

Report of **SURVEY**  
**OF NURSING**  
**EDUCATION**

*in*  
*North*  
*Carolina*

by  
**RAY E. BROWN**

July 1964





Report of

**SURVEY  
OF  
NURSING  
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Sponsored by

**North Carolina Board of Higher Education  
North Carolina Medical Care Commission  
North Carolina State Board of Education**

**July 1964**



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# FOREWORD

The North Carolina Board of Higher Education, in common with other State agencies, professional societies, and health organizations, has long been aware of the need to undertake a broad survey of the current needs in nursing education for the Tar Heel State. Training in nursing education is now provided in hospital schools and in a number of colleges and universities. Despite the existence of these programs it has been clear for some time that an insufficient number of nurses is being trained. This unhappy situation is made worse by the decline in the number of hospital schools of nursing which will become even fewer as time goes on. Hence, the North Carolina Board of Higher Education is pleased to have served as the appropriate agency to initiate, organize, and secure support for this study. Further, the professional staff of the Board has provided necessary and auxiliary assistance.

This survey was jointly sponsored by the North Carolina Board of Higher Education, the State Board of Education, and the North Carolina Medical Care Commission. Funds to underwrite the modest costs of the study were provided by the State Board of Education and by the Duke Endowment (Hospital and Orphan Sections) of Charlotte. Our thanks to these and other agencies for their support and cooperation.

This study, to be widely disseminated, indicates the key role which institutions of higher learning, including the community colleges, must play in meeting the current and future needs for well-trained nurses at all levels. It will serve the interests of all the people of North Carolina through the hospitals (public and private), the medical profession, the professional organizations of nurses, and, above all, through providing the facts of the situation to the State's political leaders: the Governor, the Advisory Budget Commission, the General Assembly, and others. Because of the immediate need for this survey and the lack of time available for a more comprehensive study, attention was given

only to the need for and education of nurses in North Carolina. We hope that a larger study of the manpower needs of health and para-medical occupations and professions may evolve from this study of nursing.

The sponsors were fortunate in securing the services of Mr. Ray E. Brown as director of the survey. Mr. Brown, a native of North Carolina, has for the past several years been associated with the University of Chicago, most recently as Vice President for Administration. He returned to North Carolina March 1, 1964, to direct an expanded graduate program in hospital administration at Duke University. His return to the State and our search for a competent director of this survey made for a happy coincidence. We were most fortunate to secure a director of his experience and reputation and are grateful to Duke University for granting him leave to take on this assignment.

WILLIAM C. ARCHIE

*Director of Higher Education*



# ACKNOWLEDGMENTS

Special thanks are due the North Carolina Medical Care Commission, the State Board of Education, and the North Carolina Board of Higher Education for their cooperation and support in this survey of nursing education in North Carolina. Staff members of the sponsoring groups and of the North Carolina Board of Nurse Registration and Nursing Education, the North Carolina State Nurses' Association, the North Carolina Hospital Association, the Duke Endowment, the North Carolina State Department of Health, the North Carolina Employment Security Commission, the Medical Society of the State of North Carolina, the National League for Nursing, the United States Public Health Service, and others have been most helpful. It is impossible to note adequately in this way all who have contributed information, insight, and time to this survey. While their invaluable contributions are recognized, they are not to be held responsible for the recommendations or conclusions set forth in the following pages.

The director of this study was especially fortunate in having the assistance of Dr. Howard R. Boozer, Assistant Director of the North Carolina Board of Higher Education. Assistance is really not an adequate term to describe the contributions he made to the study. He played a role equal to the director of the study in developing the design for the study, in determining the sorts of questions that should be examined and the data that would have relevance to these questions. He participated in all the interviews and helped sum up the findings from the large body of material made available by the various agencies providing reports and other data. While the director of the study does not wish to saddle Dr. Boozer with responsibility for the findings and recommendations in this report, he cannot let go unrecognized the thought and judgment given by Dr. Boozer in repeated reviews and discussions of the findings and their meaning to the future of nursing education in North Carolina.

Ray E. Brown

Durham, North Carolina  
July 1, 1964



# RECOMMENDATIONS

The following basic recommendations are taken from Chapter III, where they are presented in greater detail:

1. It is imperative that positive action be taken immediately to develop a new pattern of organization and financing of education for registered nurses in North Carolina.
2. The education of registered nurses should be recognized as a proper and vital function of the institutions of higher learning in North Carolina, both public and private, and these institutions should commit themselves as fully to the needs of nursing education as to other educational programs for which they have accepted responsibility.
3. A primary responsibility for nursing education, both basic and graduate, should be recognized as an obligation of the tax-supported institutions of higher learning in North Carolina, and the North Carolina State Board of Education and the North Carolina Board of Higher Education should be charged with the obligation to promote, within their particular areas of responsibility, the necessary programs in nursing education to assure an adequate and balanced supply of nurses in the State.
4. A continuing Joint Committee on Nursing Education should be set up by the North Carolina Board of Education and the North Carolina Board of Higher Education, in order to assure systematic planning for nursing education on a State-wide basis.
5. There should be created a position of Basic Nursing Education Coordinator in the North Carolina State Board of Education, similar to the existing position of Practical Nursing Education Coordinator.
6. An action program should be undertaken under the leadership of the North Carolina League for Nursing aimed at bringing all North Carolina Schools of Nursing up to the minimum national approval standards for basic nursing schools.

7. Every avenue and factor affecting the recruitment of qualified students into nursing should be exploited.
8. The North Carolina laws relating to nursing education should be revised so as to provide for more administrative discretion by the higher education institutions, in order to permit the necessary flexibility in developing the most appropriate pattern of nursing education for the future.

# I. INTRODUCTION

The need for an up-to-date survey of the status of nursing education in North Carolina has become increasingly apparent for the past several years.\* This need came into focus in the summer of 1963 following the enactment of the Higher Education Act by the North Carolina General Assembly. That Act converted three community colleges (at Asheville, Charlotte and Wilmington) to senior college status and provided for the establishment of a network of public community junior colleges which will include occupational, technical and professional, and college parallel curricula. Training for health and para-medical occupations and professions is an appropriate function of the community colleges. Among other programs, this includes practical and associate degree programs in nursing.

Concurrent with the creation of the new system of community colleges and the three new senior colleges, there developed among the several organizations of nurses in the State specific interest in studying anew the need for more and better trained nurses, and where they might or should receive their training. The re-activated Advisory Committee on Nursing Education of the North Carolina Board of Higher Education in the fall of 1963 reaffirmed its earlier recommendation that an up-dated survey of nursing education was needed and urged that it be undertaken at the earliest.

On January 17, 1964, the North Carolina Board of Higher Education considered requests from Charlotte College and Wilmington College for authorization to establish baccalaureate and associate degree programs in nursing, respectively, and deferred action on these requests pending the completion of a survey of the needs of nursing education in the State and the best

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\* The most recent major survey of nursing education needs in North Carolina was published in 1950: **Nursing and Nursing Education in North Carolina** (sponsored by the North Carolina Medical Care Commission and the University of North Carolina at Chapel Hill), 100 pages.

means of meeting those needs.\* It invited the State Board of Education (the State agency responsible for the developing community college system) and the North Carolina Medical Care Commission (co-sponsor with the University of North Carolina of the 1950 survey of nursing) to join with the Board of Higher Education in sponsoring such a survey, to be made by a director with the assistance of consultants as needed. This invitation was readily accepted.

Funds were provided by the State Board of Education and the Duke Endowment, Incorporated, the director was employed, and the survey, which got underway in early March, was essentially completed by April 15. It was not meant to be a major study in depth. The director was requested to assemble and evaluate the wealth of data available from a variety of sources and submit his recommendations for future action.

