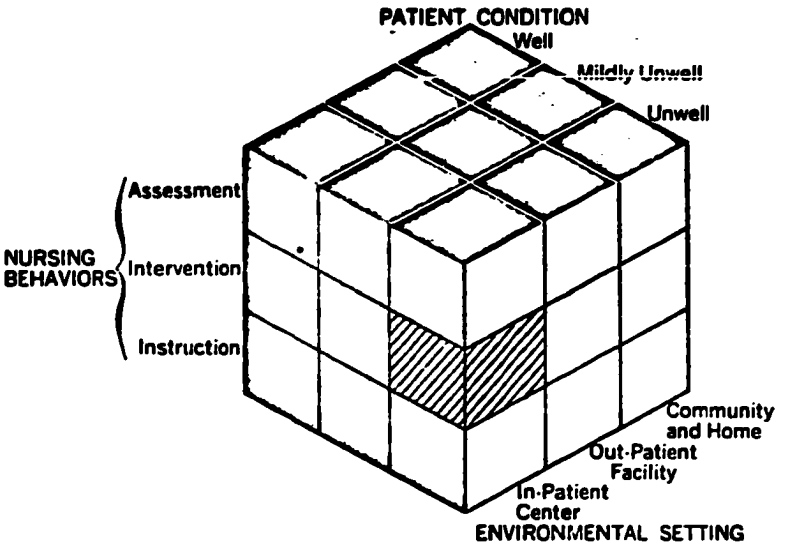

Figure 2. Interactive model of three variables in nursing practice.

As the National Commission observes, it becomes clear how disproportionate is the majority of health-care thrust when it is concentrated in the section of the episodic. (The lined section of this cube illustrates this nursing setting.) There is a need for further study on ways to meet the full range of consumer needs within the health-care system. "It becomes apparent that nursing roles must broaden and more attention must be given to care along with, though not in place of, cure" (p. 110).

New Doctor-Nurse-Patient Relationships

Until recently it was tacitly understood and explicitly stated in nurse licensing regulations that the nurse is to act under the direction of a physician. Traditionally nursing has been subordinated to the medical function of the physician. There is a

strong movement afoot, however, to change this relationship so that the role and functions of the nurse are clearly defined and she/he acts with full authority within those defined limits. The relationship with the physician, then, becomes one of equality; with doctor, nurse, and hospital administration working as a team, consulting with one another, and fulfilling their roles in the best interest of the patient. It is urged that physician and nurse be seen as partners in an expanded care team. Under this newer nurse-role concept the nurse takes "responsibility for decision making and care provisions in ways that differ significantly from the traditional boundaries of nursing practice" (From Abstract into Action, p. 113).

Henderson redefines the role of the future nurse in this way:

> The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will, or knowledge. And to do this in such a way as to help him gain independence as rapidly as possible. This aspect of her work, this part of her function, she initiates and controls; of this she is master. In addition she helps the patient carry out the therapeutic plan as initiated by the physician. (Am. Journal of Nursing, Aug. 1964, p. 63)

In the health care suggested by this author, the patient also becomes a part of the health-care team, cooperating with the nurse and doctor in the restoration and maintenance of health.

Primary Health Care

Before considering the extended or expanded* roles of the nurse, it might be well to first consider the nurse and primary

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*"Extended" or "expanded" are words that are used interchangeably in this context.

health care, since primary health care is intimately connected with the concept of extended role. Primary in this context means "first" and has to do with "A person's first contact in any given episode of illness within the health care system that leads to a decision of what must be done to help solve his problem" (Extending the Scope of Nursing Practice, p. 8).

Nurses with clinical education and experience are considered qualified to assume responsibility for primary care as defined above. These nurses are frequently referred to as "Nurse Practitioners," a designation which is still loosely used. As Mary Kohnke says:

> In one place nurse practitioner means a primary health care practitioner who gives the patient most of his care; in another it may mean the first person the patient sees. In one place the practitioner may be a master's graduate and in the other she may have had a three-week program. The word appears and reappears, even though the meaning isn't consistent. (Am. Journal of Nursing, 1974, p. 2189)

Although the "nurse practitioner" movement is about twelve years old (p. 2188), it seems to be a role still evolving.

Primary care, however, because it is concerned with both acute care and the maintenance of health, is a concept applicable both to episodic and distributive nursing. Generally, it is associated with episodic or "acute" care situations, but it does not need to be restricted to this context and should not be, according to the National Commission.

Extended Role of the Nurse

The ANA in a directory of programs entitled Preparing Registered Nurses for Expanded Roles (1973-74, p. v) describes the

nature and scope of the expanded (or extended) role of professional nurse practitioners:

> Today's nurse, operating in an expanding role as a professional nurse practitioner, provides direct care to individuals, families, and other groups in a variety of settings--homes, institutions, offices, industries, schools, and other community agencies. The nurse practitioner engages in independent decision-making about the nursing care needs of clients and collaborates with other health professionals, such as the physician, social worker, and nutritionist in making decisions about other health care needs. The nurse working in an expanding role practices in primary, acute and chronic health care settings. As a member of the health care team, the nurse practitioner plans and institutes health care programs.
>
> As the practice of nursing changes, nurses are continuing to improve and demonstrate their capabilities. The concept of registered nurse practitioners working in an expanding role is supported by the American Nurses' Association and by the Department of Health, Education, and Welfare (p. v).

Extended role of the nurse in episodic nursing. In order to set forth more explicitly the extended role of the nurse in an episodic setting, the Secretary of Health, Education, and Welfare Committee (federal government) delineated five descriptive activities. These activities are stated in the form of objectives:

> 1. Secure and record a health developmental history and make a critical evaluation of such records.
>
> 2. Perform basic physical and psychological assessments and translate the findings into appropriate nursing activities.
>
> 3. Discriminate between normal and abnormal findings on physical and psychosocial assessments.
>
> 4. Make prospective decisions about treatment in collaboration with physicians.
>
> 5. Initiate action and treatments within protocols developed jointly by medical and nursing personnel--such as adjusting medication, ordering and interpreting laboratory tests, and prescribing certain rehabilitative and restorative measures. (From Abstract into Action, p. 114)

A careful look at these nursing activities reveals the responsibilities and authority that will be resting in the hands of highly educated and skilled professional nurses of the future. Such activities as evaluation and prescribing restorative measures are not functions of the traditional nurse. The traditional nurse could only carry out orders; the major decision making was the prerogative of the physician.

Extended role of the nurse in distributive nursing. The extended role of the nurse in a distributive setting may be best understood by a situational illustration:

> The Dr. Martin Luther King, Jr. Health Center seeks to provide health care to an entire community of 12,000 families, a total population of perhaps 45,000 people. It emphasizes preventive care and health maintenance, using ambulatory care in clinic and home whenever possible. Acute care, in-patient facilities are available, of course, on need.
>
> The heart of the center operation lies in the development of eight Primary Health Care Teams designed to serve a broad range of client health needs. Each team serves approximately 1500 families, and consists of two public health nurses, six family health workers, one internist, and one pediatrician. Moreover, each team has ready access to: a full-time dentist; a part-time psychiatrist; a midwife; a health advocate (an individual trained by lawyers, educators, and community organizers to serve as an ombudsman); and the many specialty services and clinics at Montefiore Hospital.
>
> Within the team, the physicians emphasize curative treatment, the nurses concentrate on health maintenance and disease prevention, and the family health worker is involved with the social health issues such as welfare payments, school dropouts, housing adequacy, etc. The team meets weekly for an extended lunch to discuss problems, initiate planning, and expand the cooperative aspects of the work.
>
> Each of the nurse practitioners is viewed as the team coordinator for care and treatment of 750 families. In this capacity she formulates family care plans, performs routine care, and makes necessary referrals. She supervises the

> work of three family health workers, interacts closely with the physician team members, and has contact with the back-up health practitioners. (As cited in From Abstract into Action, p. 116)

As part of a team of professionals and experts, the professional nurse in a distributive setting can serve to provide better health care and health standards in a society that is turning its attention to alleviating the distress and misery found in the rural, ghetto, and poverty-stricken areas of the country. The nursing field is in a position to provide both the quality and quantity of health care that these needy areas demand.

The Clinical Nurse-Specialist

The clinical nurse-specialist is the nurse who through experience as a professional nurse and additional (postgraduate) education up to and including the master's degree level, qualifies herself/himself as a specialist in some area or setting within the wide range of nursing opportunities.

A good example of a clinical nurse-specialist is the Clinical Liaison Nurse.

> In order to help provide comprehensive, integrated, and uninterrupted care to the long-term patients of Rancho Los Amigos, a new category of practitioner, the Liaison Nurse, was developed. This person is selected on the basis of advanced study in a clinical specialty combined with the experience of community health practice. Moreover, the individual must have the ability to be comfortable implementing the care ordered by a physician while recognizing and practicing the independent functions of nursing at a high level of expertise.
>
> The Liaison Nurse has no shift assignment, and no restriction on area of activity within the hospital or the community. Her professional function is to follow the patient as needed from service to service, and into the home or residence, to assure a continuity of care and the management of the prescribed regimen.

> To carry out this responsibility, the Liaison Nurse is involved in Admission Conference and Care Planning Meetings with the staff nurses to develop a sound assessment of patient needs and a plan for nursing care. The Liaison Nurse engages in actual patient treatment, continuing assessment, and progress evaluation. Also, it is expected that this nurse will serve as a clinical role model and instructor for the nurses, occupational and pnysical therapists, and other members of the care team. Teaching also extends to patient self-care and instruction for family members, friends, or community health workers involved in patient assistance.
>
> Discharge planning is another function of the Liaison Nurse role. This normally entails an inspection of the facilities in which the patient will be housed and the recommendation of needed equipment. Recovery and/or adjustment programs are determined. This is followed, as needed, by visits, telephone conferencing, and continuing clinic liaison to monitor progress and patient condition. (As cited in From Abstract into Action, pp. 114-15)

This, of course, is only one of many examples that could be given of the types of things clinical nurse-specialists may do, but it does suggest the range and depth of her/his work.

The Functional Specialist

The functional specialist is the professional nurse-specialist whose role involves functions other than nursing per se. Those major functions include teaching, administrating, supervising, consulting, and researching. These nurses contribute to the delivery of health services although they are not directly involved in patient care.

Patterns of Nursing Care

In addition to considering the types of nurses, nurse functions, and nurse services, consideration should be given to patterns of nursing care--the methods used to assign patient care in a hospi-

tal or related institution. There are four basic patterns of nursing care that hospitals have practiced: the case method, the functional method, the team method, and the primary method. Careful research has been done and is still being done to discover the strengths and weaknesses of each of these nursing care patterns.

Case Method

The case method, one of the oldest methods, is the assigning of the total care of the patient to one nurse. This differs from private duty nursing in that the case method nurse is responsible for several patients (or cases) at one time, whereas the private duty nurse is responsible for only one patient at a time. As hospitals began to grow in size and number of beds, the nursing population failed to grow proportionately; consequently, this style of nursing care, though very satisfactory from the standpoint of the patients, began to overload the nurses. This condition ultimately resulted in inadequate care of the patients' needs and excessive work for the nurses.

Functional Method

Nurse and patient discontent with understaffed hospitals led some hospitals to try a new pattern of nursing care commonly referred to as the functional pattern. With the functional pattern, emphasis is placed upon getting the job done. This results in an assembly-line approach, one nurse assuming responsibility for certain functions and another nurse for certain other functions. One nurse might give medication, another take temperatures, another

change dressings, and so forth. Consequently, nursing began to lose its personal touch. To the nurses, patients were more like impersonal objects with problems, and to the patients, nurses were more like machines. A nurse would have so many patients to cover with this system that she/he rarely had the time or desire to get to know the patients.

Nursing Team Method

A popular patient-care pattern that has been practiced for several years, and which has proven to be a much more satisfactory pattern than the functional method, is the nursing-team method. In this approach,

> the team leader, a registered nurse, assigns duties to the members of the team at the beginning of the shift, plans and coordinates the care of each patient, and serves continuously as a resource person for the team members. The team members may be nursing assistants or licensed practical nurses. (Daeffler, 1975, p. 21)

The team leader is considered the "patient's nurse," and she takes charge when direct care is needed. Although this method for handling patient care is superior to the functional method, it is still weak in the area of nurse-patient relationship, and it has not worked satisfactorily in many hospitals.

Primary Nursing Method

The concept of primary nursing originated at the University of Minnesota hospitals. Daeffler (1975) describes this method:

> In this scheme there are two kinds of personnel: Primary nurses and associate nurses. Each nurse is the primary nurse when she is responsible for the care of patients throughout their stay in the hospital; she is an associate nurse whenever she cares for a patient whose primary nurse

> is off duty. The primary nurse, usually a registered nurse, always does an admission interview with these primary patients, formulates a nursing diagnoses, and issues nursing orders. Each primary nurse coordinates activities with other departments, physicians, and the patients' families, so that the head nurse is free to take care of maintenance of the system and teaching. Nurses' aides may assist the nurses in patient care, but most of their time is taken up with cleaning, dietary tasks, and transportation. (pp. 21, 22)

The advantages of this pattern of nursing care over both the functional and team methods are clearly significant. The most important advantage, of course, is the increased contact between the patient and one professional nurse. This provides for a positive and helpful relationship along with continuity of care. From the standpoint of the Adventist nurse it provides that kind of personal contact which enables the nurse to fulfill her total role--ministering to the physical, mental, and spiritual needs of the patient. Neither the team-nursing pattern nor the functional-nursing pattern could provide that close contact between patient and nurse, enabling the nurse to provide the full range of nursing functions in harmony with the basic philosophy and objectives of the Adventist hospital. This nursing pattern is very close to the early case method, differing only in that the professional nurse is relieved of many nonnursing responsibilities by paraprofessionals, allowing her more time for nursing care. The case method did not have this advantage.

The Environment of the Nurse

The environment of the nurse involves those occupational settings in which a nurse might possibly work. It suggests the

diversity of location, mobility, and involvement in which a nurse practitioner might pursue her/his profession or function.

Three Basic Nurse Occupational Settings

Traditionally there have been three nursing occupational settings: private-duty practice, public health nursing, and institutional nursing. Although nursing practice tends to center in institutional nursing at the present time, private-duty practice is considered to be the oldest field of nursing.

Private-duty nursing. Private-duty nursing might be traced back to the mother and then to the slave. The slave often took care of the sick and invalid, performing the menial responsibilities and acting upon orders from an attending physician or the family. With the demise of slavery, private-duty nursing was performed by the hired nurse who had obtained some knowledge and interest from previous experience or some preservice hospital training. At first the private-duty nurse was found working only in private homes, but later her work was needed in the hospital as well. This type of nurse was gradually absorbed into the hospital nursing staff itself as hospital personnel needs began to expand.

Nursing, however, has changed, and this change has brought about a decreasing need for the traditional private-duty nurse. As the general-nursing routine developed in the hospital, private-duty nurses began to work in three-period shifts, making private care expensive. Then there was the introduction of intensive-care units, coronary-care units, and recovery rooms staffed with specialists

in emergency care. This development reduced the need for private-duty care.

Another causative factor was that health-care institutions began providing fringe benefits to its regular, full-time employees (retirement, health coverage, vacations with pay, etc.) for which the private-duty nurse did not qualify. This double squeeze reduced drastically the numbers of nurses specializing in private-nursing care.

However, private-duty nursing, though steadily declining, still has an appeal for some nurses. The mother with nursing education and experience whose family life restricts her working hours may find private-duty nursing a convenient way to make extra money for family needs. There are also those nurses who, because they are continuing their education, are available to work only at certain hours and who find private-duty nursing convenient. Neither should it be overlooked that private-duty nursing has a strong appeal for nurses who have a preference for individual, personal nursing care. Such nurses tend either to be general practice nurses, geriatric specialists, or medical-surgical specialists.

Public health nursing. Public health nursing was earlier connected with what was known as visiting nursing. The visiting nurse would call at the homes of the sick and provide necessary nursing services. A type of visiting nurse was the "missionary nurse." Mrs. E. G. White (1951) in her writings gives some counsel on the practice of missionary nursing. "The nurses who are trained in our institutions are to be fitted up to go out as medical missionary evangelists, uniting the ministry of the word with that

of physical healing" (p. 396). Although in several places in her writings Mrs. White gives similar counsel, Adventist nursing has not generally followed this direction. It is primarily and almost totally institutional. Other religious organizations, however, (e.g. Catholics and the Salvation Army) and community interest groups have become involved in this type of community health service to a lesser or greater degree.

Public health nursing has also been known as "community health nursing," a concept that has taken on new dimensions and has developed into an expanding field of public health services. Much of this new interest has been stimulated by health legislation for the aged, the poor, and the handicapped. Governments on the state and national levels have provided funds for community projects that would offer medical assistance to these groups.

Out of this climate have arisen the health maintenance organizations (HMO). Although this new development might not properly be classified with public health agencies, it is a public health service in that its emphasis is upon the maintenance of health. Such programs as weight control, no-smoking clinics, and so forth, fall into this category. As new legislation on health continues to be urged, no doubt public health nursing programs will increase. Notter and Spalding (1976) aptly summarize this point in this way:

> The focus on nursing of the sick at home, on use of neighborhood clinics, and on the growing use of extended care facilities, together with the changing and expanding roles of the nurse in public health, including the roles of public health nurse practitioner and family nurse practitioner, makes community nursing an exciting field. Many nurses find public health nursing a particularly satisfying

> kind of work because of the opportunity to work with families, as well as with patients, and the challenge of community health work. (p. 131)

Institutional nursing. Whereas "institutional nursing" has most frequently been associated solely with hospital care, in recent years the concept has been broadened to include nursing homes and other extended-care centers. In fact, the concept could be applied to a variety of other types of institutions employing nurses, for example, institutions for the mentally ill or the mentally retarded.

Before 1930 student nurses performed much of the institutional nursing, while trained nurses usually worked as private-duty nurses. However, during the depression years nurses tended to select the more secure and regular employment of the hospitals. Benefits such as vacations, holidays, insurance, and so forth, also served to entice nurses into institutional nursing. More recently the growth in extended-care programs, hospital out-patient services, and nursing homes has provided nurses with variety and opportunities that hitherto were unavailable on such a large scale.

Institutional nursing is by far the largest field for nursing services. Statistics for 1972 (cited from Notter/Spalding, 1976) indicate that the largest number of nurses worked in hospitals (499,594), and the second largest group, less than 11% of those working in hospitals, worked in nursing homes (53,988). The third largest group consisted of office nurses (52,390). Public health nurses (29,096) made up the fourth group, followed by school nurses (29,849), and occupational health nurses (19,403). (The number of private-duty nurses was too small for consideration here.)

Other occupational areas. The nursing arena is not limited to the above occupational settings; other areas such as nursing education, consultation, and research may be looked upon as occupational settings. But "occupational settings" is not the only way to classify nursing-job categories. The scope may be broadened by including functional nursing (administration, supervision, curriculum development, etc.). The field becomes even more expansive when various clinical tasks and nursing services are included. The approaches to nurse classification vary. This paper, however, begins with the traditional categories and then deals loosely with the emerging categories.

Scope of Nursing

Listed below are nursing positions (compiled by Notter/Spalding, 1976) arranged, as far as possible, according to occupational settings. They are not arranged with the functional/nurse care distinction in mind, although the groupings within the settings will tend to follow this pattern where possible.

Institutional Setting

Hospitals and Similar Health Facilities

Positions Usually Restricted to Nurses

Director of nursing service
Associate director of nursing service
Assistant director or assistant to director of nursing service (administrative or educational)
Assistant hospital administrator
Associate hospital administrator
Associate nursing care coordinator
Director or chairman of nursing service personnel division
Director or coordinator or instructor for in-service educational program or on-the-job training program

Director of nursing research
Clinical specialist
Coordinator of patient education
Consultant in nursing service or clinical nursing specialty
Supervisor in a clinical division of nursing service, such as medical, pediatric, maternity, psychiatric, intensive care unit, coronary care unit, self-care unit, operating, or out-patient (day or night)
Head nurse or assistant of a unit of a clinical division of the nursing service department
Home care coordinator
Nursing team leader
General duty or staff nurse
Primary care nurse
Private practice nurse (with single patient or on a group basis)
Visitor or consultant for state hospital or nursing homes licensing boards

Positions in Which Nurses Are Sometimes Employed

Assistant to surgeon, such as office nurse or scrub nurse in operating room
Clinical laboratory technician
Clinical psychologist
Director of nursing home
Director of volunteer service
Group therapist
Historian in hospital
Hospital consultant
Hospital secretary
Hospital administrator or assistant
Hospital personnel manager
Housekeeper in hospital or nurses' residence
Instructor of patients in rehabilitation sheltered shop
Librarian in hospital
Methods analyst
Nurse anesthetist
Nurse epidemiologist
Occupational therapist
Physiotherapist
Record clerk or curator
Research assistant
Social director or hostess in nurses' residence
X-ray technician

Other Institutions and Agencies

Health supervisor or resident infirmary nurse in a boarding school, a college, a university, or a normal school

Prison nurse
Director of prison nursing
Supervisor of health service in a department store
Administrator of an orphanage, a home for the aged, or a convalescent home for children or adults
Administrator of first aid in a department store
Resident nurse in a hotel (may have charge of a hospital department or first aid room)

Community Health Setting

Positions Available in Community Health Programs

Positions Usually Restricted to Nurses

Director of a nursing service in a public health agency, generalized or specialized
Associate or assistant director in such agency (administrative or educational)
Supervisor: general service, field service, area service, special service (see list under staff nurse)
Assistant supervisor
Staff nurse rendering general service or special service, such as school nursing, camp nursing, occupational health nursing, midwifery, maternity nursing and child health, orthopedic nursing, psychiatric nursing, tuberculosis nursing, venereal disease nursing, and other clinical nursing
Family nurse practitioner
Community nurse, i.e., a nurse working alone in a small town
Rural or urban nurse
Primary care nurse, usually in a rural or urban poverty area in an ambulatory care service
Consultant in various nursing specialties to official or private agencies, such as the Public Health Service of the U.S. Department of Health, Education and Welfare; or other government units, such as state boards of health; or a community organization, such as a council of social agencies.
Infant welfare nurse
Preschool nurse--day care nursery nurse
School nurse
Nurse teacher in school system
Health supervisor in private or public schools, camps, and similar places
Obstetric, infant, or child health nurse
Nurse-midwife
Occupational health nurse in administrative, supervisory, or staff position, such as in factory, bank, theater, store, office building, and many industries
Tuberculosis nurse

Nurse for cancer service
Cardiac nurse

Positions in Which Nurses are Sometimes Employed

Administrator of an organization, such as a community health center or a day nursery
Camp counselor
Director of or teacher in a nursery school
Medical, psychiatric, or family social worker
Mental health supervisor
Missionary worker, home or foreign
Nutritionist
Recreation director
Playground supervisor
Quarantine officer
Sanitary inspector or investigator
Social hygiene consultant
Specialist in parent education
Specialist in child guidance
Health educator, as in a normal school, college, or public school system
Prevention-of-blindness worker

Private Practice Setting

Positions Open to Nurses in Private Practice

General private duty nursing
Private duty nurse in specialties, such as obstetric nursing; nursing of children; medical nursing-surgical nursing; geriatric nursing; communicable disease nursing; psychiatric nursing; neurologic nursing; tuberculosis nursing; orthopedic nursing; gynecologic nursing; genitourinary disease nursing; and nutritional disease nursing (Usually, nurses in the field of private duty practice care for any type of patient.)
Special nurse in the home, the hospital, the hotel, or the sanatorium, or nurse acting as supervisor of family when traveling, or traveling companion to a patient
Hourly nurse (nursing in the home for four hours or less)
General duty or staff nurse in a hospital on a per diem basis
Independent private practice, either solo or in a group

Educational Setting

Positions in and Associated with Nursing Education

Positions Usually Restricted to Nurses

Dean or director of a nursing school or a division of nursing in a university or a college
Associate or assistant dean or director of a nursing school or a division of nursing in a university or a college
Assistant to the dean or director of a nursing school or a division of nursing in a university or a college (administrative or instructional)
Director of a nursing school in a hospital
Director of continuing education program
Director of a specialty program in nursing at the graduate level in a university or college
Associate to the director of a nursing school in a hospital (administrative or educational; the latter sometimes called educational director or instructional leader)
Director of other types of educational programs in nursing, such as technical or practical nurse, nursing aide, or attendant
Director of research center or research development program
Director or coordinator of curriculum or instructional leader for various types of educational programs in nursing: professional, technical, or practical nurse
Professor, assistant or associate professor, or instructor teaching in various types of educational programs in nursing: preservice, graduate, and inservice. (This includes all types: social science, physical and biologic science; fundamental or general nursing; nursing in special fields, such as medical and surgical, maternal and child health, psychiatric and mental health, cancer, orthopedic, geriatric, community health, and others; other functional areas, such as administration, supervision, curriculum and teaching, consultation and research, as these relate to all phases of nursing service and nursing education. Those qualified on faculties of universities and colleges hold the appropriate professorial rank.)
Coordinator or supervisor of field work for any of the educational programs in nursing
Itinerant or visiting teacher
Executive secretary, state supervisor, educational director or consultant for a state board of nursing

Positions in Which Nurses Are Sometimes Employed

Director of research program
Counselor or director of student-life services
Director of or house mother in student residence

Secretary or clerk in school office
Social director or hostess in student residence

Some Functional Settings

Positions Available in Nursing and Allied Organizations

Positions Usually Restricted to Nurses

Top administrators
Director of special programs at headquarters office, such as hospital nursing, public health nursing, nursing education, legislation, or economic security programs
Editor of official nursing magazine
Field worker in different areas of nursing service or nursing education
Counselor or registrar of a professional placement service, a professional registry, a regional or a national or a community-nursing council
Consultant or specialist in nursing service (hospital or public health), nursing education, special nursing field, legislation, economic security, and other

Positions in Which Nurses are Sometimes Employed

Specialist in:
  Labor-management relations
  Library work
  Test construction
  Community organization
  Public relations
  Writing
  Editing
  Research
  Statistics
  Personnel and placement
  Business administration
Executive secretary, assistant director, field secretary, or editor of a health or a social organization, such as:
  Heart Association
  Cancer Society
  Red Cross Chapter
  Tuberculosis Association
  Community Chest
  Family Welfare Association
  Council of Social Agencies

Non-Classified Settings

Miscellaneous Positions not Previously Listed

Positions Usually Restricted to Nurses

Camp nurse
Flight nurse
Missile nurse
Missionary nurse
Parachute nurse
Physician's office nurse
Space nurse
Teacher of home nursing, first aid, or child care (as under American Red Cross)
Transport nurse: airline, ship, or train

Positions in Which Nurses are Sometimes Employed

Airline hostess
Anatomic artist
Assistant to mortician
Author of nursing textbook or other publication
Camp counselor
Dean of women or student adviser
Demonstrator of appliances, instruments, or food
Editor of a periodical
Editor of field representative for a publisher of nursing books
Feature writer on nursing subjects
Ghost writer
Health education instructor
Kindergarten worker
Lecturer
Lobbyist
Manager of nurses' clubhouse or hotel
Oral hygienist
Personnel or guidance worker
Physical education instructor
Police matron
Probation officer
Promotional educational worker
Publicity specialist
Traveler's aid counselor
Vocational guidance counselor
Worker with juvenile delinquents
Writer for magazine

Setting Classification According to Agency

Positions may be classified according to the agency or auspices under which the nurse works or through which she secures work:

Private patients cared for at home, in hospitals, or in other institutions, and nurse employed through professional nurses registries or by physician or patient

- Private or nonofficial agencies, organizations, or institutions
- Hospitals, proprietary and nonprofit, general or special
- Community-based ambulatory clinics
- Health maintenance organizations
- Professional standards review organizations (PSROs)
- Mobile health units
- Dispensaries, infirmaries, convalescent homes, and foundations
- Nonofficial public health nursing organizations
- International, national, state, and local nurses associations
- Religious and missionary associations
- Insurance companies
- Industrial organizations: (1) in an employee health service, or (2) to promote the use of a product, for example, hospital equipment
- Foundations
- Regional medical planning organizations
- Business organizations, such as management consultant firms
- Transportation agencies
- Nursing Service of the American National Red Cross
- Official agencies, organizations or institutions
  - International organizations, such as the World Health Organization
  - Federal and allied government nursing services
    - U.S. Army Nurse Corps
    - U.S. Navy Nurse Corps
    - U.S. Air Force Nurse Corps
    - Public Health Service of the U.S. Department of Health, Education, and Welfare in various divisions and offices
    - Veterans Administration Nursing Service
    - U.S. Department of State
    - U.S. Civil Service Commission, Medical Division
    - Manpower programs
    - Missile base
- State, county, township, and municipal departments and private agencies which are responsible for health or educational work in nursing
  - Boards of health
  - Psychiatric and other types of special hospitals
  - Infirmaries of state institutions for the deaf and the blind
  - Board of education
  - Any health organization or service supported by the state, county, township, or village funds, such as narcotic farms and sanatoria for tuberculosis patients

Combination of official and nonofficial agencies, organizations or institutions
Professional and other health or related organizations
Educational institutions
Colleges and universities
Associated field centers, such as hospitals and related institutions, public health and other community agencies. (pp. 139-44)

Nursing Education

Evolution of Nursing Education

Nursing schools did not precede nursing; to the contrary, nursing preceded nursing schools. Nursing began on an apprenticeship basis; student nurses learned as they served. As more nurses were needed and nursing became more sophisticated, it became obvious that such training was not adequate to supply the expanding needs; and consequently, the idea of nursing schools was born. At first, however, these schools were not institutions of higher education but departments of hospitals whose concern it was to train general-duty nurses.