The survey dealt only with the supply of and demand for nurses and educational programs appropriate for the training of nurses. It took into account the types and kinds of nurses presently available, how many are being trained at the various levels, the needs of the population for nursing service, and the numbers of registered nurses needed in the future. It identified the shortages that exist and the magnitude of the job ahead if the need for nurses in the future is to be met. Because of the immediate need for this survey and the lack of time available for a more comprehensive study, attention was given only to the need for and education of nurses in North Carolina.

This review of the current situation and indications for the future drew heavily on existing studies, interviews, and current information available through a number of organizations, agencies, and individuals. The director met with the Advisory Committee of Nursing Education of the North Carolina Board of Higher Education on March 19 and April 10, and with the special consultants on March 23 and April 13. While the recommendations reported herein have the general endorsement of these groups, full responsibility for the recommendations rests with the director. Persons interviewed and agencies contacted, consultants, members of the Advisory Committee on Nursing Education, and members of the sponsoring groups are named in the appendices. Studies drawn upon are listed in the Bibliography.

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\* These programs were subsequently authorized by the Board of Higher Education on April 17, 1964.

## II. THE PRESENT SITUATION

The nursing situation in North Carolina can be described quite simply: there is a very acute shortage and this shortage is increasing. The organizations and institutions concerned with nursing education and utilization in North Carolina have not prepared for the nursing requirements of the State's growing population or for the burgeoning increase in the public's demand for hospital and other health services which depend heavily upon the professional nurse. This shortage can be demonstrated by any of several different measurements. Two of these are amply sufficient. One is the ratio of nurses to the population. In 1962, despite the fact that the national average was a cause of concern throughout the nation, North Carolina had only 2.37 active nurses per 1,000 of population as compared to a national average of 2.97. This national average was heavily influenced by the deficit states. Some of the better supplied states had far better ratios, and the top state had a ratio of just under 6 active nurses per 1,000 of population.

A more direct and compelling measurement of the professional nursing situation in North Carolina is a survey conducted in 1962 by the Duke Endowment. This survey involved the users of professional nurses and asked how many professional nurse positions were unfilled at that time. The results of this survey showed a total of 2,106 unfilled full-time positions. The magnitude of the shortage can be comprehended if one bears in mind that the total number of active full-time nurses (with part-time nurses computed into full-time equivalents) was only 9,444.\* Approximately one out of every five professional nursing positions in the State was unfilled.

However figured, North Carolina has an acute shortage of

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\* Other than in this instance, the term "active nurses" will be used throughout this report. This is done because all nursing statistics, national and state, are accumulated and maintained on that basis. Individual nurses, when reporting for registration annually, state only whether they are active or inactive. Sampling tests by the American Nursing Association have indicated that better than 21 percent of those reporting as active are working only part-time and that these work no more than one-third time.

professional nurses. To fill the vacant positions found to exist by the Duke Endowment survey two years ago would have required a 22 percent increase in the total number of active nurses. To meet the national average of 2.97 active nurses per 1,000 of population in 1962 would have required a 25 percent increase. The fact that the need as expressed in terms of vacant positions is lower than the need as seen relative to the national ratio to population is a further indication of the seriousness of the shortage. The vacant positions represent hard-core services that patients are not receiving and an excessive work load on the nurses who are rendering the care that is being given. They do not reflect the deficit in hospital, public health, and other health functions in the State for which no vacant positions are shown since no positions have been created for those missing services. The national averages do not reflect the missing health services, either. The Report of the Surgeon General's Consultant Group on Nursing,\* published in February, 1963, stated that "a severe shortage of nurses exists in the United States today." This report points out that no less than 50 percent of direct nursing care in general hospitals should be provided by professional nurses if safe and therapeutically adequate service is to be rendered. From figures obtained in a census of all general hospitals in North Carolina in 1963 by the Employment Security Commission of North Carolina it is found that only 35 percent of such care was being rendered by professional nurses. The Report of the Surgeon General's Consultant Group finds a need for at least 4.0 active nurses per 1,000 population in 1970 but believes that a ratio of only 3.17 will be reached by that time. For North Carolina to reach the anticipated national ratio of 3.17 for 1970, as inadequate as that ratio will be, would require that a total of 15,850 nurses be in active practice at that time. This is approximately 44 percent more than the total of 11,045 registered nurses (full-time and part-time) that were in active practice in the State in 1962.

Even under the most optimistic of circumstances it will be impossible for North Carolina to approach closely the anticipated national average in 1970. The maximum number of graduates for 1964, 1965, and 1966 is already set since those students are already in school. The State is doomed to a chronic and severe nursing shortage for the next decade. Using an estimated total population in the State in 1970 of 5 million and an annual attrition rate among nurses of a simple 4 percent (the rate utilized by the U. S. Public Health Service), it would require a total of 9,877 graduates during the 8 year period. In 1962 the

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\* *Toward Quality in Nursing: Needs and Goals*, 1963.



total number of basic nursing graduates from North Carolina schools was 679. This means it would require an increase of more than 80 percent above the 1962 output by 1970 to reach a ratio in North Carolina of 3.17 nurses per 1,000 of population. Allowing for continued population growth and increased utilization of hospitals, it would require a constant yearly increase of approximately 10 percent in the number of nursing school graduates until at least 1980 in order to overcome the deficit existing in 1962 and to maintain a ratio of nurses to population equal to the national average.

Unless very early and fairly sizeable measures are taken, the State cannot expect to more than maintain its current very inadequate ratio of professional nurses. The annual number graduating from all schools of nursing in the State has averaged 713 over the past five years. The annual number of graduates has shown a gradual decline during these five years, slipping from a total of 765 in 1959 to a total of 685 in 1963.

The nursing situation in North Carolina would be quantitatively much worse in 1962 except for several major factors that cannot be expected to continue to influence the situation. One of these was the extraordinary number of nurses that returned to active status during the decade of the 1950's. This same phenomenon occurred nationally. In North Carolina in 1954 the number of active nurses increased 1,610 and in 1958 the number increased 1,167. Allowing none for attrition by death or otherwise, these two years showed a combined increase of approximately twice the number of nursing school graduates during those two years. This phenomenon is attributed to the great increase in the number of graduates during the war years and immediately after because of the Nursing Cadet Program under which nursing students were subsidized by the federal government. Those graduates began to get their children through school in the mid-fifties and thus were able to return to active nursing. It is believed that this factor has now exhausted its influence on the supply of active nurses. This factor also affected the attrition rate for the past decade, and it is expected that this rate will now move sharply above the 4 percent experienced in the past few years. An indication that the gains to be expected in North Carolina from nurses returning to active status are largely exhausted is seen in the fact that during the past four years, 1960 through 1963, the total number of nurses in active practice increased by only 997 even though the number of nurses graduating totaled 2,786 for the four-year period. The actual gain from the heavy influx of nurses returning to active status is far overstated by the statistics. The available statistics on active

nurses do not differentiate between full-time active and part-time active nurses. As mentioned earlier in a footnote, the American Nursing Association estimates that more than 21 percent of all nurses reported as in active practice are part-time. This percentage is probably much greater for those nurses who become active after having been in an inactive status.