As time went on, it became apparent that nurses needed more instruction in the sciences and humanities than these hospital-appendaged training programs were prepared to provide. This awareness led to some hospital nursing schools hiring additional faculty or arranging with a nearby college or university to provide courses on an affiliate or extension basis. Occasionally, where hospital and college were close enough, nurses would take these courses on the college campus.

It has, however, been generally accepted among nurse educators that the hospital school leaves much to be desired. Unlike

colleges and universities, the hospital school has not been able to provide the environment nor the scientific and cultural breadth that the nursing profession demands. Neither does it give its students the advantages that come from inter-collegiate contact with students of other disciplines. Another disadvantage of the hospital school is its lack of prestige. Hospital schools lack the esteem that institutions of higher learning intrinsically possess.

Realizing their shortcomings, a number of hospitals either shut down their schools or arranged with nearby institutions of higher learning to assume responsibility for the education of their nurses. This decided shift of nursing education occurred during the period 1960-1973. During this period, hospitals of nursing dropped from 908 in 1960 to 494 in 1973. During the same period, Associate Degree programs in nursing rose from 57 to 574, and baccalaureate programs rose from 172 to 305 (Source Book, 1974, p. 75).

The above-stated trend away from hospital schools was highly influenced by the ANA position paper (Am. Journal of Nursing, Dec., 1965) which states that "the education for all those who are licensed to practice nursing should take place in institutions of higher education" (p. 107) within the general system of education. It also states that professional nurses should have baccalaureate degrees and that technical nurses should have Associate Degrees (pp. 107-8).

This position paper has been reinforced by recommendations from the National Commission for the Study of Nursing and Nursing Education. In 1970 this commission published a report entitled

An Abstract for Action which supported the movement of nursing education into institutions of higher learning. This report also encouraged states to develop their own master plans for nursing education (p. 109).

Conflict Within Higher Education

The position of the ANA that education for licensed nursing should be provided by institutions of higher learning did not completely unravel the complexities of nursing education. While directing nursing education away from hospitals into colleges and universities, it did not settle the "within" conflicts of higher education.

One of these conflicts revolves around the two-year Associate Degree in nursing program (ADN) for technical nurses. Developed to be terminal in nature, this program was not set up with the idea that the student should be able to step from this program into the last two years of a four-year baccalaureate program. These schools that offered a four-year degree, in most instances, were not prepared to accept the student into a ladder program, commonly referred to as a two-plus-two program, in which the student's two years of course work would be accepted as the first two years of a four-year program. (Samples of a four-year baccalaureate program and a two-year Associate Degree program may be found in appendix--for comparative purposes.)

These difficulties were not superficial. A two-year graduate, in many instances, had taken courses that would be offered

during the second two years of a four-year program. Courses would not be identical in content. Some two-year programs were highly concentrated and, in fact, covered the majority of the theoretical studies of a four-year program. Thus four-year colleges and universities tended to be reticent to accept all the credits of a two-year student and insisted that the student spend three or more years in their program in order to receive the baccalaureate degree. Consequently, the student desiring to upgrade her/his education and move from a vocational to a professional nurse was caught in the middle and was often the loser.

The National Commission, after studying the problem, decided that the

> Development of a comprehensive plan for nursing education implies more than simply shifting the responsibility for that education into the collegiate institutions of this country. There is a need to ensure that those institutions, in turn, provide reasonable linkage between two-year and four-year programs so that students see an educational ladder they might ascend. (From Abstract into Action, 1973, p. 155)

The Commission recommended that steps be taken toward developing articulation between the two-year and four-year programs. As a result, some states and schools began to work toward this goal.

One state, New York, developed a series of professional examinations that would determine the strengths and weaknesses of a two-year student, or even a diploma student, so that a reasonable program could be developed within the college for continuing her/his education.

Open curriculum, a solution. The testing approach implicit in this New York program has its good side and bad side. The good

side is that it provides an opportunity for anyone who has nursing background to receive credit for her/his proficiencies and not have to repeat these. On the other hand, it is problematic for the school that has a rigid, step-by-step program that is not open to the flexibility required for a student to enter the educational stream wherever his/her need indicates.

Because of this drawback, some schools are still unwilling to adapt themselves to such a system. Others, fortunately, are looking at the virtues of an open curriculum; and such a move is being encouraged by the National League for Nursing (NLN). Notter and Spalding (1976) reported:

> In 1970, the National League for Nursing's Board of Directors approved a statement entitled "The Open Curriculum in Nursing Education," which was widely circulated and which encouraged the open curriculum movement in nursing, which at that time was gradually getting underway. The movement has escalated since then. Today (1975) a large number of nursing programs, approximately 1,500, including schools preparing licensed practical/vocational nurses, diploma graduates, associate degree, and baccalaureate degree nurses, have some form of open curriculum, permitting advanced placement by some method of testing knowledge gained through prior education and experience, and/or permitting multiple entry and exit options. (p. 38)

"Open curriculum" is described in Preparation of the Professional Nurse, 1971, as

> . . . one that permits the student's admission at a level appropriate to his background and demonstrated competence. An open curriculum is one that should attract a group of students having a variety of backgrounds leading to diversity in the competencies they possess upon admission.
>
> A flexible curriculum is one that offers options with regard to the pursuit of specific, individualized goals and to the time over which the program extends.
>
> An open, flexible curriculum, therefore, is one that capitalizes on students' diverse backgrounds and abilities

and one designed to fulfill the students' interests and capabilities as well.

With this delineation in mind, the requirements of an open, flexible curriculum will now be considered. In attempting to define components of an open, flexible curriculum in nursing, one must first define the relatively fixed elements of the curriculum--those core requirements that cannot be removed, replaced, or relegated to the position of "options."

Every curriculum must include opportunities for students to attain knowledges and skills that every professional nurse must have. But beyond that, a flexible program plan offers opportunities for the student to enter at any point and to proceed at an accelerated or decelerated pace in accordance with his particular learning needs and interests. This requires (1) consideration of each individual's educational background, interests, and demonstrated competencies and (2) willingness to delete authoritarian and rigid curriculum requirements that, in too many schools, have been the only means of fulfilling course objectives. (p. 39)

Reorganization and coordination of programs, a solution. In order to help solve this problem it will be necessary for the two-year institutions to reconsider the "terminal" goal of their programs and see themselves also as feeder schools for the baccalaureate programs. In addition to this,

> Four-year institutions must not only reorganize themselves to admit these students, but must cope with the fact that what they have been doing in 'upper division' courses must be sharply altered to provide a true continuation of education with expanded electives and deepened scientific and clinical content. (From Abstract into Action, p. 159)

It becomes clear that the baccalaureate programs must provide more nursing content and that their upper division courses should provide a variety, or at least an option, with regard to nurse specialty concentrations.

There are some positive emerging trends, according to From Abstract into Action:

> Some institutions are already emerging as upper division "schools" which are designed to admit students from preparatory nursing programs and provide them with an expanded curriculum. Other four-year colleges are now planning to push their traditional nursing courses down into the first two years of academic calendar so that their own students, as well as transfers, will have completed basic preparation and be ready for true "upper division" courses by the beginning of the third year. (p. 159)

It is not to be suggested, however, that a two-plus-two program is either a trend or the preferred way to pursue a baccalaureate degree in nursing. It is still considered preferable that if one decides for a baccalaureate program, it be followed from start to finish rather than pursued on a two-plus-two or other basis.

Graduate Education in Nursing

Graduate education in nursing is designed to provide advanced formal education to nurses interested in clinical or functional specialties. Liston explains graduate education in the NLN's Preparation and Role of the Functional Specialist (1970).

> Graduate education implies education beyond the baccalaureate degree. The characteristics include specialization, mastery of subject matter in depth, independent study, critical understandings, and a research orientation. Organizationally, the programs are developed into a sequence of courses or areas of study that culminate in the awarding of a master or a doctoral degree. (p. 1)

What should graduate education programs prepare nurses to become? In From Abstract into Action are listed four critical areas in which graduate nurses are needed:

> 1. Clinical nurses or master nurse clinicians capable of providing excellent direct care while serving as a role model and preceptor for nursing students and less experienced practitioners.

2. Instructors and professors for educational positions in the emergent collegiate pattern.

3. Specialists in the organization and delivery of nursing services in both episodic and distributive care settings.

4. Researchers prepared to investigate and enlarge the corpus of nursing knowledge. (p. 168)

Advanced clinical practitioners. The largest enrollment of graduate nurses major in the area of advanced clinical nursing. Some schools, in fact, require graduate nurses to major in some aspect of clinical nursing and, if desired, minor in a functional area such as education, administration, or research. There are four major programs of choice within the clinical nursing area: medical-surgical, psychiatric-mental, maternal-child, and public health nursing. Within these four areas of clinical practice there are several specialties and branches (p. 171).

There is an evident shortage of graduate clinical specialists and, according to From Abstract into Action, "The deficit . . . particularly in distributive care, has likely widened" (p. 171). This would suggest that there is room for institutions of higher learning to develop or expand graduate programs in nursing.

With more than 75 percent of the faculty of hospital schools holding baccalaureate degrees or less (p. 172), it is evident that graduate-level education is needed to upgrade the faculty of these hospitals. Even though hospital-based education is being phased out, the teachers from these schools will need to find jobs in college or university institutions where there is a definite shortage of experienced, qualified teachers of nursing.

> This problem is of such significance to the repatterning of education that the National Commission has urged collegiate schools to appoint faculty members from the hospital schools on the basis of their ability and experience, while, at the same time, providing opportunities for extending formal academic study. (p. 172)

The federal government, recognizing the seriousness of the shortage, has through Congress provided funds for nursing school faculty members to upgrade their formal academic preparation to satisfy higher education standards. There is also demand for more graduate nursing teachers to instruct continuing and in-service education programs.

Nursing administrators. Because of the complexity of health-care-delivery demands and because of the new emerging patterns of nursing administration there is a greater demand for administrative experts--educated nursing administrators who are familiar with the trends in nursing administration and who have developed organizational and leadership skills. Previously nursing administrators were selected from among those professional nurses who showed an inclination toward leadership. Many of these selected nurses possessed no formal administrative education. Those who had formal education in administration were likely prepared for traditional nursing administration, an administrative role which is rapidly being changed. As new input is fed into curriculum programs of graduate schools, it may be necessary for nursing administrators trained in the traditional role to become current through additional formal education or study.

Nursing researchers. Recent estimates indicate that in the United States there are between six hundred and seven hundred

nurses who have completed doctoral programs requiring competency in research skills (p. 173). This is a small number of persons to spread among the numerous educational and health-care institutions, and indications are that the situation is not going to get much better in the very near future. The nursing students enrolled in doctoral programs hardly reach three hundred at any one time (see figure 3); and when one considers the low completion rate in these doctoral programs, the picture becomes even more discouraging (p. 173). One of the problems with obtaining interested persons in doctoral programs is that there is not the degree of federal or state support and funding of nursing research as there is in some other fields (p. 173). Therefore, the incentive that encourages research development in other professions does not exist to the same degree in nursing.

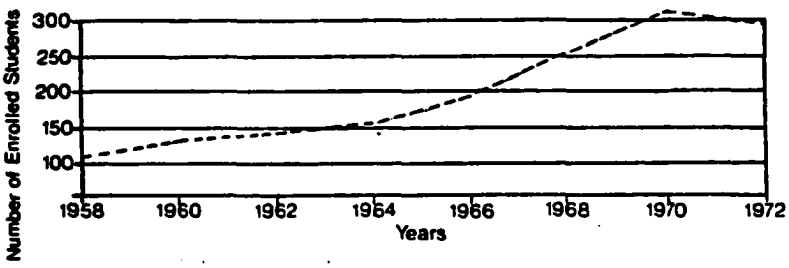

Figure 3. Enrollment of nursing students in doctoral programs 1958-1972.

Source: From Abstract into Action, p. 174.

Continuing Education in Nursing

The term "continuing education in nursing" is used in both a general and specific sense. In a general sense it encompasses both

continuing education (specific) and inservice education. The National Commission uses the following definitions:

> Continuing Education. Formalized learning experiences or sequences designed to enlarge the knowledge or skills of practitioners. As distinct from graduate education, continuing education courses tend to be more specific, of generally shorter duration, and may result in certificates of completion or specialization, but not in formal academic degrees.
>
> Inservice Education. Programs administered by an employer designed to upgrade the knowledge or skills of persons functioning within that agency. (p. 174)

Because of emerging patterns in nursing practice and changes in nursing roles, medical societies, hospital associations, state department of health, and many others agree that there should be some form of continuing education for all nurses.

> The intensive care nurse in 1973, faced with immediate decision making for a cardiac patient, must have more specialized knowledge about patient response to respiratory support measures, electronic monitoring hazards, and onset of physical malfunction than would be required of a general medical practitioner. And, this is only an indicative example of changes in both distributive and episodic care. Continuing education, then, is far more than a one-time-only brush-up of information and skills. It is of equal importance with preparatory education and may be an even more integral part of excellence in clinical practice. (p. 175)

There is general agreement that continuing education should not be haphazard but well-planned, with the welfare of both patient and nurse in mind. Some suggest that this planning be done on a state level to provide uniformity and proper supervision (p. 175). There are those who would even wish to connect relicensure to continuing education (p. 176). This issue is currently being discussed and debated. There is a prevailing feeling, however, that there needs to be some means for encouraging compliance once a feasible program for continuing education has been established.

Part III

This section of the literature review will concern itself with the most recent nursing education and nursing trends derived from general health-care statistical information and SDA leadership. Pertinent data from these statistics have been analyzed and included.

Nursing Education Statistical Trends

Figure 4 and table 2.2 provide statistics which show a decline in the number of RN diploma programs and the number of nurses graduating from these programs. In 1950 there were 1,118 RN diploma programs compared to 494 in 1973. In 1955-56, 26,828 of 30,236 or 89 percent of all RN graduates, graduated from diploma programs. While, in 1972-73 only 21,445 of 59,424 RN graduates or about 36 percent graduated from diploma programs. The statistics in figure 4 and table 2.2 might be summarized as showing a trend away from hospital-centered diploma programs with a second trend toward school-centered Associate or baccalaureate degree programs.

Statistics from table 2.2 show an increasing number of nurses graduating from baccalaureate programs in nursing. In 1961-62 4,300 nurses graduated with the baccalaureate degree; by 1972-73 this number had more than tripled, with 13,132 nurses graduating on this level. It has been projected (National Center for Educational Statistics) that by 1980 this number will increase to approximately 16,000 nurses completing the baccalaureate program (Altman, 1972, p. 94).

The number of nurses graduating from the Associate Degree program has made even greater strides. Table 2.2 shows that in

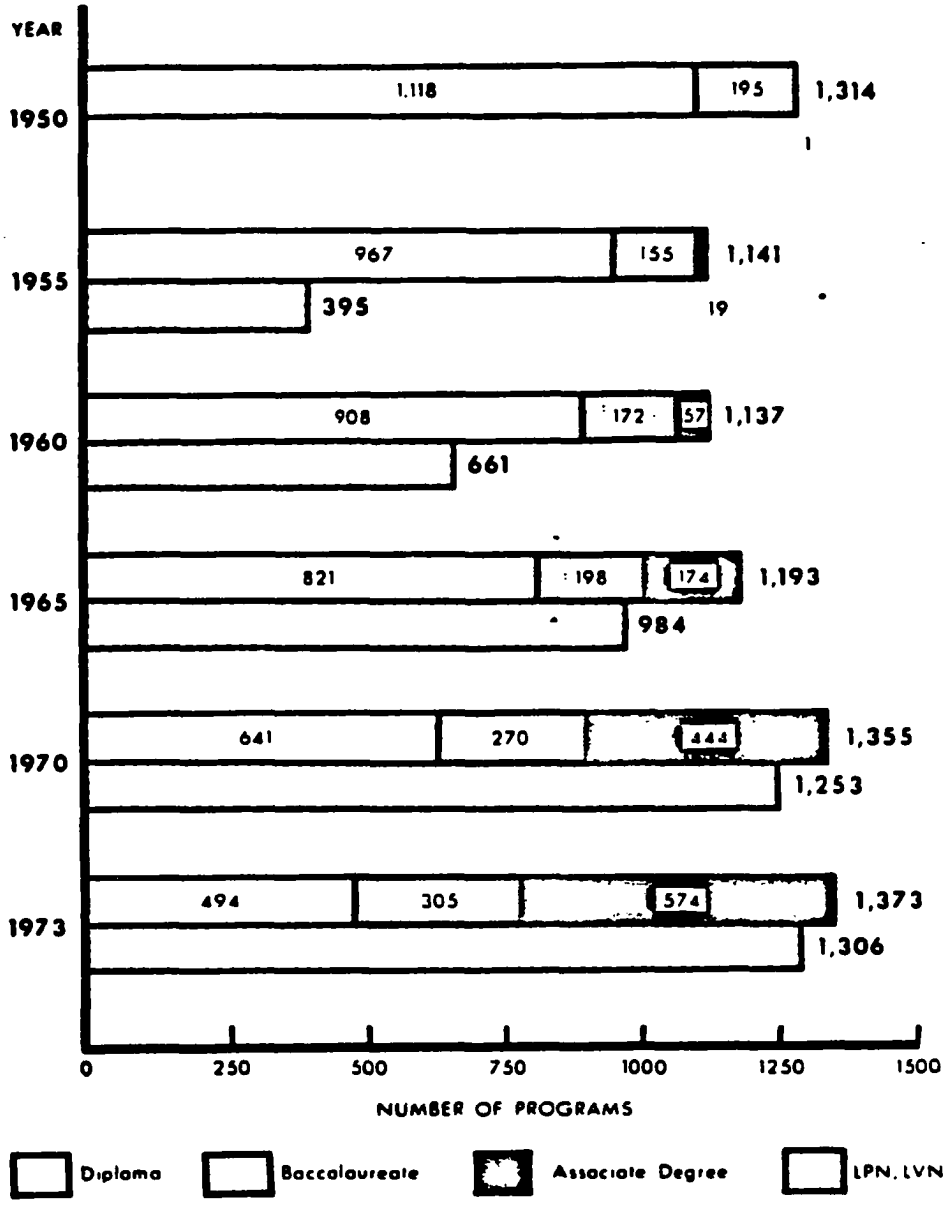

Figure 4. Number of Programs

Source: Source Book: Nursing Personnel, 1974, p. 75.

TABLE 2.2

GRADUATES FROM SCHOOLS OFFERING INITIAL PROGRAMS IN REGISTERED NURSING AND LICENSED PRACTICAL/VOCATIONAL NURSING, BY TYPE OF PROGRAM: 1952-73

YEARS	RN BACCA-LAUREATE	RN DIPLOMA	RN ASSOC. DEGREE	RN TOTAL	LPN/LVN	RN PLUS LPN/LVN TOTAL
CALENDAR						
1952	1998	26720	298	29016		29016
1953	2224	26824	260	29308		29308
1954	2398	25797	344	28539		28539
1955	2704	25826	199	28729		28729
ACADEMIC						
1955-56	3156	26828	252	30236	10641	40877
1956-57	3516	26141	276	29933	10666	40599
1957-58	3671	26314	425	30410	12407	42817
1958-59	3943	25709	642	30312	14573	44885
1959-60	4136	25188	789	30113	16491	46604
1960-61	4039	25311	917	30267	16635	46902
1961-62	4300	25727	1159	31186	18088	49274
1962-63	4481	26438	1479	32398	19621	52019
1963-64	5059	28238	1962	35259	22761	58020
1964-65	5381	26795	2510	34686	24331	59017
1965-66	5498	26278	3349	35125	25688	60813
1966-67	6131	27352	4654	38237	27644	65881
1967-68	7145	28197	6213	41555	30833	72388
1968-69	8381	25114	8701	42196	34864	77060
1969-70	9105	22856	11678	43639	37128	80767
1970-71	9913	22334	14754	47001	38556	85557
1971-72	11027	21592	19165	51784	44446	96230
1972-73	13132	21445	24850	59427	46456	105883

1961-62 there were only 1,159 graduates from Associate Degree programs, but by 1972-73 this number had increased to 24,850. By 1980 it is expected that there will be about 32,000 nurses graduating at this level, or about twice as many graduates as projected for the baccalaureate degree in the same year (Altman, 1972, p. 94, Model I).

The Source Book: Nursing Personnel provides data on the number of admissions and graduates for different types of nursing education programs. By subtracting the number of baccalaureate graduates of the year 1973 from those who embarked upon the program four years earlier, one arrives at a 72% continuance. Following the same process for the Associate Degree graduates except on a two-year basis, one arrives at a 67% continuance. In other words, approximately 72% of baccalaureate students who begin the nursing program complete that program; and approximately 67% of Associate Degree students complete their program. These percentages compare favorably with the percentages projected by the Research Triangle Institute Center for Health Studies which were: Bac = 74%; AD = 67%; and Dip = 75% (Jones, 1975, p. 23).

The implications of these educational trends and projections are that diploma programs are on the way out; nurses are shifting to the baccalaureate and Associate Degree programs. With the percentage of nurses finishing baccalaureate and Associate Degree programs averaging slightly more than two-thirds of those who initiate these programs, nursing schools should expect to graduate ten students for every fourteen who begin these programs.

Table 2.2 shows a dramatic increase in the number of nursing graduates between 1960 to 1973. It shows the number of nurses graduating each year during the sixties as almost static with the number rapidly increasing after 1960.

Before the school year 1955-56 no statistics are shown on LPN/LVN nursing-education programs. The average increase in RN graduates per year from 1952-1960 was only slightly over 100.

The next ten-year period, however, showed a sizable increase in RN nursing graduates, with 13,500 more RN nurses graduating in the 1969-70 year than did in the 1959-60 school year. An even more notable increase occurs over the next three-year period, with nearly 15,800 more RN nurses graduating in the 1972-73 school year than in the 1969-70 school year.

There were similar increases in the number of LPN/LVN graduates over the same period of time. From the years 1955-1960, statistics report a gain of nearly 6,000. Over the next ten-year period, the gain was about 20,500; from 1970-73, the next three-year period, the gain was nearly 8,000.

The rise in nursing graduates over the last two decades becomes even more dramatic when the nursing categories are combined. In 1952, the total number of nurses graduated was 29,016. In 1960, the number of nurses had increased to 46,604, a yearly gain of 17,588. By 1970, the number of graduates was 80,767, a yearly gain of 34,163. By 1973, the total number of nurses was 105,886, a yearly increase of 25,119, after only three years.

However, in spite of the direction of table 2.2, projections do not indicate a continuation of this type of increase in nursing graduates. Rather, they indicate a leveling affect in the later seventies and early eighties (Jones, 1975, p. 23).

General Nursing Patterns and Trends

Based upon the 1972 survey figures gathered by the Department of Health, Education, and Welfare (DHEW) there are .4 RNs and .2 LPNs, a total of .6 nurses, per patient (see table 2.3). These figures were arrived at by dividing the full-time-equivalent nurses (the number of part-time nurses was multiplied by .5 and added to the number of full-time nurses to arrive at a full-time-equivalent figure) into the number of beds based upon average occupancy. A hospital might compare its per-patient nurse figure with these general figures to see how it stands with respect to the average hospital nurse/patient ratio.

The ANA publication Facts About Nursing 72-73 points out that 65.2% of employed nurses work in hospitals, the remainder work in other nursing environments, for example, public health, industry, private duty, and others. However, only 71% of the available nurses are active. Multiplying .71 by .65 reveals that only .46 (46%) of the available nurses are working in hospitals, less than 50%. This would indicate that a source for hospital nursing personnel exists outside of new nursing graduates.

DHEW figures on active and inactive Registered Nurses, by age group and sex (Source Book: Nursing Personnel, 1974, p. 37), indicates that there is a trend toward a higher percentage of active

nurses in nearly every age grouping. By calculating the DHEW figures on active table 2.3 has been developed.

Table 2.4 indicates that there is a general falling-off of active female nurses between the ages 30-39 and then there is an increase again in later age groups. This falling-off might possibly be due tc the fact that women tend to be absorbed with their families during this period of life. It could be argued that this fall-off actually begins at 25 rather than 30. It should also be observed that there is no comparable fall-off in male nurses within this age span. It might be noted that between the ages of 55-65 there is a reverse trend in that a higher percentage of nurses worked in 1966 than in 1972. This trend could be explained by earlier retirement.

A study of table 2.5 indicates that the percentage of nursing graduates working full-time tends to decrease after a five-year period, and that the percentage of part-time and unemployed nurses tends to increase over the same period of time. Table 2.6 indicates how marital status tends to affect nurses after working five years. The data show that the percentage of single graduate nurses working full-time after five years is very high (between 86% and 90%), whereas the percentage of married nurses working full-time after five years of employment falls to a dramatic range of 32% to 42%. This would suggest that family life is an important factor in the drop in full-time nursing personnel.

It should be observed that married nurses tend to do more part-time nursing and have a higher non-working (or inactive) status than single nurses after five years.

Table 2.3*

NURSE STAFFING PATTERNS FOR 1972 IN 6,635 NON-FEDERAL HOSPITALS
WITH 1,342,730 BEDS AND AN AVERAGE DAILY CENSUS
OF 1,057,347 PATIENTS

	Registered Nurses			Licensed Practical Nurses			Total Registered and Practical Nurses		
	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total
Number	355,594	140,920	496,514	188,284	38,369	226,653	543,878	179,295	723,167
FTEN[1]	355,594	70,460	426,054	188,284	19,184	207,468	543,878	89,644	633,522
FTEN/AVE Census	.336	.067	.403	.018	.018	.196	.514	.085	.599
FTENs/Beds	.265	.052	.317	.140	.014	.155	.405	.066	.472

[1]FTEN stands for Full-Time Equivalent Nurses. The number of part-time nurses was divided by 2 to estimate the number of FTENs represented by part-time nurses.