The deteriorating situation, both nationally and in North Carolina, has been greatly obscured by another major development. This is the dramatic growth in the number of licensed practical nurses since World War II. This group has developed almost entirely in the last two decades and in 1962 totaled nationally 225,000. The number of licensed practical nurses in North Carolina has shown similar dramatic growth. In 1963 the number licensed was 5,724 as compared with 2,205 in 1951. This rapidly emerging group was able partially to fill the void of the professional nurse during recent years. A number of the functions previously performed by the professional nurse were passed down to the practical nurse. This relief of the professional nurse shortage has been fully exploited however, and the shortage it was obscuring will be increasingly brought to the surface. The relief was largely fictional. Actually, the supply of both professional and practical nurses combined falls far short of the accepted ratios of these groups to the total of personnel rendering direct nursing care to the patient. The several studies that have been made of the nursing care functions in the general hospital indicate that a proper distribution of personnel is that of fifty percent professional nurses, thirty percent practical nurses, and twenty percent nursing aides, ward clerks, and orderlies. The actual count, as shown by the census taken in 1963 in all general hospitals of the State by the Employment Security Commission of North Carolina showed a distribution of thirty-five percent professional nurses, seventeen percent practical nurses, and forty-eight percent aide and orderly groups.

The formal education program for practical nurses in North Carolina is moving forward rapidly, and there is every likelihood that the supply of practical nurses will be sufficient to meet the recommended ratio of thirty percent within the next few years. They will serve to improve considerably the quality of care by assuming those functions appropriate to the training and competence of the practical nurse which are now being performed by aides and orderlies, or are not being performed at all. They cannot, however, make up for the shortage of professional nurses. The task of the professional nurse is growing more rather than less complex. Those functions requiring less training than that possessed by the professional nurse have already been

assigned lesser trained personnel. A further dilution of the quantity of service performed by the professional nurse will result in a hazardous diminution of the quality of service. The continuing advances in medical science are greatly increasing the difficulty and complexity of nursing care, and responsibilities requiring the level of skills of the professional nurse are increasing rather than decreasing. In fact, the professional nurse of the future must have a better scientific preparation and educational background if she is to cope adequately with the tasks being pressed upon her.

The educational background of nurses currently represents a serious problem in North Carolina. Certain nursing positions require at least a baccalaureate degree and others are best filled with nurses having such a degree. Faculty positions in schools of nursing and positions in public health nursing specify a minimum of a baccalaureate degree. Nursing administrative positions in hospitals and other agencies call for individuals with a better general education than that of a strictly professional nursing education. North Carolina suffers an acute shortage in the number of nurses holding a baccalaureate degree, and this in turn will have increasing effect on any effort to increase the quantity or quality of nursing graduates. Of the 11,045 active nurses registered in the State in 1962 only 881, or 8 percent, held a baccalaureate degree or higher. Nationally the percentage was 10 percent. The Report of the Surgeon General's Consultant Group on Nursing recommends that the percentage be approximately 18 percent. The low ratio of nurses with baccalaureate degrees in North Carolina is reflected in the situation in the several types of positions requiring such degrees. Of the 454 faculty members in all schools of nursing in 1963 only 223, or 49 percent, had a baccalaureate degree or higher. Ninety of these 223 were employed in the baccalaureate degree nursing schools, and, if the faculties of these baccalaureate degree programs are removed from the total, then only about one out of each three faculty members of the non-baccalaureate programs had as much as a baccalaureate degree. In a period when a minimum of a baccalaureate degree is considered essential for teachers in secondary schools, it would seem equally desirable that the majority of teachers in schools of nursing possess no less than such an education.

A similar reflection of the shortage of nurses with the necessary academic qualifications is found when the situation in local public health agencies is studied. For such nursing positions a baccalaureate degree is specified by all standardizing bodies, including the U. S. Public Health Service, which provides a

substantial part of the financing for local health units. Currently in North Carolina, of 606 nursing positions in those units, only 97 persons, or 16 percent, possess a baccalaureate degree or better.

Further evidence of the shortage of nurses with baccalaureate degrees is seen in the study, previously referred to, made by the Duke Endowment in 1962. This study revealed a total of 754 vacant positions in categories in which a baccalaureate degree is usually considered essential. This total does not, of course, include or reveal the number of such positions filled by individuals with lesser academic qualifications.

### III. RECOMMENDATIONS FOR THE FUTURE

Action on the following recommendations is mandatory if further serious deterioration in the nursing situation in North Carolina is not to occur in the near future. These recommendations are realistic and quite feasible. They neither call for any abrupt changes in the pattern of nursing education nor for any large-scale provision of funds. Their implementation will in effect represent the establishment of a long-range pattern of nursing education for North Carolina, permitting an orderly adjustment to the forces affecting this education that are developing rapidly in this State and throughout the nation. The impact of these forces is already clearly visible and will soon become accelerated. The recommendations are intended to help the here-and-now nursing problem confronting North Carolina while at the same time providing a plan for the future.

North Carolina, like the rest of the nation, has been drifting into a nursing crisis since World War II. This crisis is particularly apparent in North Carolina. The State is near the bottom on about every measurement. This is unjustifiable and unnecessary in terms of the relatively small effort required to meet the problem and in terms of the crucial importance of the problem to the health of the citizens of the State. Nursing is the heart of hospital care and of other programs such as public health. In fact, one could say that nursing *is* the hospital. Although millions of dollars have been spent on new hospital facilities in North Carolina since World War II, insufficient attention has been given to the development of programs to assure the necessary number of nurses to staff these new facilities. It is not as if the forces generating the problem were hidden and the present situation slipped up on the scene. Numerous studies have been made in this State, and in all other states of the nation, that clearly identified those forces that were evolving and which were serv-

ing to outrun existing approaches to nursing education. Some states have done something about the problem, and new and enlarged programs in nursing education are well underway and functioning successfully. North Carolina, on the other hand, has almost totally ignored one rather dramatic innovation in nursing education for the professional nurse that has become widespread across the nation. To date, only one associate degree program in nursing education has been established in the entire State.

As is pointed out in the recommendations, the failure is in great part one of lack of central responsibility. One only has to compare the developments in the practical nurse educational program in North Carolina with that for the professional nurse to see the proof of the effectiveness of charging a central agency with responsibility for a nursing program. Formal programs in practical nurse education are less than two decades old, but they are well developed throughout the State and are successfully moving toward meeting the demand for this particular type of nursing personnel. It was recognized from the start as a responsibility of the public school system of the State. For this reason all interested individuals, institutions, and agencies knew where to turn and with whom to work. There has not been the confusion and frustration that has marked education for professional nursing during the same period. There can be no satisfactory answer to the more important question of the education of the professional nurse until a similar pinpointing of responsibility is accomplished. These recommendations represent an attempt to do this.

An attempt has been made under each recommendation to provide the rationale behind the recommendation. This rationale is in part statistical and in part judgmental. For additional statistics relative to the recommendations a number of tables have been included in Appendix A.

1. *It is imperative that positive action be taken immediately to develop a new pattern of organization and financing of education for registered nurses in North Carolina.*

This recommendation represents a recognition of the increasing inability of hospital diploma schools of nursing to produce sufficient graduates to maintain an adequate supply of registered nurses in North Carolina. It does not advocate or imply the disappearance of the hospital diploma schools. These schools have carried the full load until recent years and have produced 92 percent of the licensed registered nurses now residing in North Carolina. Some of these hospital schools remain very strong, and some of them doubtless will remain so for many years to

come. The record is quite clear, however, that they have been falling behind in the effort to provide an adequate supply of registered nurses for North Carolina and in the relative number of graduates they are producing. The total number of graduates of diploma schools decreased in the five year period from 1959 through 1963 from 603 to 556. The significance of this decrease is better seen when expressed in terms of graduates to population. The ratio was 134 graduates per million of population in 1959 and 118 per million in 1963. This means that in 1963 the hospital schools were producing relatively 12 percent fewer graduates than they were in 1959.