These 6,635 hospitals had an average occupancy of 78.75%. The average size was 202 beds and the average census was 159.

There were about .4 RNs and .2 LPNs, a total of .6 nurses, per patient.

*Source: FTE's derived from 1974-75 Facts About Nursing, pp. 13, 160.

TABLE 2.4

ACTIVITY ANALYSIS OF NURSES IN 1966 AND 1972

AGES	PERCENT ACTIVE	ACTIVE TOTAL	ACTIVE FEMALE	ACTIVE MALE	ACTIVE UNKNOWN	INACTIVE TOTAL	INACTIVE FEMALE	INACTIVE MALE	INACTIVE UNKNOWN
TOTAL									
1966	68	593694	586842	6590	262	285791	284348	1329	114
1972	71	778470	766416	10989	1065	316611	314344	1793	484
-25									
1966	87	65163	64756	365	15	9851	9802	49	
1972	92	66991	66327	631	33	6223	6190	23	10
25-29									
1966	67	85911	84968	926	17	41501	41363	132	6
1972	77	126869	124904	1906	59	37329	37147	167	15
30-34									
1966	58	67676	66643	1010	23	49527	49369	147	11
1972	66	94243	92241	1949	53	48766	48553	191	22
35-39									
1966	60	64181	63102	1059	20	42273	42118	143	12
1972	66	84937	83408	1488	41	43144	42940	184	20
40-44									
1966	66	74855	74008	823	24	38424	38299	114	11
1972	71	82517	81155	1289	73	33705	33509	173	23
45-49									
1966	72	64425	63640	753	32	25363	25184	167	12
1972	74	91609	90460	1055	94	32204	32018	147	39
50-54									
1966	74	55879	55246	605	28	19459	19266	179	14
1972	74	73530	72592	844	94	25622	25423	165	34
55-59									
1966	74	50158	49178	425	15	17463	17327	130	6
1972	72	54900	54132	686	82	21355	21114	217	24
60-64									
1966	70	28404	28120	266	18	12047	11945	96	6
1972	66	43413	42934	390	89	21896	21699	161	36
65 +									
1966	49	18667	18501	147	19	19165	19034	119	12
1972	43	25248	24887	259	102	33055	32710	266	79
UNKNOWN									
1966	63	18402	18140	211	51	10718	10641	53	24
1972	72	34213	33376	492	345	13312	13031	99	182

TABLE 2.5

WORKING STATUS OF REGISTERED NURSES
ONE AND FIVE YEARS AFTER GRADUATION
BY TYPE OF PROGRAM

	ASSOCIATE				DIPLOMA				BACCALAUREATE			
	ONE YEAR		FIVE YEARS		ONE YEAR		FIVE YEARS		ONE YEAR		FIVE YEARS	
ACTIVE STATUS	NO.	PCT.	NO.	PCT.	NO.	PCT.	NO.	PCT.	NO.	PCT.	NO.	PCT.
EMPLOYED IN NURSING	1072	88.9	829	75.1	3172	90.7	2228	68.1	1553	89.5	1023	62.0
FULL-TIME	934	77.4	577	52.3	2863	81.8	1439	44.0	1467	84.5	771	46.7
PART-TIME	118	9.8	245	22.2	265	7.6	782	23.9	79	4.6	241	14.6
HOURS UNKNOWN	20	1.7	7	0.6	44	1.3	7	0.2	7	0.4	11	0.7
EMPLOYED IN OTHER FIELD .	1	0.1	20	1.8	2		26	0.8	5	0.3	18	1.1
STUDENTS	1	0.1	21	1.9	9	0.3	31	0.9	2	0.1	37	2.2
NOT EMPLOYED	130	10.8	226	20.5	308	8.8	972	29.7	173	10.0	565	34.2
STATUS UNKNOWN	2	0.2	7	0.6	8	0.2	18	0.5	3	0.2	7	0.4
TOTAL	1206	100.0	1103	100.0	3499	100.0	3275	100.0	1736	100.0	1650	100.0

Source: 1974-75 Facts About Nursing, p. 7.

A study of table 2.4 indicates that the percentage of nursing graduates working full-time tends to decrease after a five-year period and that the percentage of part-time and unemployed nurses tends to increase over the same period of time. Table 2.6 indicates how marital status tends to affect nurses after working five years. The data show that the percentage of single graduate nurses working full-time after five years is very high (between 86% and 90%), whereas the percentage of married nurses working full-time after five years of employment falls to a dramatic range of 32% to 42%. This would suggest that family life is an important factor in the drop in full-time nursing personnel.

Other Nursing Statistical Trends Pertinent to this Study

In 1972 there were an estimated 203 active Licensed Practical Nurses (LPN/LVN) and 380 active Registered Nurses (RN) per 100,000 U.S. population. (Calculated from 74-75 Facts About Nursing, pp. 3, 158.)

In 1972 there were approximately twenty-two new LPN/LVNs and twenty-eight new RNs per 100,000 U.S. population, a total of fifty new nurse graduates per 100,000 U.S. population. (Calculated from pp. 66, 70.)

Of the total U.S. nursing population in 1972, 61% of the LPN/LVNs and 65% of the RNs worked in hospitals; the rest worked in various other nursing occupations. (Calculated from pp. 158, 66.)

From 1965-1973 there has been no significant change in the average number of days a patient occupies a hospital bed. In 1973

TABLE 2.6

ACTIVITY STATUS OF FEMALE REGISTERED NURSES FIVE YEARS AFTER GRADUATION BY MARITAL STATUS AND TYPE OF NURSEING PROGRAM

ACTIVE STATUS	NUMBER SINGLE	PERCENT SINGLE	NUMBER MARRIED	PERCENT MARRIED	NUMBER FORMERLY MARRIED	PERCENT FORMERLY MARRIED	NUMBER TOTAL	PERCENT TOTAL
ASSOCIATE DEGREE								
FULL-TIME NURSING ..	131	86.2	333	42.5	74	82.2	538	52.5
PART-TIME NURSING ..	13	8.6	217	27.7	13	14.4	243	23.7
NOT WORKING	8	5.3	233	29.8	3	3.3	244	23.8
TOTAL	152	100.0	783	100.0	90	100.0	1025	100.0
DIPLOMA								
FULL-TIME NURSING ..	529	88.9	812	32.3	63	80.8	1404	44.1
PART-TIME NURSING ..	44	7.4	727	29.0	10	12.8	781	24.5
NOT WORKING	22	3.7	972	38.7	5	6.4	999	31.4
TOTAL	595	100.0	2511	100.0	78	100.0	3184	100.0
BACCALAUREATE								
FULL-TIME NURSING ..	273	90.7	448	35.9	38	77.6	759	47.5
PART-TIME NURSING ..	10	3.3	227	18.2	4	8.2	241	15.1
NOT WORKING	18	6.0	574	46.0	7	14.3	599	37.5
TOTAL	301	100.0	1249	100.0	49	100.0	1599	100.0

this figure was 5.3 days per male and 7.3 days per female (Statistical Abstract, 1975, p. xiv).

The number of hospitals in the U.S. from 1965-1973 has remained the same, 7,123, with the exception of 1972, when the number of hospitals declined to 7,061. The number of nongovernment, nonprofit hospitals, however, has declined during that same period from 3,670 to 3,518 (p. 78).

The nongovernment, nonprofit hospital occupancy rate has fluctuated during this same period (1965-1973) from 78.2 to 81.0 in 1969 and back to 78.0 in 1973. The year 1972 was the lowest year for occupancy since 1960, with a rate of 77.6 (p. 78).

The short-term* nonfederal hospital bed occupancy rate fluctuated from 76.0 in 1965 to 78.0 in 1969 and fell to 75.2 in 1972 and to 75.4 in 1973. Long-term* occupancy ran from 85.3 in 1965 to 83.0 in 1972 and down still further to 82.1 in 1973 (p. 78).

The percentage of female high school graduates likely to go into the nursing profession ranges between 4% and 5%, with the percentage fluctuating downward since 1950. Unfortunately, the latest available figures are ten years old--covering the 1966-67 school year--when 4.4% of female high school graduates were admitted into nursing education programs (Data Source Book, 1974, p. 56).

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*Short-term--the type of bed occupancy expected in the normal acute care hospital setting.
Long-term--the type of extended bed occupancy expected in special hospital settings, e.g. tuberculosis sanitariums, mental hospitals, etc.

Statistics, Pertinent to This Study, Obtained from SDA Leadership*

In 1974 there were an estimated 600,000 North American Seventh-day Adventists including children under ten years of age. In 1974 there were 4,020 students graduated from North American SDA secondary schools.

In 1975 there were 128 RN graduates and 28 LPN graduates from SDA schools in North America per 100,000 SDAs.

There are approximately 4.5 times as many SDA RN graduates per 100,000 SDA members in North America as there are graduates per 100,000 population in the United States.

In a community with approximately 820 SDA church members, or 1,000 church members including children under ten, there would be enough SDA nurses to operate a hospital having approximately 25 to 30 beds with approximately 80% occupancy.

From 1936 to 1955 the number of beds in SDA hospitals increased by about 1,100 beds, an increase of 67%. From 1956 to 1975 the number of beds increased by 5,063, an increase of 177%.

From 1936 to 1955, North American membership increased by 132,117, an increase of 82%. From 1956 to 1975, North American membership increased by 220,858, an increase of 74%.

Summary

To summarize: The first secion of the review of literature covered the development, philosophy, and inspirational direction of

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*These statistics were also cited in a report given by Dr. Robert Moon at a Nursing Higher Education Conference, August 1976.

Adventist nursing education. Adventist nursing education began in 1883, a three-month practical training program. The educational program grew and expanded to include diploma RN, BS RN, and AD RN programs connected with ten Adventist institutions of higher learning.

The philosophy of Adventist nursing education is unique in its concept of the nature of man and in its goals with regard to the "reconciliation of man to God, and a preparation for eternal life hereafter." While other church-related health programs have spiritual goals, none are known to include as part of their nursing philosophy the preparation of man for the life hereafter.

Inspirational direction of the Adventist nursing program was provided by Mrs. Ellen G. White, a now deceased prophetess within the Adventist Church. Her writings continue to provide guidance with regard to the character of nursing employees, the location of nursing education programs, the quality of teachers, and the nature of their teaching.

The second section of the literature review covered the background, practices, and trends in North American nursing and in nursing education in general. These three aspects of nursing and nursing education were considered in connection with the following topics: the nurse, the role of the nurse, patterns of nursing care, the environment of the nurse, and nursing education.

Traditionally there have been two categories of nurses: the Licensed Practical (or vocational) Nurse (LPN, LVN) and the Registered Nurse (RN). The American Nursing Association (ANA) in 1965

took a position that nurses should be categorized as "Professional Nurses," nurses with the BSc Degree, and "Technical Nurses," nurses with the ADN degree. The Practical Nurse will likely assume a paraprofessional status. The ANA also took the position that nurses must receive their education in an institution of higher learning. This position has resulted in the phasing out of hospital-based nursing schools.

As the classification of nurses is changing so is the concept of the role of the nurse changing. Traditionally nursing practice has primarily emphasized the treatment of grave illness, injury, or disease; but some nursing authorities feel that nursing education and practice should begin to give more attention to the care, maintenance, and preventive aspects of nursing, since 88 percent of health-care difficulties fall within these nursing functions. The role of the nurse is being perceived as parallel to, and not subordinate to, that of the physician. The role of the nurse is expanding to include direct patient care, independent decision making about nursing care needs, and the planning and instituting of health-care programs. The role of the nurse is becoming more diversified as nurses specialize in varied types of nursing functions.

Within the hospital or institutional setting, four basic patterns of nursing care have been followed in assigning patient care to nurses--the case method, the functional method, the team method, and the primary care method. The latter method is the one perceived to be the most effective in view of current thinking regarding the role of the nurse.

The environment or occupational setting in which a nurse might work traditionally falls into three basic categories: private duty nursing, public health nursing, and institutional nursing. Institutional nursing is by far the largest field for nursing services. The scope of nursing practice is extensive; eight pages of this paper are devoted to a list of nursing occupational possibilities, classified according to traditional occupational settings.

Nursing education which began formally as a hospital-appendaged training program has developed and diversified. A nursing student may now elect a one-, two-, or four-year nursing program on a college or university undergraduate level. For those nurses wishing to advance further in their formal education, both masters and doctoral programs are available at a number of universities throughout the United States. One SDA university (Loma Linda University) offers a Master's Degree in nursing.

Nurses with two-year diplomas (ADN) who wish to become professional nurses (baccalaureate degree nurses) may encounter some difficulties in moving into the four-year nursing-education stream. Such a move could result in loss of credit and/or extra course work.

Graduate education in nursing is designed to provide advanced education to nurses interested in clinical or functional specialties. Continuing and inservice nursing education are becoming increasingly important because of newly emerging patterns in nursing practice and changes in nursing roles.

The third section of the literature review covered the most recent nursing trends derived from pertinent statistical information.

Included in this section also are statistics obtained from SDA leadership pertinent to this study.

Among the observations derived from current statistical information were these: There is an increase in the number of nurses graduating from baccalaureate, ADN, and LPN/LVN programs. There is, however, a corresponding decrease in the number of nurses graduating from diploma programs. Less than 50 percent of available nurses work in hospitals. Family life is an important factor in the drop in full-time nursing personnel. In 1974 there were 4,020 students graduated from North American SDA secondary schools.

CHAPTER III

METHODOLOGY

This chapter is divided into three major sections: the first describes the population studied, the second describes the procedures used in the development of the instruments and the collection of data, and the third describes the manner in which the data were analyzed.

Population of the Study

Two populations are considered in this study. The population of the descriptive portion of the study includes all nurses working in forty-seven SDA hospitals in the continental United States. The population to which needs are projected involves all North American SDA hospitals, the forty-seven in which the population of nurses studied were working and, in addition, one in Hawaii and one in Canada. The latter two were included because their current source of Seventh-day Adventist nurses is the SDA nursing schools in the continental United States.

At the time that the study was initiated, The 112th Annual Statistical Report of SDA, 1974 indicated that SDA hospitals in North America had 7,533 beds. Table 3.1 reports the estimated number of nurses, based on information provided by hospital administrators and/or nursing directors representing hospitals with 5,264 beds. The partial returns were used to estimate the size of the total population.

TABLE 3:1

APPROXIMATE NUMBERS* OF SDA AND NON-SDA NURSES
WORKING IN NORTH AMERICAN SDA HOSPITALS

	No. SDA's in this Position Now	Percent SDA's	No. Non-SDA's in this Position Now	Percent Non-SDA's	Totals	Percent Nursing Staff
LPN or LVN	540	30.8	1,211	69.2	1,751	30.3
Team Leader, Staff-RN or Charge Nurse	1,561	46.8	1,777	53.2	3,338	57.7
Middle Managers	308	64.0	173	36.0	481	8.3
Coordinator for Staff Development	53	84.1	10	15.9	63	1.1
Clinical Specialists	34	70.8	14	29.2	48	.8
Top Nursing Management	90	87.4	13	12.6	103	1.8
Totals	2,586	44.7	3,198	55.3	5,784	100.0

*These numbers are based upon returns from hospitals listed in the 112th Annual Statistical Report of Seventh-day Adventists, 1974, as having a total of 5,264 beds. This annual report indicated that there were 7,533 beds in all North American hospitals. The approximate numbers of nurses for all SDA North American hospitals are estimates calculated by multiplying the number of nurses in the reporting hospitals having 5,264 beds by the ratio 7533 ÷ 5264.

Procedures for the Development of the Survey Instruments and the Collection of Data

The following procedures were developed to meet the objectives specified in chapter one.

Step 1: Definition of Job Specifications

Nursing job specifications were collected from nursing education programs, major SDA hospitals, and other leading hospitals. Standard job specifications were grouped, analyzed, and developed. This work was done by a General Conference-approved committee of SDA nursing leaders.

Step 2: Educational Job-Specification Analysis

Each job specification was analyzed in terms of:

a. Certification requirements

b. Required educational preparation

c. Desirable educational preparation

d. Desirable previous work experience

The committee which did this was composed of members from the previous committee with additional members from appropriate nursing specialty areas. This committee was also a General Conference-approved committee of nursing educational leaders. Materials in steps 1 and 2 were used in the development of the instruments described in steps 3 and 4.

Step 3: Development and Administration of a Nursing Need Projection Survey Instrument

A simple survey instrument was developed to provide an estimate of the number of nursing positions by job type which might be

filled by SDA nurses if they were available. The instrument was sent to directors of nursing services at SDA hospitals.

This instrument requested nursing directors and/or hospital administrators to give information concerning the desired number of Adventist nurses by job classification, presently, two years from now, and five years from now. The data collected through this instrument were used to meet objective seven.

Step 4: Development of Instrument for the Nurse Profile Survey

A survey instrument was developed to obtain the following information from nurses working in Adventist hospitals:

a. Age
b. Sex
c. Marital status
d. Who influences where she/he lives
e. First degree leading to nursing license
f. Graduation data
g. Nursing school from which she/he graduated
h. Previous nursing positions (if any)
i. Present position
j. Area of clinical nursing
k. Basis of employment (part-time, full-time)
l. Length of service in first position
m. Length of service in previous position(s) (up to 6)
n. Highest degree held
o. School from which highest degree was received
p. Religious affiliation

The instrument was developed assuming that the nursing service director would help each nurse to define her/his present and previous job by the job specifications developed in steps 1 and 2. These job types were numerically coded so that numbers could be used to describe present and previous jobs. The information from this instrument (see appendix, page 177, for a copy of the instrument), plus information concerning Adventist graduates from Adventist nursing programs over the past forty years, and national statistics concerning the licensing of nurses were used to meet all the objectives except number seven.

Step 5: Pilot Testing of Nursing Profile Survey

The Nursing Profile Survey instrument developed in step 4 was pilot tested in the following manner with nursing directors and a small sample of nurses at Battle Creek and Hinsdale Hospitals.

a. A copy of the instrument was first given to the nursing director, and she was requested to fill it out in the presence of the representative.

b. Any questions or observations by the nursing director were noted.

c. The nursing director was then requested to administer the instrument to a small group of nurses. The administered instruments were studied with a view to discovering any problems that the nurses might have had with answering the items.

d. After administering the instrument the nursing directors were questioned concerning any problems which they might have had with administering the instrument.

e. After comparing the responses from both institutions, the final form of the instrument was completed.

Step 6: Administration of Nursing Profile Survey

Nursing directors met with a study representative, filled out the Nursing Profile Survey instrument, asked questions, and received instructions for administration of the instrument to the nurses under their supervision. Upon returning to their respective hospitals, these nursing directors administered the instruments and returned them to the representatives.

Step 7: Obtaining Additional Information

The General Conference Health Department of Seventh-day Adventists was contacted in order to obtain statistics and relative information used in objectives four and ten through thirteen.

Analysis of Data

Since this was a descriptive study, the analysis of the data primarily involved organizing descriptive statistics into tables which facilitated relating the data to the objectives of the study. Three general categories of descriptive statistics were used:

1. Tables with frequency distributions and marginal totals, and tables with total percentages, row percentages, and column percentages
2. Unit indices
3. Position transitional probabilities

Frequency and Percentage Tables

In this study, the majority of descriptive statistics are represented as tables containing frequencies or percentages. The tables are constructed as two-dimensional matrices using computer programs designed to do cross tabulations.

The frequencies are usually arranged so that the rows represent one category of events and the columns represent a second category of events. For example, rows might represent the number of years since an initial license was obtained and the columns the type of position the individual currently holds.

Frequencies appear in the matrices in two forms: nontotaled frequencies (raw data) and marginal totals. Marginal totals give the sum of each row, the sum of each column, and in the lower right hand corner the grand total of the nontotaled frequencies. The right or last column contains the marginal totals for the rows. The bottom row contains the marginal totals for the columns. The right column and bottom row marginal totals are identified in this study by the column or row title--"total."

From the frequencies referred to above, three types of percentage tables were generated: (1) row percentage, (2) column percentage, and (3) total percentage.

Row percentage tables were calculated by dividing each frequency in a row by the marginal total of that row and multiplying the resultant number by 100. In such a table the values in the right hand column are all 100%, since this column contains the marginal total percentage for each row.

Conversely, column percentage tables were calculated by dividing each frequency in a column by the marginal total of that column and multiplying the resultant number by 100. In this type of table the values of the bottom row are 100% totals.

The Relationship between Row Percentages, Column Percentages, and Conditional Probabilities

A conditional probability considers the mathematical chances of a first event occurring, given that a second event has occurred. Mosteller, Rourke, and Thomas (1961) in their book, Probability with Statistical Applications, define conditional probability as:

$$P(A \mid B) = \frac{P(A \cap B)}{P(B)}$$

Here event A, given B, is denoted by P(A| B) (p. 133). In the above formula, P means probability, the slash (|) should be read "given," and the inverted U (∩) should be read "intersection."

A substitution shows the relationship between conditional probabilities and column percentages, row percentages, or total percentages. This substitution is to let A = "row event" and B = "column event," or vice versa. When such a substitution is made, one then has P (Row event | Column event) = (Row event ∩ Column event) ÷ Column event.

Using such substitutions, row percentages can be thought of as 100 times the conditional probabilities of the form: the probability of a column event (an event defined by a particular column), given a row event (an event defined by a particular row). Similarly, a column percentage divided by 100 can be thought of as a probability of a row event, given a column event.

The percentages calculated by the total value of the frequencies can also be used to calculate conditional probabilities. The probability of a row event, given a column event, would be calculated by taking the percentage found at the intersection of that row and

column and dividing that percentage by the percentage found in the marginal total of that column. Similarly, the probability of a column event, given a row event, would be calculated by dividing the percentage found in the intersection of the row and column by the percentage found in the marginal total for the particular row.

For the purpose of this study the use of conditional probability in interpreting percentage tables is very helpful. This study considers each question as, what is the probability that an individual is working in a particular position given that she/he received an initial license a specified number of years earlier. Information related to this type of conditional question could be arranged so that the rows represent "number of years after receiving the initial license" and the columns represent "type of position occupied by the individual."

Unit Index

A unit index in this study will be defined as a distribution of numbers where the expected value (or average value) of each number is "1." Thus, if a number in the distribution is 2, it is twice the expected value. Or if it is .5, it is half the expected value.

Such distributions will be calculated from column or row frequencies, or column or row percentages. In column frequencies, this calculation will be made by dividing each value in the column by the mean of the numbers in the column. Similarly, in row frequencies, this calculation will be made by dividing each value in the row by the mean of the numbers in the row.

One advantage of the unit index is that trends become more readily apparent when examining data involving a sequence of years. The reason for this is that there is a reference number, in this case the reference number is "1." Therefore, values more than 1 indicate quantities more than expected, whereas values less than 1 indicate quantities less than expected as compared to the average (represented by "1"). The unit index also has this advantage: the value associated with an event can be compared proportionally with an expected value. For example, a value of 3 would indicate that the event occurred three times as frequently as expected by the average. The value of .25 would indicate that the event occurred only one-fourth as often as expected.

Position Transitional Probabilities

A "position transitional probability" as used in this study is a statement that describes (1) the frequency by which a given position (see job classifications developed in step 1) is expected to be filled due to attrition or promotion and (2) the type of experience and education the individual filling the position will probably have. The information necessary to develop transitional probabilities is included in tables related to objectives four, five, and six.

Specifically, these tables provide three types of information to be used in the transitional probabilities: (1) the expected length of time a nurse will work in a given position without changing, (2) the probabilities associated with specified positions (the probabilities associated with each position describe the likelihood

that that position was held just prior to taking the new position), and (3) the probabilities associated with the educational levels specified in the questionnaire (a probability associated with a specific educational level indicates the likelihood that the person filling the specified type of position has that educational level).

In other words, transitional probabilities indicate how long an individual can be expected to stay in a given position and the probabilities of how that position will be filled when it is vacated in terms of (1) the probability that the individual had one of a group of specified positions just prior to taking the new position and (2) the probability that the individual filling the position will have a particular educational background.

CHAPTER IV

RESULTS

This chapter is divided into three major sections: (1) response to the surveys, (2) information related to objectives 1 through 12, and (2) an examination of questions related to the information generated by the study (objective 13).

The first major section, response to the surveys, summarizes the response rate to the Nursing Need Projection Survey, the response rate to the Nurse Profile Survey, and the effects of the response rates on the implications of the study.

The second major section, information related to objectives 1 through 12, reports two types of results: (1) the development of job categories which were used in the survey instruments, and (2) the information related to objectives 1 through 12. The reporting of information related to objectives 1 through 12 follows this pattern: first an objective is stated and then information is presented which relates to that objective. Because of the nature of the study, much of the information related to the objectives is presented in the form of tables. These tables are then used as a basis for discussing the important aspects of the data pertinent to the study.

The third major section, an examination of questions related to the information generated by the study, uses information from the second section and information from the related literature to examine

specific questions. It was anticipated that questions needing further examination would arise from the collected data; however, the exact nature of these questions could not be clear until the data collection had been completed. Objective 13 was included to provide for this probable outcome.

Response to Surveys

The information reported in this chapter comes from (1) "The Nursing Need Projection Survey"--a survey sent to hospital nursing directors and administrators in Adventist hospitals in the continental U.S.A. for the purpose of gathering data on present and future hospital nursing needs; and (2) "The Nursing Profile Survey"--a survey administered to nurses in Adventist hospitals in the continental U.S.A.

Returns from the Nursing Need Projection Survey include data from thirty-one Adventist hospitals in the continental U.S.A. concerning the number of SDA nurses in given positions; the number of non-SDA nurses in these positions; and the number of additional SDA nurses desired in these positions now, two years from now, and five years from now. The North American SDA hospitals reporting represent 5,264 beds out of the 7,533 beds reported in the 1974 General Conference Statistical Report.

Returns from the Nurse Profile Survey included data from nurses in thirty-three Seventh-day Adventist hospitals in the continental U.S.A. The hospitals reporting represent 6,260 beds out of a possible 7,770 beds, or about 80% of the beds of all SDA North American hospitals.

The discrepancy between 7,533 beds reported in paragraph two and 7,770 beds indicated in paragraph three is the result of hospital expansions that took place between the time that the two survey instruments were administered. The hospital bed calculations in paragraph three are based upon unpublished statistics. The discrepancy is insignificant to the results of the study.

At the time that the data for this study were analyzed, reports had been received from all hospitals where study representatives had personally instructed the nursing service directors in the administration of the Nurse Profile Survey. The hospitals from which data were not received in time to include in this study were, for the most part, small Adventist hospitals located where travel did not permit representatives to give personal instruction to the nursing service directors.

The data from hospitals from which there were no returns would not be sufficient to affect the implications of the study even if they were markedly different from the results of the data reported. Further, there is no obvious reason to assume that the trends in these hospitals would be different from the other hospitals. Thus, in some charts the data were projected to the total North America hospital population (all 49 hospitals in existence at the time the data were collected) with the assumption that the results which would be obtained from the remaining hospitals would not differ markedly.

Responses were received from 3,756 nurses; 2,649 nurses reported full-time status, 801 part-time, and 26 occasional. The sta-

tus of the 280 who failed to respond could not be determined. This data representing nurses from the thirty-three reporting hospitals were used to estimate that the number of full-time equivalent nurses reporting was 3,302. The calculation used for this estimate is as follows:

$$2649 + .5 \times 801 + .25 \times 26 + \frac{2649 + .5 \times 801 + .25 \times 26}{3476} \times 280$$

Two methods were used to estimate the percentage of returns as compared to the total population of nurses working in SDA North American institutions. The first method resulted in an estimated 80% return rate, while the second method resulted in a 67% return rate.

The first method uses data from table 2.3 which indicate that from 1972 (the latest data that were available) private hospitals similar to the group being studied required an average of .427 full-time-equivalent nurses per bed. When .427 is multiplied by 6,260 beds, the number of beds in the hospitals reporting, a result of 2,955 is obtained. This is about 347 fewer than the number of full-time-equivalent nurses calculated from the response. This might be explained in two ways: (1) the number of full-time-equivalent nurses needed in 1976 was more than that needed in 1972, or (2) the patient census rate for the hospitals in this study might be greater than the 78.75% rate for the hospitals studied in table 2.3.

The import of this data is that in those hospitals responding, the responses correspond to a full-time-equivalent number of nurses which is greater than would be expected based upon the above analysis. This would suggest that for the hospitals reporting, the data were complete. If this assumption is made, then the responses

from these hospitals representing 80% of the beds would represent 80% of the nurses working in North American hospitals.

The second way of estimating the returns is to use the results of the "Nursing Needs Projection Survey" completed by hospital administrators and/or directors of nursing. This survey estimated that the total nursing population in North American Adventist hospitals was 5,748. These results are reported in table 3.1. This would suggest that the 3,756 nurses represent slightly less than two-thirds of the total nursing population studied.

In terms of responses, it seems that individuals least likely to respond would be those who worked on an occasional basis. This could explain why the total head count estimated by the Nursing Needs Projection Survey was greater than the number of full-time-equivalent nurses expected from the data found in table 2.3. If this is the case, the true percentage of responses in terms of full-time-equivalent nurses would lay somewhere between 67% and 80%. Because there is no way to determine the exact response rate, both percentages are frequently used when making projections to the total population of nurses in North American Adventist hospitals or for estimating future needs of these hospitals.

Information Related to Objectives 1 through 12

The standard job categories developed for the Nurse Profile Survey aid in the understanding of many tables and interpretations of the data. These categories as developed and used in the survey instrument are as follows:

PRINCIPAL NURSING POSITIONS

1. LPN OR LVN. The LPN or LVN gives nursing care in simple nursing situations under the supervision of the Registered Nurse. She assists the professional nurse in the care of the acutely ill patient.

2. STAFF NURSE. A Registered Nurse who is willing and capable of patient care but holds no specific administrative responsibilities.

3. TEAM LEADER/CHARGE NURSE. She/He organizes the resources and abilities of the nursing team in planning, directing, providing, and evaluating patient care for a specific group of patients for an assigned shift.

4. MIDDLE MANAGERS FOR NURSING.* (Head Nurse, Supervisor/Coordinator). The head nurse coordinates and guides nursing activities on a patient care unit (and may or may not have 24-hour responsibility); is an expert nurse practitioner; is a multi-disciplinary coordinator of patient care for nursing and paramedical disciplines; is responsible for delegating, communicating, evaluating, and directing patient care activities; is responsible for nursing staff performance and professional staff growth. The supervisor/coordinator coordinates and guides nursing activities on two or more patient care units (usually has 24-hour responsibility), and assumes all the above responsibilities.

5. COORDINATOR OF STAFF DEVELOPMENT. (Inservice education). A professional nurse who is responsible for the orientation and continuing education of all levels of nursing through the utilization of workshops, individual and group conferences, visual aids, and other available facilities in a creative setting.

6. TOP MANAGEMENT IN NURSING. (Director of Nurses, Assistant Director--Nursing, Vice-President--Nursing, Executive Vice-President--Nursing). The nurse in top management is a professional Registered Nurse who is responsible for the overall administration of nursing services; who plans, organizes, teaches, supervises, delegates, and evaluates on behalf of nursing staff.

7. CLINICAL SPECIALIST/NURSE GENERALIST. (Nurse/Clinician, Nurse Specialist, Specific Hospital Clinical Special-

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*In the tables of this study numbers 4, 8, and 9 read respectively as Middle Management, Nursing School Teacher, and Staff Development Teacher.

ties--cardiology, pulmonary-respiratory, orthopedics, oncology, neurology, renal dialysis, neuroepidemiology, obstetrics, mental health, medical, surgical, diabetics, health education, family health practitioner, geriatric nurse practitioner; Situations in Community--public health, family health practitioner, pediatric nurse practitioner, school nurse, office nurse, industrial nurse, HMO nurse; Other Situations and Positions--government, VA, consultant, volunteer, admitting nurse, nurse anesthetist, physician's assistant, nursing home administrator, administration hostess, patient advocate, central service, cardiac cath lab nurse.) The clinical specialist is an expert nurse practitioner who has advanced preparation in a specific clinical area. She/He focuses upon developing and maintaining improved nursing care--not upon managing the staff; gives status in direct patient care by performance as a role model; is responsible for guiding the education of the staff for specifically selected patients; serves as a resource person for all patients in her/his specialty area; conducts studies related to specific aspects of patient care as a means of improving patient care. The nurse generalist is the same as the clinical specialist except for her/his advanced preparation in general nursing.

8. INSTRUCTOR, SCHOOL OF NURSING.* She/He teaches, imparts knowledge to, and instructs nurses in schools of nursing or nursing departments in institutions of higher learning.

9. INSTRUCTOR, STAFF DEVELOPMENT.* She/He teaches nursing skills as part of the staff development function in a hospital or clinical setting.

10. RESEARCHER. She/He is a specialist in the scientific study of nursing and utilizes research tools and equipment to seek solutions and answers to problems in nursing.

Abbreviations Used in Tables

The abbreviations below are used in the tables that follow:

General Abbreviations

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*In the tables of this study numbers 4, 8, and 9 read respectively as Middle Management, Nursing School Teacher, and Staff Development Teacher.

AD.	Adventist
ADD'L	Additional
AS RN	Registered Nurse (Associate Degree)
AVE	Average
BS RN	Registered Nurse (Baccalaureate Degree)
CATH	Catholic
CHILD	Children
CLIN SPEC	Clinical Specialist(s)
CO	Community
COL	Column
COOR	Coordinator
DEVELOP	Development
DIV/SEP	Divorced or Separated
DOCT	Doctoral
DP RN	Registered Nurse (Diploma)
DRN*	Registered Nurse (Diploma)
FRN	Registered Nurse (Foreign)
GRADS	Graduates
HOSP	Hospital
LPN	Licensed Practical Nurse
LVN	Licensed Vocational Nurse
MA/MS	Masters of Art or Masters of Science Degree
MAR STATUS	Marriage Status
MEM	Memorial
MIDD MANAG	Middle Management
MISS	Mission
OCCAS	Occasional
PERCT	Percentage
PROT	Protestant
RES	Researcher
SAN	Sanitarium
SCHOOL TEACH	School Teacher
SDA	Seventh-day Adventist
STAFF DEVP	Staff Development
STAFF TEACH	Staff Teacher
TOP MANAG	Top Management
USASI	Adventist Self-supporting Institutions in US
USLPN	Licensed Practical Nurse (United States)
VA.	Valley

School Abbreviations

AU	Andrews University
AUC	Atlantic Union College
CUC	Columbia Union College
KCMA	Kettering College of Medical Arts
LLU	Loma Linda University

*Diploma programs from schools that have been phased out and are not a part of the above-mentioned schools.

OC	Oakwood College
PUC	Pacific Union College
SMC	Southern Missionary College
SUC	Southwestern Union College
UC	Union College
WWC	Walla Walla College

Whenever a table of percentages is presented the table of frequencies will be presented first. This will be done even if no comment is made about the table of frequencies so that an individual can see the raw data that were used to generate the percentage table. Some of these tables are constructed to show both summary information on the variables identified in the objectives and selected relations between variables by means of cross tabulations, row percentages, column percentages, total percentages, and tables of unit indices.

Objective 1. To describe nurses working in SDA hospitals in the continental U.S.A. in terms of: number, age, sex, education, marital status, religion, position (or type), and full- or part-time employment.

Table 4.1 lists in intervals of five years the number of nurses in respective age groups. The percent column gives the percentage of the total number of nurses in each interval. A definite clustering of ages towards the younger years is apparent; more than 35% of the nurses are between the ages of 21 and 30, 24% between the ages of 31 and 40, with only 19% of the nurses between the ages of 41 and 50, only 13% between the ages of 51 and 60, and less than 4% 61 or older.

TABLE 4.1

NUMBERS OF NURSES BY AGE CATEGORIES

AGE INTERVAL	NUMBER	PERCENTAGE
66-75	29	0.77
61-65	117	3.12
56-60	277	6.04
51-55	283	7.53
46-50	359	9.56
41-45	343	9.13
36-40	441	11.74
31-35	475	12.65
25-30	678	18.05
21-25	639	17.01
- -20	11	0.29
UNKNOWN	154	4.10
TOTAL	3756	100.00

Tables 4.2 and 4.3 describe the nurses in Adventist hospitals by sex. The predominance of females is observed; only 114, or about 3% of the 3,756 nurses were male. In no position do males make a significant numerical contribution. They contribute the highest percentage (only 6.2) to clinical specialties.

TABLE 4.2

POSITION VERSUS SEX

POSITION	MALE	FEMALE	UNKNOWN	TOTAL
LPN/LVN	22	762	6	790
STAFF NURSE	25	800	6	831
TEAM LEADER/CHARGE NURSE	33	1279	10	1322
MIDDLE MANAGEMENT	12	341	2	355
COOR. STAFF DEVELOPMENT		25	1	26
TOP MANAGEMENT	2	73		75
CLINICAL SPECIALIST	5	74	1	80
NURSING SCHOOL TEACHER	1	26		27
STAFF DEVELOP. TEACHER	1	22		23
RESEARCHER		4		4
OTHER	13	184	26	223
TOTAL	114	3590	52	3756

TABLE 4.3

POSITION VERSUS SEX
ROW PERCENTAGES

POSITION	MALE	FEMALE	UNKNOWN	TOTAL
LPN/LVN	2.80	96.50	0.80	100.00
STAFF NURSE	3.00	96.30	0.70	100.00
TEAM LEADER/CHARGE NURSE	2.50	96.70	0.80	100.00
MIDDLE MANAGEMENT	3.40	96.10	0.60	100.00
COOR. STAFF DEVELOPMENT		96.20	3.80	100.00
TOP MANAGEMENT	2.70	97.30		100.00
CLINICAL SPECIALIST	6.20	92.50	1.20	100.00
NURSING SCHOOL TEACHER	3.70	96.30		100.00
STAFF DEVELOP. TEACHER	4.30	95.70		100.00
RESEARCHER		100.00		100.00
OTHER	5.80	82.50	11.70	100.00
TOTAL	3.00	95.60	1.40	100.00

TABLE 4.4

EDUCATIONAL PREPARATION OF NURSES

	NUMBERS	PERCENTAGES
LPN	882	23.50
DIPLOMA RN	1317	35.50
ASSOCIATE RN	617	16.40
BACCALAUREATE RN	741	19.70
MASTERS MS/MA	95	2.50
DOCTORAL	2	0.10
BLANK	102	2.70
TOTAL	3756	100.00

Tables 4.4 through 4.6 provide information related to the educational preparation of nurses. Table 4.4 shows the highest educational preparation of nurses while tables 4.5 and 4.6 summarize the information related to the first nursing education experience. In table 4.4 the diploma programs appear to have a major impact; however, this needs to be examined in light of the information provided in tables 4.5 and 4.6 which show that the diploma program is contributing many fewer nurses now than in the past and that there has been a rapid growth in the LPN/LVN, AS RN, and BS RN programs. In table 4.6, the decreasing influence of the diploma program is clearly evident when the figures for 1976 are ignored (It is appropriate to ignore the 1976 figures since there were only nine individuals reporting).

Tables 4.7 and 4.8 show that little meaningful relationship exists between marital status and position with the exception that there is a larger proportion of single nurses in top management than other categories. However, the significance of this trend is minimized when it is observed that there are still almost twice as many nurses in top management who are married than are single. Tables 4.9 and 4.10 show that nurses tend to be single when they are young. The import of this becomes significant when the influence of family and friends on where a nurse works and lives is examined in objective 2.

The results of the study indicated that only about 37.5% of the nurses reporting were Seventh-day Adventists. The tables providing this information are found in objective 8, which not only examines the number of Seventh-day Adventist nurses in Adventist

TABLE 4.5

YEAR AND TYPE OF FIRST LICENSE

	LPN/LVN	AS-RN	DIP.-RN	BS-RN	UNKNOWN	TOTAL
1936			6	1	1	8
1937		1	13		3	17
1938			9			9
1939			17		1	18
1940			25		1	26
1941		1	25		1	27
1942	1	1	29	3	2	36
1943			28			28
1944			33	2		35
1945	1		30	3	3	37
1946			37	2		39
1947	1		47	2	1	51
1948	1		29	2	1	33
1949	4		40	2		46
1950	4		45	4		53
1951	4	2	35	6	1	48
1952	11		26	8		45
1953	7		30	10	1	48
1954	5	1	50	10	2	68
1955	5		55	11	2	73
1956	7	1	36	8	2	54
1957	6	1	47	10	1	65
1958	9	2	32	14		57
1959	19	1	46	15	2	83
1960	10	2	46	16	2	76
1961	10	2	41	11	2	66
1962	14	1	43	18	4	80
1963	22	4	43	15		84
1964	32	8	50	17		107
1965	29	4	34	16	3	86
1966	30	4	51	18	3	106
1967	42	11	44	22	3	122
1968	54	23	48	27	3	155
1969	66	39	39	23	4	171
1970	60	49	41	35	3	188
1971	78	54	42	40	6	220
1972	84	53	35	37	5	214
1973	89	89	25	49	4	256
1974	106	105	32	68	8	319
1975	107	127	17	82	9	342
1976	2	1	3	3		9
OTHER	25	15	56	15	40	151
TOTAL	945	602	1460	625	124	3756

TABLE 4.6

YEAR AND TYPE OF FIRST LICENSE
ROW PERCENTAGES

	LPN/LVN	AS-RN	DIP.-RN	BS-RN	UNKNOWN	TOTAL
1936			75.00	12.50	12.50	100.00
1937		5.90	76.50		17.60	100.00
1938			100.00			100.00
1939			94.40		5.60	100.00
1940			96.20		3.80	100.00
1941		3.70	92.60		3.70	100.00
1942	2.80	2.80	80.60	8.30	5.60	100.00
1943			100.00			100.00
1944			94.30	5.70		100.00
1945	2.70		81.10	8.10	8.10	100.00
1946			94.90	5.10		100.00
1947	2.00		92.20	3.90	2.00	100.00
1948	3.00		87.90	6.10	3.00	100.00
1949	8.70		87.00	4.30		100.00
1950	7.50		84.90	7.50		100.00
1951	8.30	4.20	72.90	12.50	2.10	100.00
1952	24.40		57.80	17.80		100.00
1953	14.60		62.50	20.80	2.10	100.00
1954	7.40	1.50	73.50	14.70	2.90	100.00
1955	6.80		75.30	15.10	2.70	100.00
1956	13.00	1.90	66.70	14.80	3.70	100.00
1957	9.20	1.50	72.30	15.40	1.50	100.00
1958	15.80	3.50	56.10	24.60		100.00
1959	22.90	1.20	55.40	18.10	2.40	100.00
1960	13.20	2.60	60.50	21.10	2.60	100.00
1961	15.20	3.00	62.10	16.70	3.00	100.00
1962	17.50	1.20	53.70	22.50	5.00	100.00
1963	26.20	4.80	51.20	17.90		100.00
1964	29.90	7.50	46.70	15.90		100.00
1965	33.70	4.70	39.50	18.60	3.50	100.00
1966	28.30	3.80	48.10	17.00	2.80	100.00
1967	34.40	9.00	36.10	18.00	2.50	100.00
1968	34.80	14.80	31.00	17.40	1.90	100.00
1969	38.60	22.80	22.80	13.50	2.30	100.00
1970	31.90	26.10	21.80	18.60	1.60	100.00
1971	35.50	24.50	19.10	18.20	2.70	100.00
1972	39.30	24.80	16.40	17.30	2.30	100.00
1973	34.80	34.80	9.80	19.10	1.60	100.00
1974	33.20	32.90	10.00	21.30	2.50	100.00
1975	31.30	37.10	5.00	24.00	2.60	100.00
1976	22.20	11.10	33.30	33.30		100.00
OTHER	16.60	9.90	37.10	9.90	26.50	100.00
TOTAL	25.20	16.00	38.90	16.60	3.30	100.00

TABLE 4.7

POSITION VERSUS MARITAL STATUS

POSITION	SINGLE	MARRIED	WIDOWED	DIV/SEP	UNKNOWN	TOTAL
LPN/LVN	139	479	47	120	5	790
STAFF NURSE	169	573	17	67	5	831
TEAM NURSE	236	943	27	108	8	1322
MIDD. MANAG.	68	230	19	36	2	355
STAFF DEVP.	5	18	1	1	1	26
TOP MANAG.	21	45	1	8		75
CLIN. SPEC.	14	58	2	6		80
SCHOOL TEACH	6	20	1			27
STAFF TEACH	2	19	1	1		23
RESEARCHER	1		1	2		4
OTHER	36	142	3	13	29	223
TOTAL	697	2527	120	362	50	3756

TABLE 4.8

POSITION VERSUS MARITAL STATUS
ROW PERCENTAGES

POSITION	SINGLE	MARRIED	WIDOWED	DIV/SEP	UNKNOWN	TOTAL
LPN/LVN	17.60	60.60	5.90	15.20	0.60	100.00
STAFF NURSE	20.30	69.00	2.00	8.10	0.60	100.00
TEAM NURSE	17.90	71.30	2.00	8.20	0.60	100.00
MIDD. MANAG.	19.20	64.80	5.40	10.10	0.60	100.00
STAFF DEVP.	19.20	69.20	3.80	3.80	3.80	100.00
TOP MANAG.	28.00	60.00	1.30	10.70		100.00
CLIN. SPEC.	17.50	72.50	2.50	7.50		100.00
SCHOOL TEACH	22.20	74.10	3.70			100.00
STAFF TEACH	8.70	82.60	4.30	4.30		100.00
RESEARCHER	25.00		25.00	50.00		100.00
OTHER	16.10	63.70	1.30	5.80	13.00	100.00
TOTAL	18.60	67.30	3.20	9.60	1.30	100.00

TABLE 4.9

BIRTH DATE VERSUS MARITAL STATUS

	SINGLE	MARRIED	WIDOWED	DIV/SEP	UNKNOWN	TOTAL
1901-9	2	12	6	2		22
1910	1	4	1	1		7
1911	1	6	9	1		17
1912	1	11	5	3	1	21
1913	2	10	6	2		20
1914	2	7	5	2	1	17
1915	6	22	7	7		42
1916	7	31	6	1		45
1917	3	29	5	5		42
1918	2	20	9	3		34
1919	2	37	8	3		50
1920	8	39	2	7		56
1921	3	36	5	9		53
1922	3	43	9	6		61
1923	7	35	3	7		52
1924	5	42	3	5		55
1925	6	45	1	10		62
1926	3	39	4	12		58
1927	10	53	4	7		74
1928	11	63	1	6		81
1929	1	49	1	7	1	59
1930	7	69	2	8	1	87
1931	5	46	1	5		57
1932	5	60	2	6		73
1933	2	56		5		63
1934	5	54		9		68
1935	8	59	1	13	1	82
1936	5	67	2	11	1	86
1937	7	64		9		80
1938	5	62		10		77
1939	8	72	1	16	2	99
1940	9	74	2	14		99
1941	10	79		8		97
1942	14	67	2	7		90
1943	11	74		11		96
1944	23	65	1	15		104
1945	18	61		8	1	88
1946	15	91		10	1	117
1947	35	87		13	1	136
1948	31	92		10	1	134
1949	39	90		8	2	139
1950	43	94		15		152
1951	50	82	1	9	4	146
1952	76	91		11	1	179
1953	78	88		2		168
1954	45	50		3	1	99
1955	31	14		1	1	47
1956	6	4		1		11
UNKN.	20	82	5	18	29	154
TOTAL	697	2527	120	362	50	3756

TABLE 4.10

BIRTH DATE VERSUS MARITAL STATUS
ROW PERCENTAGES

	SINGLE	MARRIED	WIDOWED	DIV/SEP	UNKNOWN	TOTAL
1901-9	9.10	54.50	27.30	9.10		100.00
1910	14.30	57.10	14.30	14.30		100.00
1911	5.90	35.30	52.90	5.90		100.00
1912	4.80	52.40	23.80	14.30	4.80	100.00
1913	10.00	50.00	30.00	10.00		100.00
1914	11.80	41.20	29.40	11.80	5.90	100.00
1915	14.30	52.40	16.70	16.70		100.00
1916	15.60	68.90	13.30	2.20		100.00
1917	7.10	69.00	11.90	11.90		100.00
1918	5.90	58.80	26.50	8.80		100.00
1919	4.00	74.00	16.00	6.00		100.00
1920	14.30	69.60	3.60	12.50		100.00
1921	5.70	67.90	9.40	17.00		100.00
1922	4.90	70.50	14.80	9.80		100.00
1923	13.50	67.30	5.80	13.50		100.00
1924	9.10	76.40	5.50	9.10		100.00
1925	9.70	72.60	1.60	16.10		100.00
1926	5.20	67.20	6.90	20.70		100.00
1927	13.50	71.60	5.40	9.50		100.00
1928	13.60	77.80	1.20	7.40		100.00
1929	1.70	83.10	1.70	11.90	1.70	100.00
1930	8.00	79.30	2.30	9.20	1.10	100.00
1931	8.80	80.70	1.80	8.80		100.00
1932	6.80	82.20	2.70	8.20		100.00
1933	3.20	88.90		7.90		100.00
1934	7.40	79.40		13.20		100.00
1935	9.80	72.00	1.20	15.90	1.20	100.00
1936	5.80	77.90	2.30	12.80	1.20	100.00
1937	8.70	80.00		11.20		100.00
1938	6.50	80.50		13.00		100.00
1939	8.10	72.70	1.00	16.20	2.00	100.00
1940	9.10	74.70	2.00	14.10		100.00
1941	10.30	81.40		8.20		100.00
1942	15.60	74.40	2.20	7.80		100.00
1943	11.50	77.10		11.50		100.00
1944	22.10	62.50	1.00	14.40		100.00
1945	20.50	69.30		9.10	1.10	100.00
1946	12.80	77.80		8.50	0.90	100.00
1947	25.70	64.00		9.60	0.70	100.00
1948	23.10	68.70		7.50	0.70	100.00
1949	28.10	64.70		5.80	1.40	100.00
1950	28.30	61.80		9.90		100.00
1951	34.20	56.20	0.70	6.20	2.70	100.00
1952	42.50	50.80		6.10	0.60	100.00
1953	46.40	52.40		1.20		100.00
1954	45.50	50.50		[illegible].00	1.00	100.00
1955	66.00	29.80		[illegible].10	2.10	100.00
1956	54.50	36.40		[illegible].10		100.00
UNKN.	13.00	53.20	3.[illegible]	[illegible].70	18.80	100.00
TOTAL	18.60	67.30	3.[illegible]	9.60	1.30	100.00

hospitals but also examines the relationship between religion and positions held by individuals in these hospitals.

Tables 4.11 and 4.12 show the relationship between positions and full-time/part-time employment. Table 4.11 shows the relative insignificance of part-time and occasional help. As can be observed, 2,649 of the respondents indicated they were full-time, whereas only 801 indicated part-time, and 26 occasional. The minimal influence of part-time nursing assistance on total work load becomes apparent when part-time nursing assistance is converted to full-time equivalents.

Tables in Facts About Nursing 74-75 multiplied those reporting part-time by .5 to relate them to full-time. This practice is consistent with information obtained in interviews with directors of nursing. The reason for this is that a part-time person usually works two or three shifts out of five weekly shifts, thus 801 part-time nurses are equivalent only to 400.5 full-time nurses in hours worked. Earlier in the chapter these figures were used to estimate that the full-time equivalent of those reporting was 3,302. Using this figure the part-time help represents only about 12% of the nursing effort as compared to 21% of the head count shown in table 4.12.

Objective 2. To examine the influences of family and friends upon where nurses live.

This objective can be considered by examining two questions: (1) who influences the individual most and (2) to what extent is the individual influenced.

TABLE 4.11

POSITION VERSUS FULL/PART TIME

POSITION	FULL TIME	PART TIME	OCCAS.	UNKNOWN	TOTAL
LPN/LVN	619	135	6	30	790
STAFF NURSE	534	263	8	26	831
TEAM NURSE	943	336	8	35	1322
MIDD. MANAG.	312	33	2	8	355
STAFF DEVP.	21	5			26
TOP MANAG.	73	1		1	75
CLIN. SPEC.	64	16			80
SCHOOL TEACH	25	1	1		27
STAFF TEACH	18	4		1	23
RESEARCHER	3	1			4
OTHER	37	6	1	179	223
TOTAL	2649	801	26	280	3756

TABLE 4.12

POSITION VERSUS FULL/PART TIME
ROW PERCENTAGES

POSITION	FULL TIME	PART TIME	OCCAS.	UNKNOWN	TOTAL
LPN/LVN	78.40	17.10	0.80	3.80	100.00
STAFF NURSE	64.30	31.60	1.00	3.10	100.00
TEAM NURSE	71.30	25.40	0.60	2.60	100.00
MIDD. MANAG.	87.90	9.30	0.60	2.30	100.00
STAFF DEVP.	80.80	19.20			100.00
TOP MANAG.	97.30	1.30		1.30	100.00
CLIN. SPEC.	80.00	20.00			100.00
SCHOOL TEACH	92.60	3.70	3.70		100.00
STAFF TEACH	78.30	17.40		4.30	100.00
RESEARCHER	75.00	25.00			100.00
OTHER	16.60	2.70	0.40	80.30	100.00
TOTAL	70.50	21.30	0.70	7.50	100.00

In the Nurse Profile Survey instrument the question of who influences a nurse was stated as follows: Who influences most where you live now (city or state)? Please check one. The possible responses were spouse, children, parents, friends, none. The results from this question are found in tables 4.13 through 4.15.

The second question, to what extent is the person influenced by family or friends, was examined through the following question: To what extent do/does the individual/s influence your decision as to where you live? The results from this question are found in tables 4.16 through 4.18.

From tables 4.13 through 4.15 it is evident that the single most important influence on nurses working in Adventist hospitals is the spouse of a married nurse. "Spouse" influence was listed by over 75% (table 4.15) of the married nurses which was over 51% of the total nurse respondents. Table 4.17 shows that 34.20% of the married population are influenced "completely" by others on where they lived and 35%, "much." Thus, about 70% of the married population is influenced "completely" or "much."

Table 4.18 shows that slightly over two-thirds of the individuals reported that they were married, thus the relationship of a spouse or child to the total population becomes very significant, especially when it is taken into consideration that almost 70% of the married individuals indicated that they were either "completely" or "much" influenced by some individual. From tables 4.13 and 4.14 a different picture for single nurses is obtained, since the largest number indicated that no one had had a significant influence on where

they lived; parents and friends, however, did influence some single nurses.

To summarize the information found in tables 4.13 through 4.18: for married nurses, the influence of the spouse and children is very significant. Married nurses, representing over two-thirds of the respondents, are the most significant group affecting nurse mobility. On the other hand, individuals who are not married, representing about one-third of those responding, tended to be less influenced by others. Using the data found in table 4.16 one finds that of a total of 1,179 nurses who identified themselves to be single, married, divorced, or separated, 525 reported that no one influenced where they currently live. This means that 45% of this category of individuals had not been influenced by friends or family to live in their current location. Table 4.18 shows that of the total nurse respondents only about 30% had little or no influence from family and friends on where they lived. Consequently, over 70% of the nurses studied, regardless of marital status, indicated that friends or family had "complete," "much," or "some" influence on where they live and work.