The output of graduates from the hospital schools can be expected to become increasingly lower, both relatively and absolutely, rather than higher. If the hospital schools continued their present output, and the predicted population total of 5 million is reached in 1970, the annual ratio of graduates to population will have decreased to 93 per one million of population. It is unlikely that the present number of hospital school graduates will be maintained. The trend is for hospital schools to close rather than open. The Report of the North Carolina Committee to Study Nursing and Nursing Education showed 43 schools as being in operation in 1949.\* Since that time 18 hospital schools have closed and no new ones have opened. (Actually 19 hospital schools have closed, but in one instance the service was continued through a new diploma school.) During 1963 two hospitals in Wilmington announced their decision to close their schools. The reasons for closing given by these two hospitals are basic and will have increasing impact on other hospital schools year by year. Rapidly rising hospital costs with the consequent necessity of the hospital to economize was the major reason given. This reason will become accentuated as hospital costs continue to increase at a rate of five to seven percent per year over the foreseeable future. A second reason was the increasing cost of nursing education and the inability of the hospital to meet these educational costs from patient revenues. These costs too can be expected to continue to rise at a rapid rate. As faculty and other salaries are increased and as the cost of teaching materials and equipment rises, there is no way for costs of education per student to go but upward, so long as there is no increase in the number of students taught per teacher. The necessity for the hospital schools in North Carolina to upgrade the quality of their programs will also have a substantial upward influence on costs. More and better faculty means higher unit costs per student. The same is true of library, laboratory, class-

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\* *Nursing and Nursing Education in North Carolina, 1950.*

room supplies and equipment that must be significantly improved if any of the 23 hospital schools non-approved by the National League for Nursing are to reach standards of approval.

The fact that North Carolina is a State whose population is dispersed in small cities means that it is a State predominantly of small hospitals. This militates sharply against the economic feasibility that most of its hospitals can conduct adequate schools of nursing. During 1963 only five of the hospital schools graduated more than 25 students. Six schools graduated no more than 10 students. (It is both interesting and revelant to note, for those schools admitting fewer than 50 students per year, that in 1962 a total of 38.5 percent of their graduates failed the State licensing examination while only 11.8 percent of the graduates from schools admitting more than 50 students failed the examination.) As is pointed out under another of these recommendations, there are ample hospital beds in the State as a whole for clinical teaching of nurses, but such beds are not found in sufficient concentration in over a dozen individual hospitals in the State.

The temptation to close its school of nursing is a very strong one for a hospital. It does not need a school in order to operate a high level program of patient care. To operate a non-approved school is a stigma and reflects on the excellence of its other programs. The nursing school also represents a financial burden that is not being borne equally by all hospitals and thus adversely reflects on the operating costs of those hospitals which conduct such schools.

Some moderation of the effect of the closing of hospital schools can be expected by an increase in size of the classes in the nursing schools of some of the larger hospitals as their number of beds increases. It is unlikely, however, that this factor will significantly offset the trend of fewer hospital schools and fewer graduates.

*2. The education of registered nurses should be recognized as a proper and vital function of the institutions of higher learning in North Carolina, both public and private, and these institutions should commit themselves as fully to the needs of nursing education as to other educational programs for which they have accepted responsibility.*

Nursing education is the only recognized professional discipline in this country taught outside the institutions of higher learning. This is because it originated as a vocation in the early days of hospital development and when hospital care was largely a matter of custodial care. Like medicine at the time, nursing



had little science, and the learning was largely a matter of on-the-job training. Unlike medicine, as the medical sciences advanced, the function of nursing education was not transferred to educational institutions. One reason for this was the work return the hospital obtained from the student nurse. The rise in costs of board, room, and other perquisites provided the student nurse, and the increasing number of class hours necessary to cover the rapidly developing body of knowledge required in modern nursing practice, eliminated the "net profit" in conducting a hospital nursing school at least two decades ago. A number of studies have been made on this question in various sections of the United States in recent years. All are in general agreement with the findings of a study done by the Duke Endowment for the year 1963. This study, covering 17 North Carolina hospital schools of nursing, showed an annual average net loss to the hospital per student nurse of \$1499. This figure represents the outlay per student after giving credit for the patient-care work done by the student at the rate which would have been paid a graduate nurse if those services had been performed by such a nurse.\*

One can argue with strong justification against the equity of passing on to the hospitalized sick the social responsibility of financing the education of the professional nurse. She is employed in many capacities outside the hospital and is employed in much greater numbers in hospitals without schools than in the hospitals with schools. The present system of financing nursing education represents an undue burden on those patients who go to those hospitals which have a school of nursing. The federal system of veteran, military, and Public Health Service hospitals, which represents the largest users of nurses, conducts no nursing schools. Without in any way being facetious, one might ask: If it is to be the policy to tax the hospitalized sick of the State for the education of nurses, should not a tax be imposed on all hospitalized sick for the support of nursing education in those hospitals that are doing the job?

More important than the financial inequity surrounding the hospital school of nursing is the growing inability of the hospital school to attract students. This was not a problem until recent years because of the dearth of other career opportunities for women and the lack of financial resources with which to attend an institution of higher learning. The hospital nursing school represented one of the few ways available to most female high school graduates to work their way through schooling for a pro-

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\* Comparative Study on Cost of Nursing Education [in Seventeen] North Carolina Diploma Schools, October 1, 1962-September 30, 1963.

fessional career. The great change in the average income of families, the wide availability of scholarships and loan funds for higher education, and the acceptance of women into most professions have drastically changed the situation that led many girls to enter the hospital schools of nursing. There is ample evidence that nursing is an appealing profession, but the same evidence shows that student nurses increasingly want the content and the status offered by an education in a recognized institution of higher education. Both nationally and in North Carolina the nursing schools in educational institutions experience no difficulty in recruiting while the majority of hospital schools are not able to fill their classes. The Duke Endowment Survey in 1962 found 534 vacancies existing that year in hospital schools. An informal inquiry to the schools of nursing in educational institutions in North Carolina made this year in connection with this study revealed that these schools had a surplus of applicants.

The establishment of schools of nursing in educational institutions would provide a means of utilizing the clinical resources that are otherwise unavailable because of their being dispersed in small hospitals. While a small hospital by itself cannot provide sufficient clinical experience for a minimum-sized nursing school, it can provide excellent experience for a portion of the students in an optimum-sized nursing school conducted by an educational institution. A properly located institution of higher learning can effectively pool the clinical resources of a number of small hospitals in the area. This fact will become especially important as the planned system of community colleges develops throughout the State. These colleges will be spread across the State and some will be located in areas where there are no hospitals of sufficient size to have a school of nursing.

The establishment of schools of nursing in selected community colleges would offer several decided advantages. It would give them an attractive and important program to offer their communities. It would considerably reduce the cost of a nursing education since the nursing student would be commuting and thus avoiding the board, room, and other expenses incident to living away from home. It would attract into nursing the local students who otherwise would have no opportunity for a nursing education. This would represent a contribution to the hospitals of the area in that statistics indicate that nurses tend to locate in their home town.

The establishment of nursing schools in the system of community colleges now being developed under the direction of the North Carolina State Board of Education would significantly

aid recruitment of nursing students in several ways. It would give an opportunity for older students to enter nursing. Experience in those states which have developed a large number of nursing schools based in local junior colleges has demonstrated that there is a large reservoir of women who discontinued their education upon completion of high school and who are attracted by the opportunity of entering a service profession like nursing. The average age of the nursing students in the several junior college nursing schools of the nation is above thirty years. For personal and social reasons these women will not leave their community and enroll in hospital schools of nursing. One of the major personal reasons is that of marriage. Many of these students are married and must secure their education within the context of their marriage. Also, marriage represents a difficult problem to the hospital school nursing student. While most hospital schools will accept the married student, the educational programs and social life of those schools are built around the single woman and the resident student.

3. *A primary responsibility for nursing education, both basic and graduate, should be recognized as an obligation of the tax-supported institutions of higher learning in North Carolina, and the North Carolina State Board of Education and the North Carolina Board of Higher Education should be charged with the obligation to promote, within their particular areas of responsibility, the necessary programs in nursing education to assure an adequate and balanced supply of nurses in the State.*

This recommendation is not aimed at decreasing the activities and efforts of voluntary institutions of higher learning and the hospitals of North Carolina in the field of nursing education. The voluntary institutions and hospitals should be encouraged to maximize their efforts in this field. They have unique contributions to make to it. The recommendation is a recognition, however, of the vital role that nurses play in the health care of the population and of the necessity that an adequate supply of properly prepared nurses be assured in North Carolina. The role of the professional nurse is too essential to the public good to be left to the chance nature of voluntary decisions. Just as with the other professions, the tax-supported institutions of higher learning should accept an obligation to fill the unmet needs in nursing education. Neither the local hospitals, nor the voluntary institutions of higher learning, can be expected to accept such a responsibility.

In North Carolina, as in all other states, proposals have been made from time to time for State subsidy of nursing education.

Only one state has developed a plan under which local hospitals receive such a subsidy, and this plan has provided such a small amount per student nurse as to be of small influence on the net cost to the hospitals of conducting schools of nursing. There are legal and ideological reasons for which it is unlikely that tax funds will be used for subsidizing nursing education in voluntary hospitals and colleges in this State. The practical approach is to provide such tax-support through the tax-supported institutions of higher learning. Further, the provision of such opportunities for professional nursing education in the tax-supported institutions of higher learning will mean a more equal opportunity for such a career to all qualified individuals in the State.

The factor of opportunity for a professional career in nursing is important in itself as a reason for the establishment of schools of nursing in tax-supported institutions of higher learning. The purpose of such institutions is not solely one of looking after the service needs of the State. It is also one of providing career opportunities for the individuals of the State. Nursing education should have a high priority in this respect. There is a strong demand for nurses; the likelihood of the individual remaining in the State and thus providing a return on the State's investment in her education is very great; and the utility of the nursing education for those who become housewives is quite valuable. For a State that has historically been an exporter of its educated younger people because of lack of career opportunities, nursing education should offer a unique appeal to the tax-supported institutions of higher learning in North Carolina. Further, it is doubtful that any other type of program of higher education for women gives such long term dividends as nursing education. Because of the high degree of standardization of medical and hospital procedures, the need of hospitals for nurses around the clock for seven days a week, and the flexibility that obtains in hospital staffing patterns, it is possible for the nurse to accommodate her work to the demands of marriage, age, and other factors that would compel her to leave the work force in most any other vocation or profession. This is borne out in the 1963 statistics on North Carolina nurses. In that year 70 percent of all nurses actively employed as nurses in the State were married. An additional 6 percent were widowed and probably maintaining a household while practicing their profession. Over 70 percent of all active nurses were over age 30 and well past the age when most women withdraw from the work force. Over 20 percent were over age 50.

4. *A continuing Joint Committee on Nursing Education should be set up by the North Carolina State Board of Education and the North Carolina Board of Higher Education, in order to assure systematic planning for nursing education on a State-wide basis.*

As the two State Boards legally charged with planning for education facilities and programs beyond the high school, it is logical for this committee to be organically related to the two of them. Such a committee would help assure unified planning, prevent competition, and serve to minimize gaps and duplications between the nursing education programs of the two State Boards as well as between the programs of the tax-supported institutions and those of the voluntary institutions. It would be concerned with both long-term planning and current programs relative to nursing education. It should represent no agencies, associations, or groups as such, but should represent the expertise required to advise properly the two State boards as to needs, types, sizes, and locations for new tax-supported nursing education programs in North Carolina.

The establishment of such a planning committee is especially necessary at this particular period in the development of nursing education in North Carolina. The swiftly changing situation makes it impossible to predict with any usable degree of preciseness the number of new schools needed and the number of additional graduates that will be required at a specific time. The urgency is to get new schools under way as soon as possible and to increase the number of graduates as rapidly as possible. It would be the responsibility of the Joint Committee on Nursing Education to evaluate continuously the situation and to keep the two State Boards advised as to the extent to which nursing needs are being met.

There is little likelihood that too many nursing schools will be established, or too many nurses graduated, in the next several years. The existing shortage of active nurses precludes any oversupply for some years to come. The time lag involved in establishing a nursing school and in graduating the first class provides ample time for the detection and prevention of any problem of oversupply of nursing graduates.

With the creation of this planning and coordinating committee, all nursing schools in the State should accept an obligation to make no plans involving decrease, increase, or discontinuance of enrollment without prior planning with the committee. What one nursing school does is of serious concern to all other nursing schools and is of vital consequence to the welfare of the entire State. A hospital or college has no right to play a game of solitaire with such an important component of the State's health

manpower preparation as nursing education. Having once taken a role in nursing education the institution has a moral obligation to take no unilateral steps that would upset or worsen the situation. Each institution has the right to determine the educational programs it wishes to conduct, but it also has the obligation to switch and modify such programs in an orderly and planned manner so that arrangements and accommodations can be made to take care of the resulting situation. It also has an obligation to continue its program for a sufficient period of time as to permit reasonable efforts to be made for adequate replacement of the program being discontinued. This is especially true as regards nursing education because of the inelasticity of demand for nursing service and the compelling effects of a nursing shortage on the health care of the total population.

5. *There should be created a position of Basic Nursing Education Coordinator in the North Carolina State Board of Education, similar to the existing position of Practical Nursing Education Coordinator.*

If the transition of the primary locale of nursing education programs from hospital diploma schools to institutions of higher education is to be made as rapidly as the situation demands, it will be necessary that a focal point be established for counseling, guiding, and stimulating the establishment of new nursing education programs. A myriad of details that attends the establishment of such a program and this complexity in itself can cause hesitation and inertia on the part of interested educational institutions. Also, a source of informed advice can prevent lost motion in planning by those institutions which should establish programs and forestall the efforts of those institutions which lack the capability for successful conduct of a program.

The efficacy of providing such a coordinator has been demonstrated by the excellent progress made in the development of nursing education programs for practical nurses in North Carolina. The work of the Coordinator for Practical Nursing Education has been a positive force with reference to both the number and quality of practical nursing programs. Also, the availability of a person fully informed concerning the provisions of federal appropriations in support of practical nurse education has assured the practical nursing programs of the greatest possible benefits from such appropriations. This factor will become increasingly important as pending and contemplated federal programs of financial support for professional nursing are enacted.

The recommendation that this position be established in the North Carolina State Board of Education is based on the assump-

tion that the majority of new programs will be established in the system of tax-supported community colleges that is being developed in North Carolina. These colleges will be at the junior college level and will be natural sites for the establishment of associate degree programs in basic nursing. This has been the pattern in the several states where a rapid development of two-year associate degree programs has occurred in recent years. By action of the 1963 North Carolina General Assembly the community colleges of the State were made the responsibility of the State Board of Education. The person in this new position would, of course, be expected to assist the Board of Higher Education in the programs of nursing education under its jurisdiction. This would involve the expansion of existing programs as well as the establishment of additional ones. It is essential that this position be created immediately.