Objective 3. To discover personnel selection patterns that hospitals follow in filling nursing vacancies. (Objectives 3, 4, 5, and 6 provide information related to transitional probabilities discussed in the latter part of chapter III.)

Table 4.19 gives frequencies on positions which nurses in Adventist hospitals presently occupy (columns) and positions which these same nurses occupied (rows) immediately before present posi-

TABLE 4.13

MARITAL STATUS VERSUS WHO INFLUENCES

MAR. STATUS	SPOUSE	CHILD.	PARENTS	FRIENDS	NONE	TOTAL
SINGLE	7	3	165	168	354	697
MARRIED	1917	133	44	34	399	2527
WIDOWED	7	44	4	7	58	120
DIV./SEP.	8	144	28	22	160	362
UNKNOWN	8	2	1	4	35	50
TOTAL	1947	326	242	235	1006	3756

TABLE 4.14

MARITAL STATUS VERSUS WHO INFLUENCES
ROW PERCENTAGES

MAR. STATUS	SPOUSE	CHILD.	PARENTS	FRIENDS	NONE	TOTAL
SINGLE	1.00	0.40	23.70	24.10	50.80	100.00
MARRIED	75.90	5.30	1.70	1.30	15.80	100.00
WIDOWED	5.80	36.70	3.30	5.80	48.30	100.00
DIV./SEP.	2.20	39.80	7.70	6.10	44.20	100.00
UNKNOWN	16.00	4.00	2.00	8.00	70.00	100.00
TOTAL	51.80	8.70	6.40	6.30	26.80	100.00

TABLE 4.15

MARITAL STATUS VERSUS WHO INFLUENCES
TOTAL PERCENTAGE

MAR. STATUS	SPOUSE	CHILD.	PARENTS	FRIENDS	NONE	TOTAL
SINGLE	0.20	0.10	4.40	4.50	9.40	18.60
MARRIED	51.00	3.50	1.20	0.90	10.60	67.30
WIDOWED	0.20	1.20	0.10	0.20	1.50	3.20
DIV./SEP.	0.20	3.80	0.70	0.60	4.30	9.60
UNKNOWN	0.20	0.10		0.10	0.90	1.30
TOTAL	51.80	8.70	6.40	6.30	26.80	100.00

TABLE 4.16

MARITAL STATUS VERSUS HOW MUCH INFLUENCE

	COMPLETE	MUCH	SOME	LITTLE	NONE	TOTAL
SINGLE	27	106	154	95	315	697
MARRIED	864	900	317	69	377	2527
WIDOWED	5	26	23	6	60	120
DIV./SEP.	21	106	66	19	150	362
UNKNOWN	8	5	2		35	50
TOTAL	925	1143	562	189	937	3756

TABLE 4.17

MARITAL STATUS VERSUS HOW MUCH INFLUENCE
ROW PERCENTAGES

	COMPLETE	MUCH	SOME	LITTLE	NONE	TOTAL
SINGLE	3.90	15.20	22.10	13.60	45.20	100.00
MARRIED	34.20	35.60	12.50	2.70	14.90	100.00
WIDOWED	4.20	21.70	19.20	5.00	50.00	100.00
DIV./SEP.	5.80	29.30	18.20	5.20	41.40	100.00
UNKNOWN	16.00	10.00	4.00		70.00	100.00
TOTAL	24.60	30.40	15.00	5.00	24.90	100.00

TABLE 4.18

MARITAL STATUS VERSUS HOW MUCH INFLUENCE
TOTAL PERCENTAGE

	COMPLETE	MUCH	SOME	LITTLE	NONE	TOTAL
SINGLE	0.70	2.80	4.10	2.50	8.40	18.60
MARRIED	23.00	24.00	8.40	1.80	10.00	67.30
WIDOWED	0.10	0.70	0.60	0.20	1.60	3.20
DIV./SEP.	0.60	2.80	1.80	0.50	4.00	9.60
UNKNOWN	0.20	0.10	0.10		0.90	1.30
TOTAL	24.60	30.40	15.00	5.00	24.90	100.00

tion. By examining the previous positions held by nurses before obtaining their present positions, it is possible to project how new openings will probably be filled. Table 4.20 converts the frequencies into column percentages, making it easier to speak in terms of "probability."

Given that a top management position becomes vacant, what is likely to be the previous position of the person who fills the vacancy? Reading down the column under "top management" in table 4.20, one comes to the highest percentage, 32.0. Reading across the row to the left, one sees that the row is also "top management." Based on these data, one would state that if there is an opening in a top management position, there is a .32 probability that it will be filled by someone in middle management. By studying tables 4.19 and 4.20 one can observe present selection patterns related to previous positions for purposes of projection.

Table 4.21 indicates how many years it has been since nurses working in Adventist hospitals received their first license. The rows give the number of years since receiving the first license while the columns indicate the position held by the nurses.

Table 4.22 develops row percentages and table 4.23 develops column percentages from the data in table 4.21.

Table 4.22 is useful in examining questions of this type: Given a person has had a nursing license for a specified number of years, what is the probability that she/he will be working in a particular position? This conditional probability can be read directly from the row percentage table by dividing the percentage in

TABLE 4.19

PREVIOUS VERSUS PRESENT POSITION

PREVIOUS POSITION	LPN LVN	STAFF NURSE	TEAM NURSE	MIDD. MANAG	STAFF DEVP.	TOP MANAG	CLIN. SPEC.	TEACH SCH.	TEACH STAFF	RES.	OTHER	TOTAL
LPN/LVN	297	14	28	4		1	4	1			8	357
STAFF NURSE	3	291	252	88	4	9	16	3	5	1	7	679
TEAM LEADER/CHARGE NURSE	18	180	514	88	1	8	14	6	4		10	843
MIDDLE MANAGEMENT	2	39	68	90	8	18	9	4	3		3	244
COOR. STAFF DEVELOPMENT		2	4	2	2	3		1				14
TOP MANAGEMENT		7	20	25	1	24	3	1	2		2	85
CLINICAL SPECIALIST	1	12	26	13	4	3	21	1	2			83
NURSING SCHOOL TEACHER	1	11	16	11	1	3	2	4	1			50
STAFF DEVELOP. TEACHER	1	2	1	2	3				2		1	12
RESEARCHER		2	1	1						1		5
OTHER	467	271	392	31	2	6	11	6	4	2	192	1384
TOTAL	790	831	1322	355	26	75	80	27	23	4	223	3756

TABLE 4.20

PREVIOUS VERSUS PRESENT POSITION
COLUMN PERCENTAGE

PREVIOUS POSITION	LPN LVN	STAFF NURSE	TEAM NURSE	MIDD. MANAG	STAFF DEVP.	TOP MANAG	CLIN. SPEC.	INST. SCH.	INST. STAFF	RES.	OTHER	TOTAL
LPN/LVN	37.6	1.7	2.1	1.1		1.3	5.0	3.7			3.6	9.5
STAFF NURSE	0.4	35.0	19.1	24.8	15.4	12.0	20.0	11.1	21.7	25.0	3.1	18.1
TEAM LEADER/CHARGE NURSE	2.3	21.7	38.9	24.8	3.8	10.7	17.5	22.2	17.4		4.5	22.4
MIDDLE MANAGEMENT	0.3	4.7	5.1	25.4	30.8	24.0	11.2	14.8	13.0		1.3	6.5
COOR. STAFF DEVELOPMENT		0.2	0.3	0.6	7.7	4.0		3.7				0.4
TOP MANAGEMENT		0.8	1.5	7.0	3.8	32.0	3.7	3.7	8.7		0.9	2.3
CLINICAL SPECIALIST	0.1	1.4	2.0	3.7	15.4	4.0	26.2	3.7	8.7			2.2
NURSING SCHOOL TEACHER	0.1	1.3	1.2	3.1	3.8	4.0	2.5	14.8	4.3			1.3
STAFF DEVELOP. TEACHER	0.1	0.2	0.1	0.6	11.5				8.7		0.4	0.3
RESEARCHER		0.2	0.1	0.3						25.0		0.1
OTHER	59.1	32.6	29.7	8.7	7.7	8.0	13.7	22.2	17.4	50.0	86.1	36.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

any given row by 100. Thus, the conditional probability of a person who has had a license for fifteen years being in the position LPN/LVN is .152, a staff nurse .197, a team nurse .394, and so forth.

Table 4.23 is useful in examining conditional probability questions of this type: Given that a person is in top management, what is the probability that she/he had a license for a given number of years? This can be determined by dividing the column under top management in the column percentage table 4.23 by 100. An examination of this table shows a clustering of higher percentages beginning after about thirteen years of service and continuing through about twenty-seven years of service.

Tables 4.21 and 4.22 are the basis, respectively, for generating tables 4.24 and 4.25. Table 4.24, Column Unit Index for Column Frequencies, is generated by dividing the value in a given column by the average value for that column calculated in table 4.21. For example, the sum of the values in column 1 is 790. There are 42 non-total values in column 1. If 790 is divided by 42 the result is 18.81. Thus, in table 4.24 any value in column 1 which had an original frequency of 18 or less will have an index of less than 1, and any value which had an original frequency of 19 or more will have an index value of greater than 1. As indicated in the previous chapter the unit index is of particular significance in that it can be used to discuss proportionately how much more or less a particular cell is than expected. Table 4.24 gives a picture of trends as they currently exist including the proportionately larger nurse graduating class in recent years.

TABLE 4.21

YEARS AFTER FIRST LICENSE VERSUS PRESENT POSITION

	LPN LVN	STAFF NURSE	TEAM NURSE	MIDD. MANAG	STAFF DEVP.	TOP MANAG	CLIN. SPEC.	INST. SCH.	INST. STAFF	RES.	OTHER	TOTAL
0 YRS	2	3	.3								1	9
1 YR	93	102	96	2		1	1	1		1	45	342
2 YRS	86	83	110	9			1	2	1		27	319
3 YRS	76	50	99	10		1	4		2		14	256
4 YRS	68	44	69	13	1	1	4		1		13	214
5 YRS	66	52	71	13	1	1	4	1	2		9	220
6 YRS	53	39	66	15	4	1	2	1	1		6	188
7 YRS	60	23	59	15		2	4	2	1		5	171
8 YRS	44	28	55	11	3	1	4	1	1		7	155
9 YRS	34	20	36	20	1	1	5	1			4	122
10 YRS	29	24	33	16		1		1	1		1	106
11 YRS	18	16	30	9		1	3				9	86
12 YRS	26	21	40	11	2	1	2	1	1		2	107
13 YRS	18	19	28	5	2	2	5	1	1		3	84
14 YRS	12	12	38	10		3	1	2			2	80
15 YRS	10	13	26	10		3	1				3	66
16 YRS	8	19	33	9		4	2		1			76
17 YRS	14	18	33	9		2	1	1			5	83
18 YRS	6	9	22	11	1	4	1				3	57
19 YRS	4	14	28	13		2	2	1			1	65
20 YRS	7	8	26	7		1	3				2	54
21 YRS	6	15	33	10	1	2	4	1			1	73
22 YRS	4	17	22	14	1	3	3	1	1	1	1	68
23 YRS	6	8	15	7		3	5		1		3	48
24 YRS	7	7	15	5		5	3	1			2	45
25 YRS	1	12	22	4		4	2		1		2	48
26 YRS	3	19	17	5		5	1		1		2	53
27 YRS	2	8	18	5	3	6	1	1	1		1	46
28 YRS	1	7	13	8	1	1	1	1				33
29 YRS		11	17	13	1	2	2	2	1		2	51
30 YRS		9	15	10		1	2	1	1			39
31 YRS	1	10	13	9	1	2	1					37
32 YRS		12	11	5		1	1	1	1		3	35
33 YRS		4	13	7		3					1	28
34 YRS	1	10	16	6		1					2	36
35 YRS		8	13	5							1	27
36 YRS	1	6	13	2	2			1			1	26
37 YRS		5	5	4		1	1	1	1			18
38 YRS			5	3		1						9
39 YRS		7	7	1			1			1		17
40 YRS		1	3	3	1							8
OTHER	23	38	35	11		1	2		1	1	39	151
TOTAL	790	831	1322	355	26	75	80	27	23	4	223	3756

TABLE 4.22

YEARS AFTER FIRST LICENSE VERSUS PRESENT POSITION
ROW PERCENTAGES

	LPN LVN	STAFF NURSE	TEAM NURSE	MIDD. MANAG	STAFF DEVP.	TOP MANAG	CLIN. SPEC.	INST. SCH.	INST. STAFF	RES.	OTHER	TOTAL
0 YRS	22.2	33.3	33.3								11.1	100.0
1 YR	27.2	29.8	28.1	0.6		0.3	0.3	0.3		0.3	13.2	100.0
2 YRS	27.0	26.0	34.5	2.8			0.3	0.6	0.3		8.5	100.0
3 YRS	29.7	19.5	38.7	3.9		0.4	1.6		0.8		5.5	100.0
4 YRS	31.8	20.6	32.2	6.1	0.5	0.5	1.9		0.5		6.1	100.0
5 YRS	30.0	23.6	32.3	5.9	0.5	0.5	1.8	0.5	0.9		4.1	100.0
6 YRS	28.2	20.7	35.1	8.0	2.1	0.5	1.1	0.5	0.5		3.2	100.0
7 YRS	35.1	13.5	34.5	8.8		1.2	2.3	1.2	0.6		2.9	100.0
8 YRS	28.4	18.1	35.5	7.1	1.9	0.6	2.6	0.6	0.6		4.5	100.0
9 YRS	27.9	16.4	29.5	16.4	0.8	0.8	4.1	0.8			3.3	100.0
10 YRS	27.4	22.6	31.1	15.1		0.9		0.9	0.9		0.9	100.0
11 YRS	20.9	18.6	34.9	10.5		1.2	3.5				10.5	100.0
12 YRS	24.3	19.6	37.4	10.3	1.9	0.9	1.9	0.9	0.9		1.9	100.0
13 YRS	21.4	22.6	33.3	6.0	2.4	2.4	6.0	1.2	1.2		3.6	100.0
14 YRS	15.0	15.0	47.5	12.5		3.7	1.2	2.5			2.5	100.0
15 YRS	15.2	19.7	39.4	15.2		4.5	1.5				4.5	100.0
16 YRS	10.5	25.0	43.4	11.8		5.3	2.6		1.3			100.0
17 YRS	16.9	21.7	39.8	10.8		2.4	1.2	1.2			6.0	100.0
18 YRS	10.5	15.8	38.6	19.3	1.8	7.0	1.8				5.3	100.0
19 YRS	6.2	21.5	43.1	20.0		3.1	3.1	1.5			1.5	100.0
20 YRS	13.0	14.8	48.1	13.0		1.9	5.6				3.7	100.0
21 YRS	8.2	20.5	45.2	13.7	1.4	2.7	5.5	1.4			1.4	100.0
22 YRS	5.9	25.0	32.4	20.6	1.5	4.4	4.4	1.5	1.5	1.5	1.5	100.0
23 YRS	12.5	16.7	31.2	14.6		6.2	10.4		2.1		6.2	100.0
24 YRS	15.6	15.6	33.3	11.1		11.1	6.7	2.2			4.4	100.0
25 YRS	2.1	25.0	45.8	8.3		8.3	4.2		2.1		4.2	100.0
26 YRS	5.7	35.8	32.1	9.4		9.4	1.9		1.9		3.8	100.0
27 YRS	4.3	17.4	39.1	10.9	6.5	13.0	2.2	2.2	2.2		2.2	100.0
28 YRS	3.0	21.2	39.4	24.2	3.0	3.0	3.0	3.0				100.0
29 YRS		21.6	33.3	25.5	2.0	3.9	3.9	3.9	2.0		3.9	100.0
30 YRS		23.1	38.5	25.6		2.6	5.1	2.6	2.6			100.0
31 YRS	2.7	27.0	35.1	24.3	2.7	5.4	2.7					100.0
32 YRS		34.3	31.4	14.3		2.9	2.9	2.9	2.9		8.6	100.0
33 YRS		14.3	46.4	25.0		10.7					3.6	100.0
34 YRS	2.8	27.8	44.4	16.7		2.8					5.6	100.0
35 YRS		29.6	48.1	18.5							3.7	100.0
36 YRS	3.8	23.1	50.0	7.7	7.7			3.8			3.8	100.0
37 YRS		27.8	27.8	22.2		5.6	5.6	5.6	5.6			100.0
38 YRS			55.6	33.3		11.1						100.0
39 YRS		41.2	41.2	5.9			5.9			5.9		100.0
40 YRS		12.5	37.5	37.5	12.5							100.0
OTHER	15.2	25.2	23.2	7.3		0.7	1.3		0.7	0.7	25.8	100.0
TOTAL	21.0	22.1	35.2	9.5	0.7	2.0	2.1	0.7	0.6	0.1	5.9	100.0

TABLE 4.23

YEARS AFTER FIRST LICENSE VERSUS PRESENT POSITION
COLUMN PERCENTAGE

	LPN LVN	STAFF NURSE	TEAM NURSE	MIDD. MANAG	STAFF DEVP.	TOP MANAG	CLIN. SPEC.	INST. SCH.	INST. STAFF	RES.	OTHER	TOTAL
0 YRS	0.3	0.4	0.2								0.4	0.2
1 YR	11.8	12.3	7.3	0.6		1.3	1.2	3.7		25.0	20.2	9.1
2 YRS	10.9	10.0	8.3	2.5			1.2	7.4	4.3		12.1	8.5
3 YRS	9.6	6.0	7.5	2.8		1.3	5.0		8.7		6.3	6.8
4 YRS	8.6	5.3	5.2	3.7	3.8	1.3	5.0		4.3		5.8	5.7
5 YRS	8.4	6.3	5.4	3.7	3.8	1.3	5.0	3.7	8.7		4.0	5.9
6 YRS	6.7	4.7	5.0	4.2	15.4	1.3	2.5	3.7	4.3		2.7	5.0
7 YRS	7.6	2.8	4.5	4.2		2.7	5.0	7.4	4.3		2.2	4.6
8 YRS	5.6	3.4	4.2	3.1	11.5	1.3	5.0	3.7	4.3		3.1	4.1
9 YRS	4.3	2.4	2.7	5.6	3.8	1.3	6.2	3.7			1.8	3.2
10 YRS	3.7	2.9	2.5	4.5		1.3		3.7	4.3		0.4	2.8
11 YRS	2.3	1.9	2.3	2.5		1.3	3.7				4.0	2.3
12 YRS	3.3	2.5	3.0	3.1	7.7	1.3	2.5	3.7	4.3		0.9	2.8
13 YRS	2.3	2.3	2.1	1.4	7.7	2.7	6.2	3.7	4.3		1.3	2.2
14 YRS	1.5	1.4	2.9	2.8		4.0	1.2	7.4			0.9	2.1
15 YRS	1.3	1.6	2.0	2.8		4.0	1.2				1.3	1.8
16 YRS	1.0	2.3	2.5	2.5		5.3	2.5		4.3			2.0
17 YRS	1.8	2.2	2.5	2.5		2.7	1.2	3.7			2.2	2.2
18 YRS	0.8	1.1	1.7	3.1	3.8	5.3	1.2				1.3	1.5
19 YRS	0.5	1.7	2.1	3.7		2.7	2.5	3.7			0.4	1.7
20 YRS	0.9	1.0	2.0	2.0		1.3	3.7				0.9	1.4
21 YRS	0.8	1.8	2.5	2.8	3.8	2.7	5.0	3.7			0.4	1.9
22 YRS	0.5	2.0	1.7	3.9	3.8	4.0	3.7	3.7	4.3	25.0	0.4	1.8
23 YRS	0.8	1.0	1.1	2.0		4.0	6.2		4.3		1.3	1.3
24 YRS	0.9	0.8	1.1	1.4		6.7	3.7	3.7			0.9	1.2
25 YRS	0.1	1.4	1.7	1.1		5.3	2.5		4.3		0.9	1.3
26 YRS	0.4	2.3	1.3	1.4		6.7	1.2		4.3		0.9	1.4
27 YRS	0.3	1.0	1.4	1.4	11.5	8.0	1.2	3.7	4.3		0.4	1.2
28 YRS	0.1	0.8	1.0	2.3	3.8	1.3	1.2	3.7				0.9
29 YRS		1.3	1.3	3.7	3.8	2.7	2.5	7.4	4.3		0.9	1.4
30 YRS		1.1	1.1	2.8		1.3	2.5	3.7	4.3			1.0
31 YRS	0.1	1.2	1.0	2.5	3.8	2.7	1.2					1.0
32 YRS		1.4	0.8	1.4		1.3	1.2	3.7	4.3		1.3	0.9
33 YRS		0.5	1.0	2.0		4.0					0.4	0.7
34 YRS	0.1	1.2	1.2	1.7		1.3					0.9	1.0
35 YRS		1.0	1.0	1.4							0.4	0.7
36 YRS	0.1	0.7	1.0	0.6	7.7			3.7			0.4	0.7
37 YRS		0.6	0.4	1.1		1.3	1.2	3.7	4.3			0.5
38 YRS			0.4	0.8		1.3						0.2
39 YRS		0.8	0.5	0.3			1.2			25.0		0.5
40 YRS		0.1	0.2	0.8	3.8							0.2
OTHER	2.9	4.6	2.6	3.1		1.3	2.5		4.3	25.0	17.5	4.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 4.25, Column Unit Index for Row Percentages, is calculated by taking the total percentages in a column found in table 4.22 and dividing that by 42. This table provides a model of an environment where the number of nurses working who had received a license in any given year would be the same. The literature reviewed in chapter II suggests that the rapid proportional increase in nurse graduating classes is not likely to continue as it has in the past. The Manpower Report of the President, 1973, projects to a female working population which is growing proportionately older (p. 60). These factors suggest that younger nurses may become proportionately less of the total nursing population in the future. Table 4.25 is useful as a model for considering what trends may be if there is a stabilizing in the number of nurse graduates and a resultant aging of the total nursing population.

Using these tables to examine how long a person in top management is likely to have had a nursing license illustrates the usefulness of the two tables and how the results can be compared. In table 4.24, which does not equalize years, there is only one year where nurses had a license less than thirteen years and where there are proportionately more nurses than expected in top management, namely the seventh year. From thirteen through twenty-four there is only one year, the twentieth year, where the expected value is less than 1. After the twenty-seventh year the picture shows a general declining of people in top management. In table 4.25 there are no years for top management before the fourteenth year where there are proportionately more than expected and the strongest clustering

appears between about the twenty-second and twenty-seventh year. Likewise, comparing the number of years beyond the thirtieth year where the index is greater than 1 it is found that there are only two years in table 4.24 compared to four years in table 4.25.

Tables 4.26 through 4.29 contrast the position versus the highest degree. Table 4.27 shows the relation of a MA/MS or BS Degree to more responsible positions. This table shows those with MA/MS Degrees clustered in the more responsible positions with only about 23% in positions of staff or team nurse compared to over 75% in positions ranging from middle management through researcher. On the other hand, only slightly over 14% of those with a diploma RN are in positions of middle management and only 6% in higher positions.

Table 4.29 allows both the factor of quantity and degree to be considered. This table shows diploma RNs represent about 35% of the nursing population, while nurses with MA/MSs represent only 2½%. Yet diploma RNs who contribute 35% of the population contribute only seven members to top management for every six contributed by the 2½% having MA or MS Degrees.

Objective 4. To determine the expected number of years that nurses educated in Adventist nursing schools will work in Adventist hospitals within the continental U.S.A.

The starred column in table 4.30 shows, by year of graduation, the percentage of nurse graduates from SDA hospitals who are presently working in SDA hospitals. For instance, 1.55% of the nurse graduating classes (totaling 129, see column 2) of 1936 are

TABLE 4.24

COLUMN UNIT INDEX FOR COLUMN FREQUENCES

	LPN LVN	STAFF NURSE	TEAM NURSE	MIDD. MANAG	STAFF DEVP.	TOP MANAG	CLIN. SPEC.	INST. SCH.	INST. STAFF	RES.	OTHER
0 YRS	0.13	0.17	0.08								0.17
1 YR	4.94	5.16	3.06	0.25		0.55	0.51	1.56		10.50	8.55
2 YRS	4.56	4.20	3.48	1.05			0.51	3.11	1.82		5.12
3 YRS	4.02	2.52	3.14	1.18		0.55	2.12		3.69		2.67
4 YRS	3.60	2.22	2.18	1.56	1.60	0.55	2.12		1.82		2.46
5 YRS	3.52	2.64	2.26	1.56	1.60	0.55	2.12	1.56	3.69		1.69
6 YRS	2.81	1.97	2.10	1.77	6.50	0.55	1.06	1.56	1.82		1.14
7 YRS	3.18	1.17	1.89	1.77		1.14	2.12	3.11	1.82		0.93
8 YRS	2.34	1.43	1.76	1.30	4.85	0.55	2.12	1.56	1.82		1.31
9 YRS	1.80	1.01	1.13	2.36	1.60	0.55	2.63	1.56			0.76
10 YRS	1.55	1.22	1.05	1.89		0.55		1.56	1.82		0.17
11 YRS	0.96	0.80	0.96	1.05		0.55	1.57				1.69
12 YRS	1.38	1.05	1.26	1.30	3.25	0.55	1.06	1.56	1.82		0.38
13 YRS	0.96	0.97	0.88	0.59	3.25	1.14	2.63	1.56	1.82		0.55
14 YRS	0.63	0.59	1.22	1.18		1.69	0.51	3.11			0.38
15 YRS	0.54	0.67	0.84	1.18		1.69	0.51				0.55
16 YRS	0.42	0.97	1.05	1.05		2.23	1.06		1.82		
17 YRS	0.75	0.92	1.05	1.05		1.14	0.51	1.56			0.93
18 YRS	0.33	0.46	0.71	1.30	1.60	2.23	0.51				0.55
19 YRS	0.21	0.71	0.88	1.56		1.14	1.06	1.56			0.17
20 YRS	0.38	0.42	0.84	0.84		0.55	1.57				0.38
21 YRS	0.33	0.76	1.05	1.18	1.60	1.14	2.12	1.56			0.17
22 YRS	0.21	0.84	0.71	1.64	1.60	1.69	1.57	1.56	1.82	10.50	0.17
23 YRS	0.33	0.42	0.46	0.84		1.69	2.63		1.82		0.55
24 YRS	0.38	0.34	0.46	0.59		2.83	1.57	1.56			0.38
25 YRS	0.04	0.59	0.71	0.46		2.23	1.06		1.82		0.38
26 YRS	0.17	0.97	0.54	0.59		2.83	0.51		1.82		0.38
27 YRS	0.13	0.42	0.59	0.59	4.85	3.37	0.51	1.56	1.82		0.17
28 YRS	0.04	0.34	0.42	0.97	1.60	0.55	0.51	1.56			
29 YRS		0.55	0.54	1.56	1.60	1.14	1.06	3.11	1.82		0.38
30 YRS		0.46	0.46	1.18		0.55	1.06	1.56	1.82		
31 YRS	0.04	0.50	0.42	1.05	1.60	1.14	0.51				
32 YRS		0.59	0.34	0.59		0.55	0.51	1.56	1.82		0.55
33 YRS		0.21	0.42	0.84		1.69					0.17
34 YRS	0.04	0.50	0.50	0.72		0.55					0.38
35 YRS		0.42	0.42	0.59							0.17
36 YRS	0.04	0.29	0.42	0.25	3.25			1.56			0.17
37 YRS		0.25	0.17	0.46		0.55	0.51	1.56	1.82		
38 YRS			0.17	0.34		0.55					
39 YRS		0.34	0.21	0.13			0.51			10.50	
40 YRS		0.04	0.08	0.34	1.60						
OTHER	1.21	1.93	1.09	1.30		0.55	1.06		1.82	10.50	7.41

TABLE 4.25

COLUMN UNIT INDEX FOR ROW PERCENTAGES

	LPN LVN	STAFF NURSE	TEAM NURSE	MIDD. MANAG	STAFF DEVP.	TOP MANAG	CLIN. SPEC.	INST. SCH.	INST. STAFF	RES.	OTHER
0 YRS	1.69	1.52	0.88								2.57
1 YR	2.07	1.36	0.75	0.04		0.09	0.11	0.30		1.50	3.05
2 YRS	2.06	1.18	0.92	0.20			0.11	0.60	0.39		1.97
3 YRS	2.27	0.89	1.03	0.28		0.12	0.61		1.05		1.27
4 YRS	2.43	0.94	0.86	0.44	0.43	0.15	0.72		0.65		1.41
5 YRS	2.29	1.07	0.86	0.43	0.43	0.15	0.69	0.50	1.18		0.95
6 YRS	2.15	0.94	0.93	0.58	1.79	0.15	0.42	0.50	0.65		0.74
7 YRS	2.68	0.61	0.92	0.64		0.36	0.88	1.21	0.79		0.67
8 YRS	2.17	0.82	0.94	0.51	1.62	0.18	0.99	0.60	0.79		1.04
9 YRS	2.13	0.75	0.78	1.19	0.68	0.24	1.56	0.80			0.76
10 YRS	2.09	1.03	0.83	1.09		0.27		0.90	1.18		0.21
11 YRS	1.59	0.85	0.93	0.76		0.36	1.34				2.43
12 YRS	1.85	0.89	0.99	0.74	1.62	0.27	0.72	0.90	1.18		0.44
13 YRS	1.63	1.03	0.88	0.43	2.05	0.71	2.29	1.21	1.57		0.83
14 YRS	1.14	0.68	1.26	0.90		1.10	0.46	2.51			0.58
15 YRS	1.16	0.90	1.05	1.10		1.33	0.57				1.04
16 YRS	0.80	1.14	1.15	0.85		1.57	0.99		1.70		
17 YRS	1.29	0.99	1.06	0.78		0.71	0.46	1.21			1.39
18 YRS	0.80	0.72	1.03	1.40	1.54	2.07	0.69				1.23
19 YRS	0.47	0.98	1.14	1.45		0.92	1.18	1.51			0.35
20 YRS	0.99	0.67	1.28	0.94		0.56	2.14				0.86
21 YRS	0.63	0.93	1.20	0.99	1.20	0.80	2.10	1.41			0.32
22 YRS	0.45	1.14	0.86	1.49	1.28	1.30	1.68	1.51	1.96	7.50	0.35
23 YRS	0.95	0.76	0.83	1.06		1.84	3.97		2.75		1.43
24 YRS	1.19	0.71	0.88	0.80		3.29	2.56	2.21			1.02
25 YRS	0.16	1.14	1.22	0.60		2.46	1.60		2.75		0.97
26 YRS	0.43	1.63	0.85	0.68		2.78	0.72		2.49		0.88
27 YRS	0.33	0.79	1.04	0.79	5.55	3.85	0.84	2.21	2.88		0.51
28 YRS	0.23	0.96	1.05	1.75	2.56	0.89	1.14	3.01			
29 YRS		0.98	0.88	1.84	1.71	1.15	1.49	3.92	2.62		0.90
30 YRS		1.05	1.02	1.85		0.77	1.95	2.61	3.40		
31 YRS	0.21	1.23	0.93	1.76	2.30	1.60	1.03				
32 YRS		1.56	0.83	1.03		0.86	1.11	2.91	3.79		1.99
33 YRS		0.65	1.23	1.81		3.17					0.83
34 YRS	0.21	1.26	1.18	1.21		0.83					1.30
35 YRS		1.35	1.28	1.34							0.86
36 YRS	0.29	1.05	1.33	0.56	6.57			3.82			0.88
37 YRS		1.26	0.74	1.61		1.66	2.14	5.63	7.33		
38 YRS			1.48	2.41		3.29					
39 YRS		1.87	1.09	0.43			2.25			29.50	
40 YRS		0.57	1.00	2.71	10.67						
OTHER	1.16	1.15	0.62	0.53		0.21	0.50		0.92	3.50	5.97

TABLE 4.26

POSITION VERSUS HIGHEST DEGREE

POSITION	LPN	DP RN	AS RN	BS RN	MA/MS	DOCT.	BLANK	TOTAL
LPN/LVN	732	6	18	7			27	790
STAFF NURSE	22	389	224	178	7		11	831
TEAM NURSE	24	625	294	343	15	2	19	1322
MIDD. MANAG.	8	182	32	109	20		4	355
STAFF DEVP.		10	1	9	6			26
TOP MANAG.	1	26	2	21	24		1	75
CLIN. SPEC.	5	33	9	25	7		1	80
SCHOOL TEACH	3	4	2	8	10			27
STAFF TEACH		7	3	11	2			23
RESEARCHER	1	2			1			4
OTHER	86	33	32	30	3		39	223
TOTAL	882	1317	617	741	95	2	102	3756

TABLE 4.27

POSITION VERSUS HIGHEST DEGREE
ROW PERCENTAGES

POSITION	LPN	DP RN	AS RN	BS RN	MA/MS	DOCT.	BLANK	TOTAL
LPN/LVN	92.70	0.80	2.30	0.90			3.40	100.00
STAFF NURSE	2.60	46.80	27.00	21.40	0.80		1.30	100.00
TEAM NURSE	1.80	47.30	22.20	25.90	1.10	0.20	1.40	100.00
MIDD. MANAG.	2.30	51.30	9.00	30.70	5.60		1.10	100.00
STAFF DEVP.		38.50	3.80	34.60	23.10			100.00
TOP MANAG.	1.30	34.70	2.70	28.00	32.00		1.30	100.00
CLIN. SPEC.	6.20	41.20	11.20	31.20	8.70		1.20	100.00
SCHOOL TEACH	11.10	14.80	7.40	29.60	37.00			100.00
STAFF TEACH		30.40	13.00	47.80	8.70			100.00
RESEARCHER	25.00	50.00			25.00			100.00
OTHER	38.60	14.80	14.30	13.50	1.30		17.50	100.00
TOTAL	23.50	35.10	16.40	19.70	2.50	0.10	2.70	100.00

TABLE 4.28

POSITION VERSUS HIGHEST DEGREE
COLUMN PERCENTAGE

POSITION	LPN	DP RN	AS RN	BS RN	MA/MS	DOCT.	BLANK	TOTAL
LPN/LVN	83.00	0.50	2.90	0.90			26.50	21.00
STAFF NURSE	2.50	29.50	36.30	24.00	7.40		10.80	22.10
TEAM NURSE	2.70	47.50	47.60	46.30	15.80	100.00	18.60	35.20
MIDD. MANAG.	0.90	13.80	5.20	14.70	21.10		3.90	9.50
STAFF DEVP.		0.80	0.20	1.20	6.30			0.70
TOP MANAG.	0.10	2.00	0.30	2.80	25.30		1.00	2.00
CLIN. SPEC.	0.60	2.50	1.50	3.40	7.40		1.00	2.10
SCHOOL TEACH	0.30	0.30	0.30	1.10	10.50			0.70
STAFF TEACH		0.50	0.50	1.50	2.10			0.60
RESEARCHER	0.10	0.20			1.10			0.10
OTHER	9.80	2.50	5.20	4.00	3.20		38.20	5.90
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE 4.29

POSITION VERSUS HIGHEST DEGREE
TOTAL PERCENTAGE

POSITION	LPN	DP RN	AS RN	BS RN	MA/MS	DOCT.	BLANK	TOTAL
LPN/LVN	19.50	0.20	0.50	0.20			0.70	21.00
STAFF NURSE	0.60	10.40	6.00	4.70	0.20		0.30	22.10
TEAM NURSE	0.60	16.60	7.80	9.10	0.40	0.10	0.50	35.20
MIDD. MANAG.	0.20	4.80	0.90	2.90	0.50		0.10	9.50
STAFF DEVP.		0.30		0.20	0.20			0.70
TOP MANAG.		0.70	0.10	0.60	0.60			2.00
CLIN. SPEC.	0.10	0.90	0.20	0.70	0.20			2.10
SCHOOL TEACH	0.10	0.10	0.10	0.20	0.30			0.70
STAFF TEACH		0.20	0.10	0.30	0.10			0.60
RESEARCHER		0.10						0.10
OTHER	2.30	0.90	0.90	0.80	0.10		1.00	5.90
TOTAL	23.50	35.10	16.40	19.70	2.50	0.10	2.70	100.00

TABLE 4.30

FORTY-YEAR SUMMARY OF RN NURSING GRADUATES
FROM NORTH AMERICAN INSTITUTIONS

YEAR	RN NURSE GRADS SDA SCHOOL	PERCT OF 40 YEAR TOTAL	CUMU-LATIVE TOTAL	CUMU-LATIVE PERCT	GRADS IN SDA HOS-PITALS	PERCT OF 40 YEAR TOTAL	CUMU-LARIVE TOTAL	CUMU-LATIVE PERCT	* PERCT GRADS SDA HOSP	INDEX COL 7 DIVIDE COL 3
1936	129	1.06	129	1.06	2	0.14	2	0.14	1.55	0.13
1937	156	1.28	285	2.33	7	0.50	9	0.64	4.49	0.39
1938	179	1.47	464	3.80	4	0.29	13	0.93	2.23	0.20
1939	173	1.42	637	5.21	11	0.79	24	1.71	6.36	0.56
1940	201	1.65	838	6.86	10	0.71	34	2.43	4.98	0.43
1941	189	1.55	1027	8.41	10	0.71	44	3.14	5.29	0.46
1942	178	1.46	1205	9.86	14	1.00	58	4.14	7.87	0.68
1943	183	1.50	1388	11.36	11	0.79	69	4.93	6.01	0.53
1944	194	1.59	1582	12.95	14	1.00	83	5.93	7.22	0.63
1945	226	1.85	1808	14.80	14	1.00	97	6.93	6.19	0.54
1946	224	1.83	2032	16.63	12	0.86	109	7.79	5.36	0.47
1947	222	1.82	2254	18.45	21	1.50	130	9.29	9.46	0.82
1948	220	1.80	2474	20.25	9	0.64	139	9.93	4.09	0.36
1949	217	1.78	2691	22.03	22	1.57	161	11.50	10.14	0.88
1950	218	1.78	2909	23.81	19	1.36	180	12.86	8.72	0.76
1951	245	2.01	3154	25.82	21	1.50	201	14.36	8.57	0.75
1952	223	1.83	3377	27.64	18	1.29	219	15.64	8.07	0.70
1953	194	1.59	3571	29.23	18	1.29	237	16.93	9.28	0.81
1954	262	2.14	3833	31.37	21	1.50	258	18.43	8.02	0.70
1955	303	2.48	4136	33.85	28	2.00	286	20.43	9.24	0.81
1956	285	2.33	4421	36.19	26	1.86	312	22.29	9.12	0.80
1957	265	2.17	4686	38.36	26	1.86	338	24.14	9.81	0.86
1958	305	2.50	4991	40.85	25	1.79	363	25.93	8.20	0.72
1959	320	2.62	5311	43.47	28	2.00	391	27.93	8.75	0.76
1960	286	2.34	5597	45.81	28	2.00	419	29.93	9.79	0.85
1961	318	2.60	5915	48.42	20	1.43	439	31.36	6.29	0.55
1962	259	2.12	6174	50.54	30	2.14	469	33.50	11.58	1.01
1963	334	2.73	6508	53.27	37	2.64	506	36.14	11.08	0.97
1964	292	2.39	6800	55.66	29	2.07	535	38.21	9.93	0.87
1965	335	2.74	7135	58.40	27	1.93	562	40.14	8.06	0.70
1966	356	2.91	7491	61.32	34	2.43	596	42.57	9.55	0.84
1967	335	2.74	7826	64.06	50	3.57	646	46.14	14.93	1.30
1968	396	3.24	8222	67.30	50	3.57	696	49.71	12.63	1.10
1969	452	3.70	8674	71.00	63	4.50	759	54.21	13.94	1.22
1970	509	4.17	9183	75.17	79	5.64	838	59.86	15.52	1.35
1971	476	3.90	9659	79.06	80	5.71	918	65.57	16.81	1.46
1972	518	4.24	10177	83.30	78	5.57	996	71.14	15.06	1.31
1973	577	4.72	10754	88.02	105	7.50	1101	78.64	18.20	1.59
1974	693	5.67	11447	93.70	144	10.29	1245	88.93	20.78	1.81
1975	770	6.30	12217	100.00	155	11.07	1400	100.00	20.13	1.76

presently working in Adventist hospitals in the continental U.S.A. Of the 770 nurse graduates from the 1975 graduating class, 20.13% are employed in Adventist hospitals.

To determine the expected number of years that nurses educated in Adventist nursing schools will work in Adventist hospitals, the starred column was divided by 100 and totaled to yield 3.83. Since these figures and percentages are based on an estimated 67% to 80% of returns, it is necessary to divide this figure by .67 or .80, respectively. Dividing by .67 gives the value of 5.72 and dividing by .80 gives 4.79. Thus over a forty-year period, nurses graduating from SDA schools would be expected to average between 4.79 and 5.72 years of employment in North American SDA hospitals.

Considering that the 3,756 nurses reporting represent only 3,302 full-time equivalent nurses, or 87.9% of the total, the lower figure is probably more accurate in terms of full-time years of work expected. If the upper figure, 5.72 is multiplied by .879, the value obtained is 5.02. Thus, it would seem overly optimistic to project more than an average of five full years of work (per graduate of SDA nursing schools) in SDA North American hospitals.

Objective 5. To obtain the expected turnover rate by position in SDA hospitals.

Table 4.31 shows the number of months a nurse can be expected to remain in a given position. The third column (number) gives the number of nurses reporting, by position, from which these estimates were calculated.

TABLE 4.31

AVERAGE MONTHS SPENT IN A POSITION

POSITION	AVE. MONTHS	NUMBER
LPN/LVN	42.62	744
STAFF NURSE	37.04	800
TEAM NURSE	41.59	1230
MIDD. MANAG.	48.00	352
STAFF DEVP.	47.50	26
TOP MANAG.	44.55	74
CLIN. SPEC.	40.16	80
SCHOOL TECH.	40.33	27
STAFF TECH.	25.13	23
RESEARCHER	47.75	4
OTHER	41.06	35
TOTAL	41.36	3395

Objective 6. To estimate, by position, annual job openings due to attrition.

Table 4.32 gives the estimated number of job openings per year by position. The positions are listed in column one. In column two are the numbers of openings based upon the data collected. Dividing these figures by .67 and .80 (the estimated return rates) projections are made to all the Adventist hospitals in the continental U.S.A. The .80 return projection rates are found in column three, the .67 in column four.

TABLE 4.32

ESTIMATES OF REPLACEMENTS NEEDED DUE TO ATTRITION

POSITION	RESPONSE	RESPONSE DIVIDED BY .80	RESPONSE DIVIDED BY .67
LPN/LVN	209.48	261.85	312.66
STAFF NURSE	259.18	323.97	386.84
TEAM NURSE	254.89	318.61	380.43
MIDD. MANAG.	88.00	110.00	131.34
STAFF DEVP.	6.57	8.21	9.81
TOP MANAG.	19.93	24.91	29.75
CLIN. SPEC.	23.90	29.87	35.67
SCHOOL TEACH	8.03	10.04	11.99
STAFF TEACH	10.98	13.73	16.39
RESEARCHER	10.10	12.63	15.07
OTHER	10.23	12.79	15.27
TOTAL	985.01	1231.26	1470.16

Objective 7. To obtain the approximate number of various types of Adventist nurses that hospital leaders consider desirable to meet hospital objectives; (a) presently, (b) two years from now, (c) five years from now. (See table 4.33.)

Table 4.33 shows the additional numbers of Adventist nurses that hospital administrators and/or nursing directors would like to have in SDA hospitals in North America now, two years from now, and five years from now. Column one indicates the estimated number of Adventist nurses presently working in Adventist hospitals. Because these figures are the result of a separate survey sent to nursing directors and hospital administrators, it should not be expected that the totals will be the same as those totals resulting from the major survey filled out by nurses working in Adventist hospitals.

The information in the second column (Additional SDAs Desired Now) refers to SDA nurses desired in addition to those al-

TABLE 4.33

APPROXIMATE NUMBERS[a] OF ADDITIONAL SDA NURSES DESIRED BY NORTH AMERICAN SDA HOSPITALS NOW, WITHIN 2 YEARS AND WITHIN 5 YEARS

	No. SDAs in this Position Now	Add'l SDAs Desired Now	Add'l SDAs Desired Within 2 Yrs.[b]	Add'l SDAs Desired Within 5 Yrs.[c]	5-Year % Increase Desired	Total SDA Nurses Desired in 5 Yrs.[c]	% of Present Desired 5 Yrs. from Now
LPN or LVN	540	560	834	1,120	207.4	1,660	304.4
Team Leader Staff-RN or Charge Nurse	1,561	670	1,137	1,476	94.6	3,037	194.6
Middle Managers	308	139	199	241	78.2	549	178.2
Coordinator for Staff Development	53	13	23	33	62.3	86	162.3
Clinical Specialists	34	33	73	103	302.9	137	402.9
Top Nursing Management	90	11	28	39	43.3	129	143.3
Totals	2,586	1,426	2,294	3,012	116.5	5,598	216.5

[a]These numbers are based upon return from hospitals listed in the 112th Annual Statistical Report of Seventh-day Adventists, 1974, as having a total of 5,264 beds. This report indicated that there were 7,533 beds in all North American Hospitals reporting. Thus, the prorated figures are based upon hospitals with about 70% of the beds.

[b]Includes nurses listed in the previous column.

[c]Includes nurses listed in previous 2 columns.

[d]Sum of columns 1 and 4. (Present SDAs plus additional desired within 5 years.)

ready working in these hospitals. Column three includes the number in column two, and column four includes those in column three. Column six is a total of columns one and four.

Objective 8. To obtain the present ratio of Adventist to non-Adventist nursing personnel, by type.

Tables 4.34 through 4.36 summarize the relationship between position versus religion and the distribution by religion. As can be noted in table 4.35 only about 37.5% of the total nursing staff responding were SDAs. Also in this table, it is significant that the percentage of Adventists in positions that would be considered close to the patient, LPN, LVN, staff nurse, or team nurse, is even lower than the overall percentage. Also, only slightly over half of middle management, which would be significantly involved in influencing floor patient care, are Adventists, while almost 79% of top management are Seventh-day Adventists. The total column for table 4.36 summarizes the distribution of types of nurses. The first three categories, LPN, staff nurse, and team nurse, represent over 78% or 2,943 of the 3,756 nurses responding. Seventh-day Adventist nurses represent 996 of the 2,943 nurses in these categories, slightly over one-third. In other words, about two out of three nurses directly involved with the patients are non-SDA nurses.

Objective 9. To obtain the number and percentage of Adventist and non-Adventist nurses educated in SDA and non-SDA nursing programs, who are employed in North American Adventist hospitals.

Tables 4.37 through 4.39 summarize where and how many nurses are trained in Adventist institutions. From tables 4.37

TABLE 4.34

POSITION VERSUS RELIGION

POSITION	SDA	CATHOLIC	PROTESTANT	OTHER	UNKNOWN	TOTAL
LPN/LVN	200	78	209	26	277	790
STAFF NURSE	295	77	164	25	270	831
TEAM LEADER/CHARGE NURSE	511	149	271	27	364	1322
MIDDLE MANAGEMENT	184	29	80	5	57	355
COOR. STAFF DEVELOPMENT	19	1	2		4	26
TOP MANAGEMENT	59	4	5		7	75
CLINICAL SPECIALIST	34	7	20	2	17	80
NURSING SCHOOL TEACHER	20			1	6	27
STAFF DEVELOP. TEACHER	18		4		1	23
RESEARCHER	2		1		1	4
OTHER	68	15	36	6	98	223
TOTAL	1410	360	792	92	1102	3756

TABLE 4.34

POSITION VERSUS RELIGION

POSITION	SDA	CATHOLIC	PROTESTANT	OTHER	UNKNOWN	TOTAL
LPN/LVN	200	78	209	26	277	790
STAFF NURSE	295	77	164	25	270	831
TEAM LEADER/CHARGE NURSE	511	149	271	27	364	1322
MIDDLE MANAGEMENT	184	29	80	5	57	355
COOR. STAFF DEVELOPMENT	19	1	2		4	26
TOP MANAGEMENT	59	4	5		7	75
CLINICAL SPECIALIST	34	7	20	2	17	80
NURSING SCHOOL TEACHER	20			1	6	27
STAFF DEVELOP. TEACHER	18		4		1	23
RESEARCHER	2		1		1	4
OTHER	68	15	36	6	98	223
TOTAL	1410	360	792	92	1102	3756

TABLE 4.35

POSITION VERSUS RELIGION
ROW PERCENTAGES

POSITION	SDA	CATHOLIC	PROTESTANT	OTHER	UNKNOWN	TOTAL
LPN/LVN	25.30	9.90	26.50	3.30	35.10	100.00
STAFF NURSE	35.50	9.30	19.70	3.00	32.50	100.00
TEAM LEADER/CHARGE NURSE	38.70	11.30	20.50	2.00	27.50	100.00
MIDDLE MANAGEMENT	51.80	8.20	22.50	1.40	16.10	100.00
COOR. STAFF DEVELOPMENT	73.10	3.80	7.70		15.40	100.00
TOP MANAGEMENT	78.70	5.30	6.70		9.30	100.00
CLINICAL SPECIALIST	42.50	8.70	25.00	2.50	21.20	100.00
NURSING SCHOOL TEACHER	74.10			3.70	22.20	100.00
STAFF DEVELOP. TEACHER	78.30		17.40		4.30	100.00
RESEARCHER	50.00		25.00		25.00	100.00
OTHER	30.50	6.70	16.10	2.70	43.90	100.00
TOTAL	37.50	9.60	21.10	2.40	29.30	100.00

TABLE 4.36

POSITION VERSUS RELIGION
TOTAL PERCENTAGE

POSITION	SDA	CATHOLIC	PROTESTANT	OTHER	UNKNOWN	TOTAL
LPN/LVN	5.30	2.10	5.60	0.70	7.40	21.00
STAFF NURSE	7.90	2.10	4.40	0.70	7.20	22.10
TEAM LEADER/CHARGE NURSE	13.60	4.00	7.20	0.70	9.70	35.20
MIDDLE MANAGEMENT	4.90	0.80	2.10	0.10	1.50	9.50
COOR. STAFF DEVELOPMENT	0.50		0.10		0.10	0.70
TOP MANAGEMENT	1.60	0.10	0.10		0.20	2.00
CLINICAL SPECIALIST	0.90	0.20	0.50	0.10	0.50	2.10
NURSING SCHOOL TEACHER	0.50				0.20	0.70
STAFF DEVELOP. TEACHER	0.50		0.10			0.60
RESEARCHER	0.10					0.10
OTHER	1.80	0.40	1.00	0.20	2.60	5.90
TOTAL	37.50	9.60	21.10	2.40	29.30	100.00

and 4.39 it is observed that 327, or 23.20%, of the SDAs working in SDA institutions were trained in non-SDA institutions. Adding the totals in the total column of 4.37 for Adventist institutions (all but the "other" and "blank" rows) indicates that 1,418 nurses working in Adventist hospitals were educated in Adventist institutions. One thousand and seventy of those reporting were SDAs educated in SDA institutions. This means that 75.4% of those educated in SDA institutions and reporting were SDAs.

A comparison of the 1,418 nurses educated in SDA institutions with the 1,410 SDA nurses presently working in SDA hospitals indicates that there are about as many non-SDAs educated in SDA institutions working in SDA hospitals, as there are SDAs educated in non-SDA institutions working in North American Adventist hospitals. Table 4.38 shows the percentage of the graduates working in SDA hospitals from each of the major Adventist nursing programs who are SDAs. This information can be found in column one. These figures include programs which were originally based in hospitals which have affiliated with the various SDA academic institutions.

A study of the 1975 graduates indicated that approximately 92% of the RN graduates from SDA schools were SDAs, while only about half of the 1975 graduates from LPN programs were SDAs. No data were available from earlier years.

Column one of table 4.38 shows the relative percentages of SDAs who reported that they had graduated from programs related to the listed schools. In developing this table it was mentioned previously that these schools were used to group programs that were

TABLE 4.37

SCHOOL VERSUS RELIGION

SCHOOL	SDA	CATH.	PROT.	OTHER	UNKNOWN	TOTAL
AU	85	1	4		19	109
AUC	85				4	89
CUC	80		3		5	88
KCMA	28	11	12	1	28	80
LLU	131		6		11	148
OC	1					1
PUC	176		2		40	218
SMC	143	4	18	1	46	212
UC	41		2		5	48
WWC	126		5	2	40	173
FRN	100		1	5	25	131
DRN	6					6
USLPN	42	7	16	2	14	81
USAIS	26	3	2		3	34
OTHER	327	333	715	80	818	2273
BLANK	13	1	6	1	44	65
TOTAL	1410	360	792	92	1102	3756

TABLE 4.38

SCHOOL VERSUS RELIGION
ROW PERCENTAGES

SCHOOL	SDA	CATH.	PROT.	OTHER	UNKNOWN	TOTAL
AU	78.00	0.90	3.70		17.40	100.00
AUC	95.50				4.50	100.00
CUC	90.90		3.40		5.70	100.00
KCMA	35.00	13.70	15.00	1.20	35.00	100.00
LLU	88.50		4.10		7.40	100.00
OC	100.00					100.00
PUC	80.70		0.90		18.30	100.00
SMC	67.50	1.90	8.50	0.50	21.70	100.00
UC	85.40		4.20		10.40	100.00
WWC	72.80		2.90	1.20	23.10	100.00
FRN	76.30		0.80	3.80	19.10	100.00
DRN	100.00					100.00
USLPN	51.90	8.60	19.80	2.50	17.30	100.00
USAIS	76.50	8.80	5.90		8.80	100.00
OTHER	14.40	14.70	31.50	3.50	36.00	100.00
BLANK	20.00	1.50	9.20	1.50	67.70	100.00
TOTAL	37.50	9.60	21.10	2.40	29.30	100.00

TABLE 4.39

SCHOOL VERSUS RELIGION
COLUMN PERCENTAGE

SCHOOL	SDA	CATH.	PROT.	OTHER	UNKNOWN	TOTAL
AU	6.00	0.30	0.50		1.70	2.90
AUC	6.00				0.40	2.40
CUC	5.70		0.40		0.50	2.30
KCMA	2.00	3.10	1.50	1.10	2.50	2.10
LLU	2.30		0.80		1.00	3.90
OC	0.10					
PUC	12.50		0.30		3.60	5.80
SMC	10.10	1.10	2.30	1.10	4.20	5.60
UC	2.90		0.30		0.50	1.30
WWC	8.90		0.60	2.20	3.60	4.60
FRN	7.10		0.10	5.40	2.30	3.50
DRN	0.40					0.20
USLPN	3.00	1.90	2.00	2.20	1.30	2.20
USAIS	1.80	0.80	0.30		0.30	0.90
OTHER	23.20	92.50	90.30	87.00	74.20	60.50
BLANK	0.90	0.30	0.80	1.10	4.00	1.70
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

originally in hospitals where students from these schools now do their clinical work. These percentages should not be taken to reflect that one school is attracting more SDAs or more non-SDAs, but rather that the programs were community based and naturally attracted more non-Adventist people from the community. Hospital-based RN programs and hospital LPN programs tend to draw more non-Adventists from communities where the hospitals are located than do programs which originate in Adventist institutions of higher learning.