Ideally, a comparable position should be created on the staff of the North Carolina Board of Higher Education with reference to the baccalaureate nursing education programs in the tax-supported institutions. If this is not done, the Basic Nursing Education Coordinator of the State Board of Education should assist in the development of the baccalaureate programs in nursing. While it is not the intent or responsibility of this study to examine the relative educational merits of the three distinct sorts of nursing education programs for registered professional nurses, there are categories of nursing positions that require a baccalaureate degree and for which the hospital school nursing diploma and the two-year college associate degree do not qualify the individual. Since these positions include those of nursing school faculties and various nursing administrative posts in hospitals and other agencies, it is essential that a sufficient proportion of graduates have baccalaureate degrees. Programs leading to a baccalaureate degree in tax-supported institutions fall under the jurisdiction of the Board of Higher Education. It will be necessary for the Basic Nursing Education Coordinator to work closely with that Board in behalf of the development of educational programs to assure an adequate supply of nurses with a baccalaureate degree, if a person charged with responsibilities for nursing education is not added to the staff of the Board of Higher Education.

6. *An action program should be undertaken under the leadership of the North Carolina League for Nursing aimed at bringing all North Carolina Schools of Nursing up to the minimum national approval standards for basic nursing schools.*

This program should consist of several teams of qualified individuals, serving on a voluntary basis, working with the non-

approved schools of nursing in reviewing their deficiencies and determining ways and means of overcoming them. The goal should be national accreditation of all programs in nursing by 1970, and those programs that lack either the potential, or the motivation, to gain approval by that date should be encouraged to phase out their operations as rapidly as new and approved programs are developed.

Currently, only six of the thirty-four North Carolina programs in basic nursing are approved by the National League for Nursing. Only three states had a lower percentage of their basic nursing programs approved in 1963. The general validity of the approval programs of the National League for Nursing in measuring the quality of a nursing education is simply not debatable. Two very compelling comparisons prove this to be true. All states use the same standardized examination for nursing licensure, and in 1963 North Carolina ranked fifth from the bottom in the results from this examination. An even more precise indication of the validity of the approval program is the fact that the failure rate in 1963 on the North Carolina licensing examination for graduates of North Carolina programs, writing the examination for the first time, was 33.8 percent for graduates from non-approved programs and only 5.5 percent for graduates of approved schools.

North Carolina cannot afford the economic and social cost of the sub-marginal nursing education programs. In 1963 the State lost the use of 108 (the number failing the licensing examination) of its graduates (i.e., 17% of those who took the examination), each of whom had spent a minimum of three years in specialized study and had on the average cost her school approximately \$4,500 for her nursing education. Also, the sub-marginal quality of the education offered in the sub-marginal school gives an adverse image to all nursing education and handicaps the recruiting efforts of those schools which are marked by excellence. Likewise, it clouds the status and prestige of nursing as a profession.

*7. Every avenue and factor affecting the recruitment of qualified students into nursing should be exploited.*

Through the combined support of the medical, nursing, hospital, and other organized health groups North Carolina has one of the most active health-careers recruitment programs in the nation. But, as essential as formal programs of recruitment are, they are only as effective as the career they are attempting to sell is competitive with alternative careers. The image of nursing as a career is the dominant factor that will determine the number



and quality of students seeking admission to nursing education programs. This image will depend largely upon the quality of the education offered and the working conditions to be expected upon completion of the education.

The increased identification of nursing education with the institutions of higher learning will undoubtedly enhance the image of nursing as a profession. Higher education is the status symbol of our American society. As it has been pointed out elsewhere in this report, the schools of nursing located in educational institutions report no difficulty in recruiting students. But this situation will quite likely change as a greater number of opportunities for enrollment in nursing programs in educational institutions is provided. Unless something is done to enlarge the pool of applicants, such expansion of opportunities will result only in an intensified competition between nursing schools for an insufficient number of students or the compulsion to accept an increasing number of marginal students.

For North Carolina to achieve and maintain the nationally anticipated minimum ratio of 3.17 nurses per 1,000 of population, it will require that no less than 5.5 percent of the female high school graduates enter nursing school each year for the next two decades. North Carolina has not been able to approach that ratio closely. For the past five years the ratio each year has been approximately 4.5 percent. During this period the national ratio has averaged slightly over 5 percent.

There are undoubtedly many complex and obscure social and cultural factors involved in the desire and opportunity of female high school graduates to enter nursing. One obvious factor is race. Only 1.5 percent of North Carolina Negro female high school graduates entered nursing school in 1962. This ratio was only one-third as large as that for the white female high school graduates. The ultimate determinants, however, are career opportunity and career satisfaction. Nursing offers many intangible rewards to the individual and has inherent in its practice most of the satisfactions commonly listed as being of significant importance to the individual. But, except for the rare, highly altruistically motivated person none of these satisfactions can effectively overcome faulty and unsatisfactory economic conditions of employment. The compensation and other working conditions of nurses, wherever practicing and at whatever level of practice, must be set at a level commensurate with the educational and work requirements. The provision of additional education facilities for nurses will serve no purpose if the working conditions of alternative careers are so superior as to divert promising high school graduates away from a nursing education

and to attract graduate nurses away from the practice of nursing. Hospitals, as the dominant employer of nurses, must carry the responsibility and exercise the leadership in developing levels of compensation that will attract a sufficient number of entrants into nursing each year. The ultimate answer to the problem of a sufficient supply of adequately prepared nurses will depend upon the realism with which hospitals face the question of compensation.

The policies and practices relative to nursing faculty members in both diploma and degree program are important facets of the question of compensation. It cannot be expected that qualified individuals will seek the necessary education for such nursing faculty positions unless they are treated in every respect as are other faculty members of equal education and rank. Education costs money, both in direct outgo and in lost income, and those with an aptitude and an interest in teaching cannot be expected to make the necessary investment unless they see some chance of recovering on the investment of time and money. This fact is clearly demonstrated when one looks at the educational attainment of faculty members teaching in the schools of nursing in North Carolina during 1962. Only 223, or about half of the total of 431, had a bachelor's degree or better. Less than 17 percent had a master's degree, and there were only 2 individuals with doctorate degrees in the entire total.

*8. The North Carolina laws relating to nursing education should be revised so as to provide for more administrative discretion by the higher education institutions, in order to permit the necessary flexibility in developing the most appropriate pattern of nursing education for the future.*

The present laws have, to a large extent, incorporated administrative regulations as part of the law. These regulations represent rigid barriers against necessary adjustments to emerging developments in nursing education. An important example of this is the specification in the law concerning the exact period of study required in order for a nurse to be eligible for licensure. This one specification prohibits the ready development in North Carolina of the nationally, rapidly developing two-year associate degree programs of nursing education in the junior colleges. The one single associate degree program thus far established in North Carolina is operating under the legal subterfuge of an experimental and demonstration project.

In order to implement this recommendation, the State Nurses' Association, the State League for Nursing, the State Hospital Association, and the State Medical Society should form

a joint committee, at the earliest possible date, for the purpose of drafting a revised nursing practice and education act that provides the necessary administrative authority and legal elbow room to the Board of Nurse Registration and Nursing Education. It is urgent that such legislation be introduced and passed at the next session of the North Carolina General Assembly if any progress is to be made on the problem of improving the nursing situation in North Carolina during this decade. The time lag in establishing a new program and in graduating the first class makes this so.

\* \* \* \*

Some who study the above recommendations will believe they are deficient in that they do not give precise estimates as to the number of new nursing programs needed or the number of graduates needed and a time schedule for producing both. Some might also believe that estimates of the number of baccalaureate graduates and the number of associate degree graduates should have been made. Such precise measurements are not possible because of the number of variables involved. What may happen with the existing hospital schools of nursing and the size of their enrollment prevents any valid recommendations as to the numbers of programs and graduates required in educational institutions. The situation is such that preciseness as to numbers is not required or indicated. The same could be said for the need to differentiate between the numbers to be obtained from the baccalaureate programs and the associate degree programs. The State is critically short of registered nurses and should establish at least six new programs, capable of producing a total of 200 graduates annually, as soon as possible. As these go into operation, a continuing evaluation of the nursing situation can be utilized to determine the additional number of programs and graduates required. It is unlikely that, with the best of efforts and results, a surplus of registered nurses will develop in the State for many years.

The same can be said concerning the differentiation between baccalaureate degree graduates and associate degree graduates. The important factor here is that every possible priority be given to the establishment of baccalaureate degree programs. These graduates can fill the requirement both for additional registered nurses and also for the special positions in nursing administration, nursing school faculties, and in public health nursing requiring a baccalaureate degree. They are also prepared to study for advanced degrees. The quality and quantity of nurses to be produced from the hospital schools and the associate degree

programs will be determined by the quality and quantity of graduates from the baccalaureate degree programs. The often-expressed opinion that nurses with a baccalaureate degree will not pursue nursing as a career is not borne out by the statistics. In 1962, the percentage of all registered nurses in North Carolina reported as active was 82 percent. During that same year the percentage of all registered nurses with a baccalaureate degree reported as active was 80 percent.

The essential problem in nursing education facing North Carolina, as well as all other states, can be stated in terms of the economic, social, and professional forces that are causing the hospital schools to be progressively less able to meet the need for registered nurses. This means the pattern for nursing education must increasingly involve programs in the junior and senior colleges of the State. There is no other source to which to turn. This also means that the primary responsibility for nursing education must be increasingly accepted by the tax-supported institutions of higher learning in North Carolina. They are the institutions that receive direct public support and are thus obligated to assure the educational functions necessary for the public good.

## APPENDIX A—TABLES

*(Except as otherwise noted, data presented in the following tables were provided by the North Carolina Board of Nurse Registration and Nursing Education.)*

**Table 1. Statistical Data Concerning Hospital, Associate Degree, and Baccalaureate Nursing Programs in North Carolina, 1963**

HOSPITAL SCHOOLS	1st yr.	2nd yr.	3rd yr.	4th yr.	Total	Admitted	Graduated	Total Accepted	Total Applications
Cabarrus Memorial ..... Concord	27	29	21		77	34	15	46	114
Charlotte Memorial ..... Charlotte	56	39	39		134	59	29	61	209
City Memorial ..... Winston-Salem	25	24	20		69	35	20	35	80
Community ..... Wilmington	7	11	5		23	10	8	11	48
Davis ..... Statesville	15	14	19		48	18	9	18	41
Gaston Memorial ..... Gastonia	28	15	15		58	29	16	33	72
Hamlet ..... Hamlet	30	12	19		61	31	22	31	48
High Point Memorial ..... High Point	28	19	25		72	31	25	38	75
Highsmith Memorial ..... Fayetteville	17	0	7		24	23	12	24	35
Lenoir Memorial ..... Kinston	20	17	8		45	20	8	22	60
Lincoln ..... Durham	15	10	11		36	15	17	16	102
Lowrance ..... Mooresville	10	8	6		24	10	13	10	25
Martin Memorial ..... Mt. Airy	12	18	7		37	19	16	21	34
Memorial Mission ..... Asheville	31	32	24		87	36	21	40	103
Mercy ..... Charlotte	31	24	16		71	35	20	43	76
Mountain ..... Fletcher	20	14	15		49	24	14	29	41
N. C. Baptist ..... Winston-Salem	54	56	52		162	62	49	76	437
Park View ..... Rocky Mount	17	16	12		45	27	15	27	50
Presbyterian ..... Charlotte	71	62	42		175	78	56	99	227
Rex ..... Raleigh	35	31	22		88	40	42	40	135
Reynolds, Kate B., Memorial ... Winston-Salem	17	19	16		52	18	16	18	150
Rowan Memorial ..... Salisbury	16	14	6		36	17	9	19	66
Rutherford ..... Rutherfordton	11	15	14		40	11	18	12	57
Southeastern General ..... Lumberton	24	16	3		43	31	4	34	59
James Walker Memorial ..... Wilmington	26	19	19		64	34	19	36	103

HOSPITAL SCHOOLS	1st yr.	2nd yr.	3rd yr.	4th yr.	Total	Admitted	Graduated	Total Accepted	Total Applications
Watts ..... Durham	52	47	55		154	53	36	63	185
Wilson School of Nursing ..... Wilson	15	9	20		44	25	16	28	68
ASSOCIATE DEGREE PROGRAMS									
University of North Carolina Greensboro	24	22			46	30	17	43	75
BACCALAUREATE DEGREE PROGRAMS									
A & T College ..... Greensboro	32	26	14	19	91	30	13	36	51
Duke University ..... Durham	90	63	61	59	273	87	46	116	234
East Carolina College ..... Greenville	33	21	18		72	42		un- known	un- known
Lenoir-Rhyne College ..... Hickory	14	15	21 <sup>a</sup>		50	15	11 <sup>c</sup>	18	20
University of North Carolina Chapel Hill	73	46	72 <sup>b</sup>	44	235 <sup>b</sup>	73	40 <sup>d</sup>	92 <sup>e</sup>	253
Winston-Salem State College Winston-Salem	23	18	19	23	83	25	19	35	85

(a) Includes ten diploma school students at Grace Hospital, Hickory

(b) Includes twenty-three R.N.s

(c) Graduates of Grace Hospital School of Nursing, which was discontinued September, 1963, as the Lenoir-Rhyne nursing program developed.

(d) Includes six R.N.s

(e) Includes nineteen R.N.s

Source: North Carolina Board of Nurse Registration and Nursing Education (Figures taken from Annual Report—April 1, 1962-March 31, 1963)

**Table II****North Carolina Hospital Schools of Nursing That Closed  
Between 1949 and 1963**

Carolina General Hospital, Wilson  
 Community Hospital, Wilmington <sup>(1)</sup>  
 Duke University Hospital, Durham  
 Goldsboro Hospital, Goldsboro  
 Good Samaritan Hospital, Charlotte  
 Grace Hospital, Banner Elk  
 Grace Hospital, Morganton  
 H. F. Long Hospital, Statesville  
 James Walker Memorial Hospital, Wilmington <sup>(1)</sup>  
 L. Richardson Memorial Hospital, Greensboro  
 Mary Elizabeth Hospital, Raleigh  
 N. C. State Sanatorium, McCain  
 Roanoke Rapids Hospital, Roanoke Rapids  
 Rocky Mount Sanatorium, Rocky Mount  
 Saint Agnes Hospital, Raleigh  
 Saint Leo's Hospital, Greensboro  
 Shelby Hospital, Shelby  
 Tayloe Hospital, Washington

(1) Admitted final class in 1963

**Table III  
Highest Educational Attainment of Professional Nurses in North Carolina  
January 1-December 31, 1962**

Educational Attainment	Total	Field of Employment				
		Hospital	School of Nursing	Public Health	Private Duty and Others	Not Working
North Carolina Total ....	13436	6718	431	627	3269	2391
Graduate 2 yr. Program	77	37	4	2	20	14
Graduate 3 yr. Program	11139	5761	166	391	2879	1942
1 Year of College .....	636	261	14	74	157	130
2 Years of College .....	397	184	22	33	87	71
3 Years of College .....	89	37	2	5	26	19
Bachelor's Degree .....	937	414	144	101	83	195
Master's Degree .....	157	24	77	21	15	20
Doctor's Degree .....	2		2			
Not Reported .....	2				2	



**Table IV**  
**Academic Preparation of Faculty in North Carolina**  
**Educational Programs in Nursing, 1963**

	<u>Number</u>	<u>Percentage</u>
Total .....	454	100
Master's or Higher Degree .....	85	19
Bachelor's Degree .....	138	30
Less than Bachelor's Degree .....	231	51