Objective 10. To obtain an estimate of the percentage of nurses, educated in Adventist nursing-education programs, who, upon completion of their education, are employed in Adventist hospitals.

Statistics are not available for the years prior to 1975 concerning the number of nurses employed from the graduating classes

of Adventist schools. Therefore, the best estimate of the number of graduates employed in Adventist hospitals would come from the data gathered from the nurses who are employed in Adventist hospitals at the present time. Table 4.40 provides estimates which are related to objective 10.

Table 4.40 summarizes by year the number of RN graduates from SDA North American schools and estimates the number working in SDA hospitals and the percent of the graduating class that this number represents. These estimates are done in three ways: the first is to use the figures from the returns, the second is to use figures based upon the estimate that the returns from SDA graduates were 80% of the total number of nurses working in North American SDA hospitals, and a third is the estimate based upon 67%. Using the data from 1975 the estimates would be 20% if the returns represented all of the graduates, about 25% if the returns included 80% of the graduates, and about 30% if the returns represented 67% of the graduates working in North American SDA hospitals. Thus, it would appear that upon graduation between 20% and 30% of the graduates from SDA schools of nursing are going to work in SDA North American hospitals. Conversely, more than 70% of the graduates of SDA nursing programs in North America are not going to work in North American SDA hospitals.

Objective 11. To examine the supply and demand for nurses to determine whether or not the denomination possesses the necessary educational facilities and programs to supply both to quantity of

TABLE 4.40

ESTIMATED NUMBER AND PERCENTAGE OF GRADUATES FROM NORTH AMERICAN SDA NURSING PROGRAMS WORKING IN SDA NORTH AMERICAN HOSPITALS

YEAR	RN GRADS BY YEAR	RETURNS	NUMBER BASED ON .80 RETURNS	NUMBER BASED ON .67 RETURNS	PERCENT BASED ON RETURNS	PERCENT BASED ON .80 RETURNS	PERCENT BASED ON .67 RETURNS
1936	129	2	3	3	1.55	1.94	2.31
1937	156	7	9	10	4.49	5.61	6.70
1938	179	4	5	6	2.23	2.79	3.34
1939	173	11	14	16	6.36	7.95	9.49
1940	201	10	13	15	4.98	6.22	7.43
1941	189	10	13	15	5.29	6.61	7.90
1942	178	14	18	21	7.87	9.83	11.74
1943	183	11	14	16	6.01	7.51	8.97
1944	194	14	18	21	7.22	9.02	10.77
1945	226	14	18	21	6.19	7.74	9.25
1946	224	12	15	18	5.36	6.70	8.00
1947	222	21	26	31	9.46	11.82	14.12
1948	220	9	11	13	4.09	5.11	6.11
1949	217	22	28	33	10.14	12.67	15.13
1950	218	19	24	28	8.72	10.89	13.01
1951	245	21	26	31	8.57	10.71	12.79
1952	223	18	23	27	8.07	10.09	12.05
1953	194	18	23	27	9.28	11.60	13.85
1954	262	21	26	31	8.02	10.02	11.96
1955	303	28	35	42	9.24	11.55	13.79
1956	285	26	33	39	9.12	11.40	13.62
1957	265	26	33	39	9.81	12.26	14.64
1958	305	25	31	37	8.20	10.25	12.23
1959	320	28	35	42	8.75	10.94	13.06
1960	286	28	35	42	9.79	12.24	14.61
1961	318	20	25	30	6.29	7.86	9.39
1962	259	30	38	45	11.58	14.48	17.29
1963	334	37	46	55	11.08	13.85	16.53
1964	292	29	36	43	9.93	12.41	14.82
1965	335	27	34	40	8.06	10.07	12.03
1966	356	34	43	51	9.55	11.94	14.25
1967	335	50	63	75	14.93	18.66	22.28
1968	396	50	63	75	12.63	15.78	18.85
1969	452	63	79	94	13.94	17.42	20.80
1970	509	79	99	118	15.52	19.40	23.17
1971	476	80	100	119	16.81	21.01	25.08
1972	518	78	98	116	15.06	18.82	22.47
1973	577	105	131	157	18.20	22.75	27.16
1974	693	144	180	215	20.78	25.97	31.01
1975	770	155	194	231	20.13	25.16	30.04

nurses and level of training for those nurses to meet the present and future needs of the denomination.

Table 4.40, column two, gives the number of nurses, by year, that have graduated from Adventist nursing schools from 1936-1975. The 1975 graduate nurses total 770, which is the largest number graduating in any year from Adventist nursing programs since the founding of Adventist nursing schools. Of this number, however, only 155, or an estimated maximum of 231, or 20% to 30% of the class, actually began work in North American Adventist hospitals after graduation. If only 25% (a middle estimate) of the nursing graduates can be expected to work in Adventist hospitals, the church will have to educate four times as many SDA nurses as it needs each year to fill its annual needs.

Table 4.32, under objective 6, indicates the replacements needed annually due to attrition--a total of 1,231 to 1,470, or 461 to 700 more nurses than were graduated in 1975 from Adventist nursing programs. However, if only 25% of the graduates go into Adventist employment, the church needs to graduate 4,259 nurses annually to meet its minimum estimated needs. Other solutions, in addition to increasing the total number of graduates, will be discussed in chapter V.

Objective 12. To discover in what SDA hospitals graduates of SDA nursing programs are working.

Table 4.41, which is broken down into number and percentages, indicates where graduates of SDA nursing programs in Adventist hospitals work: (a) where they received their clinical training (desig-

nated as "clinical" in the table), (b) within the Union where they received their nursing education, and (c) outside of the Union where they received their education. The percentages indicate that, with the exception of AU, the majority of nurses educated in Adventist nursing programs who choose to work in Adventist hospitals tend to work either in the hospital where they receive their clinical training or in some other hospital within the Union where they received their education.

The term union as used in this context represents a regional organization of the SDA church, usually geographically incorporating several states. In most instances it would mean that the person who worked within the Union was not more than five hundred miles from where they received their training. Tables 4.42 through 4.50 provide a breakdown of data for each of the North American SDA nursing education programs.

TABLE 4.41

GRADUATES WORKING WHERE THEY HAD CLINICAL TRAINING, ELSEWHERE IN UNION, AND OUTSIDE UNION

	CLIN.	PERCENT	UNION	PERCENT	OUTSIDE	PERCENT	TOTAL	PERCENT
AU	54	49.50			55	50.50	109	100.00
AUC	46	51.70	6	6.70	37	41.60	89	100.00
CUC	60	68.20	7	8.00	21	23.90	88	100.00
KCMA	64	80.00			16	20.00	80	100.00
LLU	71	48.00	51	34.50	26	17.60	148	100.00
PUC	102	46.80	66	30.30	50	22.90	218	100.00
SMC	87	41.00	50	23.60	75	35.40	212	100.00
UC	27	56.20	2	4.20	19	39.60	48	100.00
WMC	102	59.00	20	11.60	51	29.50	173	100.00
TOTAL	613	52.60	202	17.30	350	30.00	1165	100.00

TABLE 4.42

ANDREWS UNIVERSITY
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FLORIDA FL 06	7	6.42
GLENDALE AD. CA 09	3	2.75
HINSDALE SAN. IL 15	54	49.54
KETTERING MEM. OH 19	7	6.42
LOMA LINDA CA 20	11	10.09
MADISON TN 21	1	0.92
NEW ENGLAND MA 28	2	1.83
PARADISE VA. CA 30	1	0.92
PARKVIEW MEM. ME 31	1	0.92
PORTER MEM. CO 33	3	2.75
PORTLAND AD. OR 34	3	2.75
SHAWNEE MISS. KS 38	3	2.75
ST.HELENA CA 42	1	0.92
TEMPE CO. AZ 44	1	0.92
WALKER MEM. FL 47	4	3.67
WALLA WALLA WA 48	3	2.75
WASHINGTON AD. MD 49	4	3.67
TOTAL	109	100.00

TABLE 4.43

ATLANTIC UNION COLLEGE
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FLORIDA FL 06	9	10.11
GLENDALE AD. CA 09	2	2.25
HINSDALE SAN. IL 15	1	1.12
KETTERING MEM. OH 19	5	5.62
LOMA LINDA CA 20	6	6.74
MADISON TN 21	1	1.12
NEW ENGLAND MA 28	46	51.69
PARKVIEW MEM. ME 31	6	6.74
PORTER MEM. CO 33	1	1.12
PORTLAND AD. OR 34	4	4.49
TAKOMA TN 43	3	3.37
WALLA WALLA WA 48	1	1.12
WASHINGTON AD. MD 49	4	4.49
TOTAL	89	100.00

TABLE 4.44

COLUMBIA UNION COLLEGE
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FEATHER RIVER CA 05	1	1.14
FLORIDA FL 06	1	1.14
GLENDALE AD. CA 09	1	1.14
HADLEY MEM. DC 11	1	1.14
HANFORD CO. CA 12	1	1.14
HINSDALE SAN. IL 15	3	3.41
KETTERING MEM. OH 19	6	6.82
LOMA LINDA CA 20	2	2.27
MADISON TN 21	1	1.14
NEW ENGLAND MA 28	2	2.27
PORTER MEM. CO 33	1	1.14
RIVERSIDE TN 37	1	1.14
SONORA CO. CA 41	1	1.14
ST.HELENA CA 42	1	1.14
TAKOMA TN 43	1	1.14
TEMPE CO. AZ 44	1	1.14
WALKER MEM. FL 47	1	1.14
WALLA WALLA WA 48	1	1.14
WASHINGTON AD. MD 49	60	68.18
WHITE MEM. CA 51	1	1.14
TOTAL	88	100.00

TABLE 4.45

KETTERING COLLEGE OF MEDICAL ARTS
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FEATHER RIVER CA 05	1	1.25
FLORIDA FL 06	6	7.50
GLENDALE AD. CA 09	1	1.25
JELLICO CO. TN 18	1	1.25
KETTERING MEM. OH 19	64	80.00
LOMA LINDA CA 20	1	1.25
MADISON TN 21	2	2.50
PARADISE VA. CA 30	1	1.25
ST.HELENA CA 42	2	2.50
TAKOMA TN 43	1	1.25
TOTAL	80	100.00

TABLE 4.46

LOMA LINDA UNIVERSITY
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FEATHER RIVER CA 05	2	1.35
FLORIDA FL 06	1	0.68
GLENDALE AD. CA 09	13	8.78
HANFORD CO. CA 12	1	0.68
HINSDALE SAN. IL 15	1	0.68
KETTERING MEM. OH 19	1	0.68
LOMA LINDA CA 20	71	47.97
MEMORIAL TX 25	1	0.68
MENARD TX 26	1	0.68
NEW ENGLAND MA 28	2	1.35
PARADISE VA. CA 30	7	4.73
PARKVIEW MEM. ME 31	1	0.68
PORTER MEM. CO 33	4	2.70
PORTLAND AD. OR 34	2	1.35
SIMI VALLEY CA 39	3	2.03
SONORA CO. CA 41	1	0.68
ST.HELENA CA 42	6	4.05
TAKOMA TN 43	1	0.68
WALLA WALLA WA 48	5	3.38
WASHINGTON AD. MD 49	6	4.05
WHITE MEM. CA 51	18	12.16
TOTAL	148	100.00

TABLE 4.47

PACIFIC UNION COLLEGE
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FEATHER RIVER CA 05	8	3.67
FLORIDA FL 06	3	1.38
GLENDALE AD. CA 09	67	30.73
HANFORD CO. CA 12	2	0.92
HINSDALE SAN. IL 15	1	0.46
KETTERING MEM. OH 19	4	1.83
LOMA LINDA CA 20	29	13.30
MADISON TN 21	2	0.92
NEW ENGLAND MA 28	1	0.46
PARADISE VA. CA 30	15	6.88
PORT HUENEME CA 32	2	0.92
PORTLAND AD. OR 34	19	8.72
RIVERSIDE TN 37	1	0.46
SIMI VALLEY CA 39	4	1.83
ST.HELENA CA 42	35	16.06
WALKER MEM. FL 47	1	0.46
WALLA WALLA WA 48	15	6.88
WASHINGTON AD. MD 49	3	1.38
WHITE MEM. CA 51	6	2.75
TOTAL	218	100.00

TABLE 4.48

SOUTHERN MISSIONARY COLLEGE
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FEATHER RIVER CA 05	1	0.47
FLORIDA FL 06	87	41.04
GLENDALE AD. CA 09	9	4.25
HIGHLAND TN 14	3	1.42
HINSDALE SAN. IL 15	10	4.72
JELLICO CO. TN 18	1	0.47
KETTERING MEM. OH 19	11	5.19
LOMA LINDA CA 20	10	4.72
MADISON TN 21	34	16.04
MARION COUNTY TX 22	3	1.42
MENARD TX 26	2	0.94
NEW ENGLAND MA 28	2	0.94
PARADICE VA. CA 30	2	0.94
PORT HUENEME CA 32	1	0.47
PORTER MEM. CO 33	2	0.94
PORTLAND AD. OR 34	4	1.89
RIVERSIDE TN 37	1	0.47
SHAWNEE MISS. KS 38	1	0.47
SIMI VALLEY CA 39	1	0.47
ST.HELENA CA 42	2	0.94
TAKOMA TN 43	1	0.47
WALKER MEM. FL 47	10	4.72
WALLA WALLA WA 48	4	1.89
WASHINGTON AD. MD 49	10	4.72
TOTAL	212	100.00

TABLE 4.49

UNION COLLEGE
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FEATHER RIVER CA 05	2	4.17
FLORIDA FL 06	2	4.17
HAYS MEM. TX 13	1	2.08
KETTERING MEM. OH 19	3	6.25
LOMA LINDA CA 20	2	4.17
MEMORIAL TX 25	1	2.08
PARADISE VA. CA 30	1	2.08
PORTER MEM. CO 33	27	56.25
PORTLAND AD. OR 34	1	2.08
SHAWNEE MISS. KS 38	2	4.17
SIMI VALLEY CA 39	2	4.17
TAKOMA TN 43	1	2.08
TEMPE CO. AZ 44	1	2.08
WALLA WALLA WA 48	1	2.08
WASHINGTON AD. MD 49	1	2.08
TOTAL	48	100.00

TABLE 4.50

WALLA WALLA COLLEGE
GRADUATES WORKING IN SDA HOSPITALS

HOSPITAL	NUMBER	PERCENT
FEATHER RIVER CA 05	2	1.16
FLORIDA FL 06	1	0.58
GLENDALE AD. CA 09	7	4.05
HANFORD CO. CA 12	2	1.16
HINSDALE SAN. IL 15	2	1.16
KETTERING MEM. OH 19	1	0.58
LOMA LINDA CA 20	17	9.83
MADISON TN 21	2	1.16
MARION COUNTY TX 22	1	0.58
MENARD TX 26	2	1.16
PARADISE VA. CA 30	2	1.16
PORTER MEM. CO 33	4	2.31
PORTLAND AD. OR 34	102	58.96
ST.HELENA CA 42	6	3.47
TEMPE CO. AZ 44	1	0.58
WALKER MEM. FL 47	1	0.58
WALLA WALLA WA 48	20	11.56
TOTAL	173	100.00

An Examination of Questions Related to the Information Generated by the Study

Objective 13. To examine other questions arising from information generated by the study.

In gathering information to meet the original objectives, the data itself raised some specific questions which encouraged the gathering of additional data. These questions are:

Question 1. Based on the number of Adventist nurses being employed in Adventist hospitals, and based upon the number that are needed, is it reasonable to expect that Adventist nursing schools can educate sufficient nurses to satisfy that need?

The results for objective 11 indicated that at the present rate of graduate nurse employment by Adventist hospitals (25%), Adventist nursing schools would need to graduate close to 5,000 nurses annually to meet present and future nursing needs. Statistics supplied by the Education Department of the General Conference of Seventh-day Adventists indicate 4,020 students graduated from North American SDA secondary schools. Assuming that half of these graduates were female, it would mean that a little over 2,000 Adventist female graduates would be recruitable. Possibly another 2,000 Adventist females graduate from public school annually, thus providing a possible total population of a little over 4,000. Even assuming that every female high-school graduate and 3 percent of the male high-school graduates went into nursing, there still would not be enough nursing prospects annually to meet the demand of nearly 5,000.

Furthermore, national statistics indicate that four to five percent of female high-school students per 100,000 population go into nursing. If this same percentage were applied to the entire SDA North American population (about 600,000 including children under 10), the probable enrollment in nursing by Adventist females would be approximately three hundred. However, statistics do indicate that the number of Adventist females going into nursing is about 2½ times the national average. Is there, then, the prospective Adventist nurse supply to handle the present need? The answer is obviously no.

Question 2. Have numbers of beds in Adventist hospitals been increasing more rapidly than SDA nursing schools can educate nurses to fill the expanding need?

Statistics indicate that from 1936-1955 the North American membership increase was somewhat higher (82%) than the hospital bed increase (67%). But between 1956 and 1975, the North American membership percentage increase dipped to 74 percent, whereas the hospital bed percentage went up to 177 percent. With this type of hospital expansion so much out of proportion to the Adventist membership expansion, it is doubtful that even if nurse supply and demand (due to attrition) were on a par that the nursing schools could keep up with the increasing demand that would be due to hospital expansion.

Question 3. What number of beds is it reasonable to have in an Adventist hospital in a given-size Adventist community?

An analysis of pertinent statistics (see page 73) indicates that an Adventist community of approximately one thousand members could reasonably be expected to supply nurses for a hospital of

twenty-five to thirty beds. Therefore, it would be feasible to expect that a conference of twenty-thousand Adventists could supply nurses for a total of six hundred beds in hospitals spread over the conference area.

Question 4. Has the recent increase in the number of graduates of Seventh-day Adventist North American nursing programs had an effect on the ratio of Adventists to non-Adventists in North American Seventh-day Adventist hospitals?

There is no direct way to answer this question; however, comparing the percentage of graduates from SDA nursing programs with the percentage from other nursing programs on a year-by-year basis provides an estimate. Table 4.51 was prepared to analyze this question. As is seen from the second column, since 1972 there has been a rapid increase in the number of graduates from SDA North American nursing programs working in North American Adventist hospitals. However, there has also been an increase in the number of graduates hired from other programs. Comparisons indicate that in 1971 and 1972 the number of graduates from SDA programs was about 36% of all graduates from these years working in North American SDA hospitals. In 1974 and 1975 it was slightly over 45% of the total. While this represents an increase it is hardly sufficient enough to have a major impact. Further, until this increase is maintained for a period of time it can hardly be viewed as a permanent trend, since 42% of the 1970 graduates came from SDA nursing programs. Furthermore, the 1974 and 1975 percentages are only 8% greater than the average for the forty-year period. It is important to note that the

percentage of nurses hired from non-Adventist nursing programs is still greater than the percentage hired from Adventist programs. Recent increases compared to the total need are only minimal.

TABLE4.51

GRADUATES OF SDA AND OTHER SCHOOLS WORKING IN SDA HOSPITALS

YEAR OF GRAD-UATION	GRADUATES OF SDA SCHOOLS	PERCENT GRADUATES OF SDA SCHOOLS	GRADUATES OF OTHER SCHOOLS	PERCENT GRADUATES OF OTHER SCHOOLS	TOTAL GRADUATES
1936	2	25.00	6	75.00	8
1937	7	41.20	10	58.80	17
1938	4	44.40	5	55.60	9
1939	11	61.10	7	38.90	18
1940	10	38.50	16	61.50	26
1941	10	37.00	17	63.00	27
1942	14	38.90	22	61.10	36
1943	11	39.30	17	60.70	28
1944	14	40.00	21	60.00	35
1945	14	37.80	23	62.20	37
1946	12	30.80	27	69.20	39
1947	21	41.20	30	58.80	51
1948	9	27.30	24	72.70	33
1949	22	47.80	24	52.20	46
1950	19	35.80	34	64.20	53
1951	21	43.70	27	56.20	48
1952	18	40.00	27	60.00	45
1953	18	37.50	30	62.50	48
1954	21	30.90	47	69.10	68
1955	28	38.40	45	61.60	73
1956	26	48.10	28	51.90	54
1957	26	40.00	39	60.00	65
1958	25	43.90	32	56.10	57
1959	28	33.70	55	66.30	83
1960	28	36.80	48	63.20	76
1961	20	30.30	46	69.70	66
1962	30	37.50	50	62.50	80
1963	37	44.00	47	56.00	84
1964	29	27.10	78	72.90	107
1965	27	31.40	59	68.60	86
1966	34	32.10	72	67.90	106
1967	50	41.00	72	59.00	122
1968	50	32.30	105	67.70	155
1969	63	36.80	108	63.20	171
1970	79	42.00	109	58.00	188
1971	80	36.40	140	63.60	220
1972	78	36.40	136	63.60	214
1973	105	41.00	151	59.00	256
1974	144	45.10	175	54.90	319
1975	155	45.30	187	54.70	342
1976	6	66.70	3	33.30	9
OTHER	42	27.80	109	72.20	151
TOTAL	1448	38.60	2308	61.40	3756

CHAPTER V

SUMMARY OF RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Chapter V is divided into three major sections: (1) summary of results, (2) conclusions, and (3) recommendations. The summary of results discusses the results that are judged to be most important to the overall objectives of the study. The results are summarized in the same order that they are presented in chapter IV and subdivided into sections corresponding to the objectives found in chapters III and IV. In the section titled conclusions, important results with information from the related literature are synthesized in order to draw conclusions related to issues that are most pertinent to the overall purpose of the study. Finally, recommendations are developed which relate to the conclusions of the preceding section and the overall purpose of the study.

Summary of Results

The purpose of this section is to highlight those results judged most important to the overall objectives of the study and supportive of the conclusions and recommendations that follow. This section is organized so that the results follow the order in which they were presented in the previous chapter. The number of the objectives will be identified at the beginning of each first paragraph which presents information related to that objective.

Objective 1. There were 3,756 returns from the Nurse Profile Study representing an estimated 67% to 80% of the population of the nurses working in North American Seventh-day Adventist hospitals. About 60% of the nurses reporting were forty years of age or less, only 3% were male, and about two-thirds of all the nurses were married. Thirty-seven and one-half percent of those reporting indicated that they were Seventh-day Adventists. Based upon the 71% which indicated that they were full-time and 21% part-time, it was estimated that the number of full-time equivalent(s) was about 86% of the number reporting.

Objective 2. Over 75% of the married nurses (67% of the nurses are married) indicated that their spouses completely or very strongly influenced where they lived and worked. About half of the single, divorced, or separated nurses indicated that they were not influenced or influenced very little by friends or relatives in where they lived and worked.

Objective 3. The purpose of objective 3 was to provide information related to the filling of job vacancies resulting from attrition. A series of tables were used which showed percentages and probabilities related to the educational background, age, and experiences of nurses that in the past have filled job vacancies. These provide a means of estimating how they will be filled in the future.

Objective 4. Data about graduates of SDA nursing programs were used to project that graduates from SDA schools would be expected to work an average of 4.79 to 5.72 years in North American

Seventh-day Adventist hospitals. These estimates were based upon returns from nurses who worked both full-time and part-time. This means that at most the average graduate of an SDA nursing program is likely to work slightly less than five man-years in a North American Adventist hospital.

Objective 5. The average time that a nurse spends in a given position is 41.36 months. This means that the average North American Seventh-day Adventist hospital would have to hire approximately 29% as many nurses each year as it has on its nursing staff.

Objective 6. The average number of nurses which would need to be replaced yearly in North American Adventist hospitals because of attrition was estimated to range between 1,231 and 1,470.

Objective 7. The returns from a survey sent to hospital administrators and/or directors of nursing indicated that they desired 1,426 additional SDA nurses now, 2,249 within two years, and 3,012 within five years. The two-year and five-year estimates include the previous estimates. This means that within five years the hospital administrators and/or directors of nursing would like to have 5,598 Adventist nurses working in SDA hospitals. To accomplish this it would require about 3,751 nurses to replace the present Seventh-day Adventist nurses leaving because of attrition, plus an additional 3,012 to account for the new Seventh-day Adventist nurses desired. If this were accomplished 6,763 Adventist nurses would have to be hired during the next five years, an average of 1,352 each year.

Objective 8. About 37.05% of the total nursing staff reporting indicated they were Seventh-day Adventists, while almost 79% of top management indicated they were Seventh-day Adventists. Slightly over 50% of middle management personnel who would be significantly involved in influencing patient care are Adventists. Seventh-day Adventist nurses account for 996 (or approximately one-third) of the 2,943 nurses in categories which are most involved with patients. This means two out of three nurses directly involved with patients are not Seventh-day Adventist nurses.

Objective 9. About 23% of the Adventist nurses working in Adventist hospitals were educated in non-Seventh-day Adventist institutions. Approximately the same percentage of non-SDAs were educated in SDA programs. A study of the 1975 graduates indicated that 92% of the RN graduates from SDA schools were Seventh-day Adventists while only about half of the 1975 LPN graduates were Seventh-day Adventists.

Objective 10. The returns from this study indicate that between 20% and 30% of the graduates from SDA schools of nursing are going to work in SDA North American hospitals upon graduation. Of the 770 who graduated in 1975, 155 were respondents in this study.

Objective 11. It was estimated that North American Seventh-day Adventist hospitals need from 1,231 to 1,470 (SDA and non-SDA) nurses annually to replace nurses lost due to attrition. Considering that the largest number of nurses to graduate in any one year from Seventh-day Adventist North American nursing education programs was 770, it would seem doubtful that the present number of graduates

would be sufficient to supply the needs of North American Seventh-day Adventist hospitals.

Objective 12. The study indicates that over 50% of the nurses educated in Adventist nursing programs who chose to work in Adventist hospitals worked where they received their clinical training. An additional 20% work in other hospitals within the Union; thus; only 30% of the nurses work in Adventist hospitals outside of the Union. This means that more than 70% of the nurses usually work within a five hundred-mile radius of where they received their education in a Seventh-day Adventist nursing program.

Objective 13. The information related to the first twelve objectives raised questions which encouraged additional analysis. Objective 13--to examine other questions arising from the information gathered by the study--anticipated such questions. Following are four questions which were raised from information gathered for objectives 1 through 12.

Question 1. Based on the number of Adventist nurses being employed in Adventist hospitals and based upon the number that are needed, is it reasonable to expect that Adventist nursing schools can educate sufficient nurses to satisfy that need? The results indicate that it is not reasonable to expect present SDA nursing education to be able to meet these needs in the foreseeable future. This conclusion was based upon the fact that upon graduation only about 25% of nurses graduating from SDA programs are working in North American Seventh-day Adventist hospitals. Unless this rate were increased there would need to be over 5,000 Seventh-day Adventists

graduated from North American SDA nursing-education programs. It is estimated that there are less than 5,000 Seventh-day Adventist female high-school graduates annually. Thus, if all these graduates went into nursing and completed the program it would not suffice.

Question 2. Has number of beds in North American Adventist hospitals been increasing more rapidly than the Seventh-day Adventist North American church membership?

During the twenty-year period, 1936-1955, the North American membership increased by 82% while the number of North American Seventh-day Adventist hospital beds increased by only 67%. During the next twenty-year period, 1956-1975, the North American membership increased by 74% whereas the hospital bed percentage went up by 177%. This indicates that if there had been enough church members to supply the number of nurses needed prior to 1956, the more rapid rate of increase in hospital beds compared to church membership would make it doubtful that there would be sufficient Seventh-day Adventists to supply present need.

Question 3. What number of beds is it reasonable to have in an Adventist hospital in a given-size Adventist community? Statistics related to the number of Adventist nurses per thousand church members suggests that there would be sufficient Adventist nurses in a community of 830 church members (1,000 church members including younger children) to supply nurses for a hospital of twenty-five to thirty beds. Therefore, it would be feasible to expect that a conference of twenty thousand Adventists could supply nurses for a total of six hundred beds in hospitals located where members are clustered.

Question 4. Has the recent increase in the number of graduates from Seventh-day Adventist North American nursing programs had any effect on the ratio of Adventists to non-Adventists in North American Seventh-day Adventist hospitals? There was no direct way to answer this question; however, comparing the percentage of graduates from SDA nursing programs with the percentage from other nursing programs on a year-by-year basis provides an estimate. These comparisons indicate that in 1971 and 1972 about 36% of all graduates working in North American SDA hospitals were graduates from SDA programs; whereas in 1974 and 1975, slightly over 45% of the graduate nurses worked in SDA hospitals. While this represents an increase it is not sufficient to have a major impact. Further, until such increases are maintained for a period of time they cannot be viewed as a permanent trend.

Conclusions

This study was the result of a concern among SDA church leaders and hospital administrators that many Seventh-day Adventist operated hospitals had fewer Adventist nursing personnel than was desirable for meeting the spiritual objectives of the church. Thus the purpose of this study was to collect, organize, and analyze data which would provide nursing-personnel resource information for hospital and nursing-education planning. Further, it was intended that this information should assist church leaders as they planned to help Adventist hospitals meet their health-care-ministry objectives.

Because the purpose of the study primarily related to organizing and analyzing data, the results are in the form of a descrip-

tive picture of the status quo. These results have been reported in chapter IV and summarized in the previous section. The conclusions presented in this section have been gleaned from the results of the study and may be major implications which will affect future planning.

Conclusion 1. Based upon the results it was judged that it is not reasonable to expect that current Adventist nursing education programs will educate sufficient nurses in the future to satisfy the needs of Adventist hospitals as they currently exist in size and location.

Conclusion 2. Expanding Adventist nursing-education programs may have limited benefit because the number of Seventh-day Adventist young people who might attend such programs is limited. At present it is estimated that four to five times as many Seventh-day Adventist female high-school graduates begin nursing as compared to the national average.

Conclusion 3. In the past twenty years the rate of growth in the number of beds in Adventist hospitals has been almost double the rate of growth of Adventist membership. It is judged that this rapid increase in number of beds has significantly contributed to the inability of Adventist hospitals to staff with a higher ratio of Adventist personnel.

Conclusion 4. The study results indicate that graduates of SDA nursing programs, as well as other Seventh-day Adventists working in North American Adventist hospitals, are strongly influenced by friends and relatives to work in a specific location. Thus, it

is judged unreasonable to expect large numbers of Adventist nurses to move to specific locations because large Adventist hospitals exist at those locations.

Conclusion 5. An Adventist community of approximately one thousand members including children could reasonably be expected to supply nurses for a hospital of twenty-five to thirty beds.

Conclusion 6. Because of the strong family influence on where Seventh-day Adventist nurses live, there will always be a very significant number of SDA nurses working in non-Adventist hospitals or in other non-church-related positions.

Conclusion 7. Adventist hospitals most closely related to Adventist schools and large Adventist communities are most likely to have large numbers of Adventist nurses.

Recommendations

The recommendations from the study are based upon the results found in chapter IV and information from the related literature found in chapter II. Because of the study's overall purpose the related literature could be considered as one form of results which should provide input to planning.

The recommendations focus on specific ways that Adventist nurses, hospital administrators, nursing schools, and church health-care leadership can help Adventist hospitals be more effective in carrying out the spiritual-philosophic goals and objectives for which Adventist hospitals have been established. Also, because results indicate that a majority of Seventh-day Adventist nurses do not work in Seventh-day Adventist hospitals and are not likely to in the fore-

seeable future, the recommendations will consider the role of such nurses to the overall health ministry of the church. The topics considered are: (1) the utilization of nurses in meeting objectives related to Adventist hospitals and the health ministry of the church outside of those hospitals; (2) methods by which hospitals can better meet objectives; (3) ways by which nursing schools can help meet objectives; and (4) ways by which church health-care leadership can help meet objectives.

The Utilization of Nurses in Meeting Objectives

The Adventist nurse in the hospital. Due to the fact that nurses are a major resource of Adventist hospitals for carrying out the spiritual-philosophic goals and objectives for which Adventist hospitals were established, and because some patterns of nursing described in the literature appear to be better suited to the philosophic goals and objectives of SDA hospitals, it is recommended that:

1. Nurse-care patterns be studied in order to discover which nurse-care pattern or combinations of patterns will likely provide the most advantageous nurse-patient relationship so that Adventist nurses can have opportunities to personally influence patients with regard to "total health."

2. Study be given to patient follow-up programs described in the literature; this follow-up being done or directed by the attending nurse as a part of her/his total health-maintenance role.

3. As a part of the emerging primary health-care role of the nurse described in the literature, she/he be in the forefront of

advocating and promoting the principles of healthful living. This is also consistent with the role of the nurse described by E. G. White.

4. Study be given to nurses and doctors consulting with one another and working together as a team in the promotion of the "total-health" concept. This is consistent both with the emerging role of the nurse found in the literature and the role described by E. G. White.

The missionary nurse concept. Because of the fact that Mrs. Ellen White gives counsel regarding the role of the "Missionary Nurse," and inasmuch as the church has no program for utilizing nurses in distributive roles, and because of the many SDA nurses working outside SDA hospitals, it is recommended that:

1. Study be given to extending the concept of Adventist nursing to include a type of nursing analagous to "Missionary Nurse" spoken of by Mrs. White.

2. Seventh-day Adventist nursing-education programs include appropriate studies in the curriculum to prepare the Seventh-day Adventist nurse for such roles.

Utilization of Adventist nurses not working in Adventist hospitals. Since the results of this study indicate that upon graduation 75% of the graduates of Adventist nursing schools are not employed in Adventist hospitals and that an estimated 85% of the total Adventist nurse population works either in non-Adventist hospitals or non-SDA health-care programs, it is recommended that ways be studied to encourage these nurses to become involved in the "total-health" ministry as advocated by the church.

Utilization of non-Adventist nurses working in Adventist hospitals. Because about six of the ten nurses working in Adventist hospitals are not Seventh-day Adventists, and because the prospects for dramatically changing that ratio in the near future seem doubtful, it is recommended that study be given to inservice education that will help non-Adventist and Adventist nurses work together in better meeting the objectives of the Adventist health-care program.

Methods by Which Adventist Hospitals Can Better Meet Objectives

Selection of nurses. Because SDA hospital directors and administrators have indicated that they would like to have a much larger number of Adventist nurses, and because the Adventist nurse is a key person in terms of the hospitals' goals and objectives, it is recommended that:

1. Hospital administrators initiate procedures to recruit nurses from Adventist nursing schools, beginning with the nursing students who are in their junior year of baccalaureate programs and in the first year of the Associate Degree program.

2. Hospital administrators utilize patterns of attrition in their hospitals to make projections concerning when and what type of new nurses are likely to be needed so that plans may be made for the recruitment of nurses who are best qualified to help meet the total objectives of the hospital.

3. Hospital administrators obtain the service of nurse educators in planning inservice education programs designed to help Adventists and non-Adventists work together to better meet the objectives of the total health-care program.

Future hospital planning. Since statistics gathered in this study indicate that hospitals are expanding the number of beds out of proportion to the increase in Adventist membership gains, and since it is impossible for Adventist nursing schools to graduate the number of nurses to meet present needs, it is recommended that:

1. Adventist hospitals carefully assess the availability of nursing personnel before expanding their facilities.

2. Prospective hospital builders take into consideration the nursing personnel likely to be available and the size of the Adventist community where the hospital is to be built before building.

3. Prospective hospital builders give careful study to the counsel of Mrs. White concerning the establishment of Adventist hospitals near Adventist schools.

How Nursing Schools Can Help Meet Objectives.

Curriculum study. Because Adventist nursing-education programs bear the responsibility of educating nurses to function well in general nursing roles, and because these roles are to be used in pursuing the goals and objectives of the Adventist health-care program and ministry, it is recommended that:

1. The curriculum be studied to insure emphasis on the role of the Adventist nurse as a disseminator of Bible truth, as well as the truths of healthful living, and to insure that the Adventist-educated nurse be prepared to effectively present Bible truths along with health-care information.

2. A curriculum be developed in conjunction with hospitals that will provide continuing inservice education to prepare Adventist and non-Adventist nurses to work cooperatively in meeting the objectives of the health-care ministry of the Adventist Church as it relates to total-health concepts.

3. Since 75% of the graduates, upon graduation from Adventist nursing programs, have not been employed in Adventist hospitals, steps be taken to insure a curriculum that provides instruction which prepares the Adventist nurse to effectively meet the health-care objectives of the church within a non-Adventist nursing environment. This curriculum should consider appropriate methods of witnessing in such an environment.

Recruitment facilitation. In view of the fact that 75% of the nurses graduating from SDA nursing schools do not begin their nursing in Adventist hospitals, and in view of the fact that Adventist hospitals and administrators wish to have more Adventist nurses than they presently have, it is recommended that:

1. Adventist nursing schools cooperate with all Adventist hospitals in their effort to recruit nurses.

2. Adventist nursing schools study ways of encouraging their nurses to become committed to nursing in Adventist hospitals.

3. As a means of increasing enrollment, study be given to recruiting males into nursing programs.

4. Adventist nursing schools research the social role of males in nursing and study ways by which the male nurse may find greater acceptance within nursing environments and yet maintain a male identity.

Ways by Which Church Health-Care Leadership Can Help Meet Objectives

In view of the fact that the Adventist health-care leadership functions to provide counsel, coordination, help, and direction to Adventist hospitals, it is recommended that:

1. The General Conference of Seventh-day Adventists make data gathering, of which this study is a part, a continuing activity from which Adventist hospitals and nursing schools can obtain information to meet their health-care objectives.

2. The health-care leadership continue to work to expand the nurse-profile-data collection that was recently begun, both of Adventist nurses working in Adventist hospitals and Adventist nurses, active and inactive, not working in Adventist hospitals.

3. Health-care leadership study methods for better articulating the "total-health" concept to both Adventist and non-Adventist, and that this information be made available to Adventist hospitals and nursing-education programs.

Recommendations for Future Research Generated by this Study

In light of the data and information generated by this study, it is recommended that the following questions be considered for future research:

1. What effect does the low ratio of SDA nurses in an Adventist hospital have upon the ability of the hospital to meet the overall objectives of the Seventh-day Adventist health-care ministry?

2. What types of training are Adventist nursing schools providing to help their students meet the spiritual objectives of Adventist health-care programs?

3. How can Adventist nursing schools improve their education programs to help students be more effective in meeting the objectives of the Adventist health-care program within and without Adventist hospitals?

4. What kinds of inservice programs will most effectively involve nurses in the mission of the church?

5. How can Adventist hospitals maximize their effectiveness with a low ratio of Adventist nursing personnel?

6. What can be done in addition to the recommendations found in this study to increase the percentage of Adventist nurses seeking and obtaining employment in Adventist institutions?

7. How can total hospital personnel become involved in the spiritual-philosophic mission of the church?

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APPENDIX

EXAMPLE OF A TWO-YEAR AND FOUR-YEAR NURSING PROGRAM

Program of Study *
First Year

		Semester Hours by Term		
		Fall	*Spring*	*Summer*
ENG 111, 112	Freshman English	3	3	
BIOL 125, 126	Human Anatomy & Physiology	3	3	
REL 111	Philosophy of Christian Medical Work	2		
NRSG 101	Nursing I Basic Patient Care	5		
PSYCH 111	General Psychology	3		
PSYCH 251	Human Growth & Development		3	
NRSG 111	Nursing II Mental-Physical I		7	
REL	Elective in Religion and Ethics			2
NRSG 112	Nursing III Mental-Physical II			4
BIOL 140	Microbiology			4
		16	16	10
	Nursing Contact Hrs/wk	11	13	15

Second Year

		Semester Hours by Term		
		Fall	*Spring*	*Summer*
SOC 111	Principles of Sociology	3		
SOC	Elective in Social Studies		3	
ENG	Elective in English	3		
NRSG 253	Nursing IV Mental Physical			
NRSG	Nursing of Children & Adults	7		
PED 115, 116	Physical Education	1	1	
REL	Elective in Religion & Ethics		2	
NRSG 254	Nursing V Maternal Child Nursing		4	
NRSG 256	Nursing VI Psychiatric Nursing		4	
NRSG 270	Advanced Nursing			7
NRSG 274	Community Health Concepts			2
		14	14	9
	Nursing Contact Hrs/wk	16	20	31

*Nursing curriculum for Kettering College of Medical Arts, 1976-77.

NURSING CURRICULUM** - 1976-77

FRESHMAN YEAR	QUARTER CREDITS	
General Education:		
Freshman Composition (3 credits/qt.)	9	
#Communication Skills	3	
Religion	4	
#General Psychology	4	
Principles of Sociology	4	
#Introductory Chemistry (5 credits/qt.)	10	
#Anatomy and Physiology (5 credits/qt.)	10	
Physical Education (2 quarter credits)	2	
Nursing:		
#Professional Nurse	1	(47 hours)
SOPHOMORE YEAR		
General Education:		
HLED 250, Introduction to Community Health Nursing	5	
Religion	4	
*Math	4	
The Young Child	4	
History or World Civilization I or II	4	
Microbiology	5	
Human Physiology	5	
Nutrition	5	
Physical Education (1 quarter credit)	1	
Elective	2 - 4	
Nursing:		
NRSG 201, Foundations for Nursing	4	
NRSG 202, Foundations for Nursing	4	
NRSG 203, Fundamentals of Med-Surg. Nursing	4	(49-51 hours)
JUNIOR YEAR		
Nursing:		
NRSG 310, Parent & Newborn Nursing	8	
NRSG 311, Medical & Surgical Nursing	8	
NRSG 312, Medical & Surgical Nursing	8	
NRSG 332, Pediatric Nursing	6	
NRSG 341, Psychiatric Nursing	4	
NRSG 342, Psychiatric Nursing	4	
NRSG 445, Research and Statistics	4	
General Education:		
HLED 454, Community Health Programs	4	
Literature	4	
Contemporary Issues or Philosophy	4	
Religion	4	
Cultural Anthropology	4	(62 hours)
SENIOR YEAR		
Nursing:		
NRSG 415, Community Health Nursing	8	
NRSG 455, Nursing Elective	2 - 4	
NRSG 430, Advanced Medical & Surgical Nursing	6	
NRSG 425, Nursing Leadership	4	
NRSG 440, Trends in Nursing	2	
General Education:		
Religion	4	
Fine Arts	4	(30-32 hours)
	(Total to equal 190 hours)	

* 4 hours Math required if math deficiency on secondary level - otherwise 2 hours required. Statistics, STAT 201, recommended to meet this requirement.

These are required subjects to be taken before entering the Sophomore year of Nursing.

**Nursing curriculum for Andrews University, Department of Nursing, 1976-77.

MINUTES OF A MEETING OF A JOINT COMMITTEE
ON A WORLD NURSE NEEDS SURVEY,
GENERAL CONFERENCE OF SDA
December 13, 1973

VOTED, 1. To request the General Conference Department of Health to supervise a survey of the number and types of nurses needed by the Church in its worldwide program and determine the number, type and location of educational programs needed to prepare these nurses.

2. To request the Health and Education Departments with Loma Linda University to prepare an information-gathering instrument.

3. To request the leadership in each division to supervise the study and submit the findings to the Department of Education and Health.

VOTED, To request Miss Herin to draft a proposal that Hewitt Foundation, in consultation with the Departments of Education and Health, prepare an instrument which can be used to gather the needed information for a survey of world nurse needs and of programs needed to prepare these nurses.[1]

HOSPITAL NURSING RESOURCE STUDY

Our hospital is collecting information to update its records in order to better assess our overall nursing resources. In addition, this information will assist us in identifying your special preparation in clinical areas of work experience. Even though you may have provided us with similar information before, please complete each item to the best of your ability. This will greatly assist us in processing the information to attain an overall picture. We are grateful for your patience and cooperation.

Specific Instructions. **There are four parts to this four-page questionnaire. In most responses, you will not be asked to supply more than a word or phrase, but it is important that answers be as accurate as your memory permits. It usually takes from ten to thirty minutes to fill out the questionnaire. We would appreciate your doing it without delay and returning it as you have been instructed.**

In general, you will be asked to respond to the questions in one of the following ways:

1. **[ ] brackets indicate the response be expressed by a check mark [✓]. In most questions of this type, you would check only one answer.**
2. **____ blanks indicate that you write your answers in. Please PRINT, so that it would be easy to read the numbers and letters you have written in.**

BASIC INFORMATION

Last Name _____ First Name _____ Year of Birth 19__

Number/Street _____ P.O. Box _____ Apartment No. _____

City _____ State _____ Zip Code _____

Social Security Number ___-__-____ Sex: 1.[ ] male 2.[ ] female

MARITAL STATUS (please check one): 1.[ ] single 2.[ ] married 3.[ ] widowed 4.[ ] divorced/separated

Spouse's Occupation (if applicable) _____

WHO INFLUENCE(S) MOST WHERE YOU LIVE NOW (city or state). Please check one.

1.[ ] Spouse 2.[ ] Children 3.[ ] Parents 4.[ ] Friends 5.[ ] None

To what extent do(es) the individual(s) influence your decision as to where you live?

1.[ ] Completely 2.[ ] A Great Deal 3.[ ] Moderately 4.[ ] Very Little 5.[ ] None

To what extent has family responsibility affected the location where you have lived and worked in the past?

1.[ ] Completely 2.[ ] A Great Deal 3.[ ] Moderately 4.[ ] Very Little 5.[ ] None

INITIAL LICENSURE: 1.[ ] L. P. N. 2.[ ] A.S.-R.N. 3.[ ] Dip.-R.N. 4.[ ] B.S.-R.N.

Year Granted 19__ **State or Granting Authority** _____

SCHOOL OF NURSING _____

WORK HISTORY

In this section, indicate the positions, areas of clinical nursing, and special clinical areas in which you have served, by writing the numbers assigned to each category on the top of half of page 3 (see opposite page). If you have any questions as to the meaning of the principal nursing positions, please refer to the definitions on page 3.

Also supply the information on the length of service as accurately as you recall it. Use approximate dates if you cannot be sure. Use numbers to designate the months so that January would be written as 0 1 and December would be written as 1 2. If you served full time in the position, check the bracket with the F. If you served part-time, check the one with the P, and if the employment was occasional or not continuous, check the bracket with the O.

EXAMPLE Suppose you have been a full-time supervisor in the coronary care unit of this hospital since June, 1972, your response should look like this:

PRESENT NURSING POSITION (1-10)	AREA OF CLINICAL NURSING (21-29)	SPECIAL CLINICAL AREA (41-53)	LENGTH OF SERVICE From Month	From Year	To Month	To Year	BASIS OF EMPLOYMENT 1	2	3
0 4	2 4	4 3	0 6	7 2	1 0	7 5	[F]	[P]	[O]

EXAMPLE Suppose you taught pediatric nursing in a school of nursing from March, 1967 to May, 1972, on a part-time basis, your response should look like this:

PREVIOUS NURSING POSITIONS (1-10)	AREAS OF CLINICAL NURSING (21-29)	SPECIAL CLINICAL AREAS (41-53)	LENGTH OF SERVICE From Month	From Year	To Month	To Year	BASIS OF EMPLOYMENT 1	2	3
0 8	2 2	5 0	0 3	6 7	0 5	7 2	[F]	[P]	[O]

NOW PLEASE GO ON, AND FILL OUT YOUR WORK HISTORY IN THE SPACES BELOW. If you do have any questions, please do not hesitate to ask the one who gave you this questionnaire.

FIRST NURSING POSITION (1-10)	AREAS OF CLINICAL NURSING (21-29)	SPECIAL CLINICAL AREAS (41-53)	LENGTH OF SERVICE From Month	From Year	To Month	To Year	BASIS OF EMPLOYMENT 1	2	3
							[F]	[P]	[O]
PRESENT NURSING POSITION (1-10)	AREA OF CLINICAL NURSING (21-29)	SPECIAL CLINICAL AREAS (41-53)	LENGTH OF SERVICE From Month	From Year	To Month	To Year	BASIS OF EMPLOYMENT 1	2	3
							[F]	[P]	[O]
PREVIOUS NURSING POSITIONS (1-10)	AREAS OF CLINICAL NURSING (21-29)	SPECIAL CLINICAL AREAS (41-53)	LENGTH OF SERVICE From Month	From Year	To Month	To Year	BASIS OF EMPLOYMENT 1	2	3
							[F]	[P]	[O]
							[F]	[P]	[O]
							[F]	[P]	[O]
							[F]	[P]	[O]
							[F]	[P]	[O]
							[F]	[P]	[O]

PRINCIPAL NURSING POSITIONS	AREAS OF CLINICAL NURSING	SPECIAL CLINICAL AREAS	
1. L.P.N. or L.V.N.	21. Community Health	41. General Nursing--work in several clinical areas simultaneously	51. Rehabilitation
2. Staff Nurse	22. Educational		52. Surgical
3. Team Leader/Charge Nurse	23. Extended Care		53. Other (please specify)
4. Middle Managers for Nursing	24. Hospital	42. Emergency Room	
5. Coordinator of Staff Development	25. Independent Practitioner	43. Coronary Care Unit	
6. Top Management	26. Industrial	44. Community Health	
7. Clinical Specialist/ Nurse Generalist	27. Physician's Office	45. Intensive Care Unit	
8. Instructor, School of Nursing	28. Private Duty	46. Medical	
9. Instructor, Staff Development	29. Other (please specify)	47. Mental Health	
10. Researcher		48. Obstetric	
		49. Operating Room	
		50. Pediatric	

PRINCIPAL NURSING POSITIONS

1. L.P.N. or L.V.N. The L.P.N. or L.V.N. gives nursing care in simple nursing situations under the supervision of the registered nurse. She assists the professional nurse in the care of the acutely ill patient.

2. STAFF NURSE. A Registered Nurse who is willing and capable of patient care but holds no specific administrative responsibilities.

3. TEAM LEADER/CHARGE NURSE. She/He organizes the resources and abilities of the nursing team in planning, directing, providing, and evaluating patient care for a specific group of patients for an assigned shift.

4. MIDDLE MANAGERS FOR NURSING. (Head Nurse, Supervisor/Coordinator). The Head Nurse coordinates and guides nursing activities on a patient care unit. (May or may not have 24-hour responsibility). Is an expert nurse practitioner. Is a multi-disciplinary coordinator of patient care for nursing and paramedical disciplines. Is responsible for delegating, communicating, evaluating and directing patient care activities. Is responsible for nursing staff performance and professional staff growth. The supervisor/coordinator coordinates and guides nursing activities on two or more patient care units (usually has 24-hour responsibility). Assumes all the above responsibilities.

5. COORDINATOR OF STAFF DEVELOPMENT. (Inservice Education). A professional nurse who is responsible for the orientation and continuing education of all levels of nursing through the utilization of workshops, individual and group conferences, visual aids, and other available facilities in a creative setting.

6. TOP MANAGEMENT IN NURSING. (Director of Nurses, Assistant Director-Nursing, Vice-President--Nursing, Executive Vice-President--Nursing). The nurse in top management is a professional registered nurse who is responsible for the overall administration of nursing services; who plans, organizes, teaches, supervises, delegates, evaluates on behalf of nursing staff.

7. CLINICAL SPECIALIST/NURSE GENERALIST. (Nurse Clinician, Nurse Specialist, Specific Hospital Clinical Specialties--cardiology, pulmonary-respiratory, orthopedics, oncology, neurology, renal dialysis, neuroepidemiology, obstetrics, mental health, medical, surgical, diabetes, health education, family health practitioner, geriatric nurse practitioner, Situations in Community--public health, family health practitioner, pediatric nurse practitioner, school nurse, office nurse, industrial nurse, HMO nurse, Other Situations and Positions--government, VA, consultatnt, volunteer, admitting nurse, nurse anesthetist, physician's assistant, nursing home administrator, administration hostess, patient advocate, central service, cardiac cath lab nurse. The clinical specialist is an expert nurse practitioner who has advanced preparation in a specific clinical area. She/he focuses upon developing and maintaining improved nursing care--not upon managing the staff. Gives status in direct patient care by performance as a role model. Is responsible for guiding the education of the staff for specifically selected patients. Serves as a resource person for all patients in her/his specialty area. Conducts studies related to specific aspects of patient care as a means of improving patient care. The nurse generalist is the same as the clinical specialist except for her advanced preparation in general nursing.

8. INSTRUCTOR, SCHOOL OF NURSING. She/he teaches, imparts knowledge to, and instructs nurses in schools of nursing, or nursing departments in institutions of higher learning.

9. INSTRUCTOR, STAFF DEVELOPMENT. She/he teaches nursing skills as part of the staff development function in a hospital or clinical setting.

10. RESEARCHER. She/he is a specialist in the scientific study of nursing and utilizes research tools and equipment to seek solutions and answers to problems in nursing.

SPECIAL PREPARATION

Do you have special preparation in some clinical areas? 1.[ ] Yes 2.[ ] No

If your answer is YES, please indicate the type(s) of special preparation by checking the appropriate bracket(s) and filling in the blanks that apply all the way across each special clinical area.

SPECIAL CLINICAL AREA(S)	DESCRIPTION OF SPECIAL PREPARATION			
	On-the-Job	Workshops or Institutes	Formal Coursework	Most recent course taken in
42. Emergency Room	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
43. Coronary Care Unit--M/S	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
44. Community Health	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
45. Intensive Care Unit--M/S	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
46. Medical	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
47. Mental Health	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
48. Obstetrical	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
49. Operating Room	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
50. Pediatric	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
51. Rehabilitation	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
52. Surgical	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋
53. Other _____	[ ]	[ ]	[ ]	1 9 ⌊_⌋⌊_⌋

OTHER PERTINENT INFORMATION
(Optional)

If you had gone on for further education since your initial licensure, what is your highest degree held at present?

1. [ ] A.S.-R.N. 2.[ ] Dip-R.N. 3.[ ] B.S.-R.N. 4.[ ] M.A./M.S. 5.[ ] Doctorate

Educational Institution ⌊_⌋

Religious Affiliation: ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋

Inservice Suggestions

VITAE

Robert Thompson Andrews, Jr.

Birth

Born in Detroit, Michigan, September 18, 1932

Educational Information

High School Diploma -- Adelphian Academy, 1950
B.A. -- Oakland College, Huntsville, Alabama, 1956
M.A. -- Andrews University (N.T. Greek), 1957
Ph.D. -- Michigan State University (Speech), 1969

Professional Experience

Pastor -- 1957-1967
Teacher -- 1967-1976
- Adult Education Program, Lansing, 1968-69
- Lansing Community College, 1968-69
- Michigan State University, 1967-69
- West Indies College, 1969-77

Chairman, Department of Humanities (W.I.C.)
Coordinator, Graduate Extension Program (W.I.C.)
Director, Accreditation Program (W.I.C.)

Research Activities

A Study of Lansing Community College and Its Relationship to Minority Groups.

Worked with a program of fear alleviation of public speech situations through sensitivity training.

"An Experimental Study of Extroverts and Introverts with Regard to Selected Encoding Variables."

Professional Organization

Phi Delta Kappa