**Table V**  
**Summary of Results of Licensing Examinations of Professional Nurse Candidates in**  
**North Carolina (First Time Writers—North Carolina Graduates)**

	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>
Total Writers .....	680	698	641	644
Number Passed .....	473	556	479	536
Percentage Passed .....	70	80	75	83
Number Failed to Pass .....	207	142	162	108
Percentage Failed to Pass .....	30	20	25	17

**Table VI**  
**Number of Nursing Education Programs in North Carolina**

<u>Programs Leading To</u>	<u>Number of Programs</u>		
	<u>1958</u>	<u>1963</u>	<u>1964</u>
Baccalaureate Degree .....	4	5	6
Associate Degree .....	1	1	1
Hospital Diploma .....	31	28	27
Total .....	<u>36</u>	<u>34</u>	<u>34</u>
Practical Nurse Certificate .....	12	21	24

**Table VII**  
**Number of Nursing Education Programs, United States and North Carolina**

	<u>Programs, U. S.*</u>		<u>Programs, N. C.**</u>	
	<u>1959</u>	<u>1962</u>	<u>1959</u>	<u>1962</u>
<b>Registered Nurse</b>				
Associate Degree .....	48	84	1	1
Diploma .....	918	874	31	28
Baccalaureate Degree .....	171	178	4	5
Total R. N. ....	<u>1,137</u>	<u>1,136</u>	<u>36</u>	<u>34</u>
<b>Practical Nurse</b> .....	607	739	12	18

\* Source: "Educational Preparation for Nursing," **Nursing Outlook**, September 1963  
 \*\* Source: North Carolina Board of Nurse Registration and Nursing Education

**Table VIII**

**Admissions to Nursing Education Programs, United States and North Carolina**

	Admissions, U. S.*		Admissions, N. C.**	
	1959	1962	1959	1962
<b>Registered Nurse</b>				
Associate Degree .....	1,266	2,504	22	31
Diploma .....	37,722	38,257	830	852
Baccalaureate Degree ....	6,866	9,044	254	301
Total R. N. ....	45,854	49,805	1,106	1,184
<b>Practical Nurse</b> .....	23,116	26,660	459	537

\* Source: "Educational Preparation for Nursing," **Nursing Outlook**, September 1963

\*\* Source: North Carolina Board of Nurse Registration and Nursing Education

**Table IX**

**Number of Candidates Licensed as Registered Nurses in North Carolina by Examination, 1954-1963**

Year	Total
1954	667
1955	608
1956	585
1957	557
1958	698
1959	662
1960	636
1961	747
1962	627
1963	737
Total	6,524

**Table X**

**Nurses Licensed by Endorsement and Endorsed to Other States 1961-1963**

	Endorsed In		Endorsed Out	
	RN*	LPN**	RN	LPN
1963 .....	369	48	577	107
1962 .....	374	72	510	84
1961 .....	429	61	463	97

\* Registered Nurses

\*\* Licensed Practical Nurses

**Table XI**  
**Number and Academic Qualifications of Full-Time Registered Nurses**  
**Employed by Local Health Agencies in North Carolina,**  
**As of January 1, 1955, and January 1, 1964 \***

Nurses In:	General Education							
	Total Registered Nurses		Without Academic Degree		With Bachelor's Degree Only		With Graduate Degrees	
	1955	1964	1955	1964	1955	1964	1955	1964
Administration .....	2	9	—	1	1	4	1	4
Supervision .....	32	32	10	8	16	19	6	5
Staff PHN .....	444	543	394	478	37	65	13	0
TOTAL .....	478	584**	404	487	54	88	20	9
Clinic Nursing .....	28	12						

Nurses in:	Education in Public Health Nursing					
	None		Less Than One Academic Year		One or More Academic Years	
	1955	1964	1955	1964	1955	1964
Administration .....	—	—	—	—	2	9
Supervision .....	—	—	—	—	32	32
Staff PHN .....	153	125	159	256	132	162
TOTAL .....	153	125	159	256	166	203

\* Source: North Carolina State Board of Health (Local Health Division)

\*\* Excludes twenty-two authorized positions (two supervisors and twenty staff nurses) that are vacant. Authorized registered nurse positions total 606.

**Table XII**  
**Additional Registered Nurses Needed in North Carolina**  
**As of April 1, 1962**

	<b>Shortages</b>
General Duty Nurses (Hospitals) .....	852
Supervisory Nurses (Hospitals) .....	116
Nursing School Directors, Assistants, Instructors (Hospitals) .....	31
Private Duty Nurses .....	500
Public Health Nurses .....	373
Occupational Health Nurses .....	234
<b>Total Registered Nurses Needed .....</b>	<b>2,106</b>

Source: The Duke Endowment Hospital, Para-Medical and Medical Personnel Survey in North Carolina, April 1, 1962. Additional registered nurses needed in 162 general, special, and tuberculosis hospitals extrapolated from questionnaire returns from 114 hospitals, and on estimates provided by the North Carolina State Nurses Association, the North Carolina State Board of Health, and the State Hospitals Board of Control.

**Table XIII**

**Selected Data on Student Enrollment in North Carolina Diploma, Associate Degree, and Baccalaureate Degree Programs in Nursing**

Year	Total	Diploma Programs		Associate Degree Programs		Baccalaureate Degree Programs	
		No.	Percent	No.	Percent	No.	Percent
1963	2644	1867	70.61	46	1.74	731	27.65
1962	2753	1927	70.00	49	1.78	777	28.22
1961	2766	1972	71.29	45	1.63	749	27.08
1960	2684	1966	73.25	48	1.79	670	24.96
1959	2776	2040	73.49	37	1.33	699	25.18

Source: North Carolina Board of Nurse Registration and Nursing Education. (Data for 1963 taken from Annual Report for year ending March 31, 1963—all other figures are yearly statistics as of December 31.)

**Table XIV**

**Selected Data on Number Admitted to North Carolina Diploma, Associate Degree, and Baccalaureate Degree Programs in Nursing**

Year	Total	Diploma Programs		Associate Degree Programs		Baccalaureate Degree Programs	
		No.	Percent	No.	Percent	No.	Percent
1963	1127	840	74.53	30	2.67	257	22.80
1962	1134	802	70.72	31	2.74	301	26.54
1961	1249	911	72.94	29	2.32	309	24.74
1960	1163	907	77.99	32	2.75	224	19.26
1959	1106	831	75.13	21	1.90	254	22.97

Source: North Carolina Board of Nurse Registration and Nursing Education. (Data for 1963 taken from Annual Report for year ending March 31, 1963—all other figures are yearly statistics as of December 31.)

**Table XV**

**Selected Data on Number Graduated from North Carolina Diploma, Associate Degree, and Baccalaureate Degree Programs in Nursing**

Year	Total	Diploma Programs		Associate Degree Programs		Baccalaureate Degree Programs	
		No.	Percent	No.	Percent	No.	Percent
1963	685	556	81.17	17	2.48	112	16.35
1962	679	541	79.68	17	2.50	121	17.82
1961	741	571	77.06	16	2.16	154	20.78
1960	696	551	79.17	16	2.30	129	18.53
1959	765	603	78.82	8	1.05	154	20.13

Source: North Carolina Board of Nurse Registration and Nursing Education. (Data for 1963 taken from Annual Report for year ending March 31, 1963—all other figures are yearly statistics as of December 31.)

Table XVI

**Nursing Education Programs in Each Jurisdiction, Programs Accredited by the National League for Nursing, and Percentage Accredited (1962)**

State	Total Programs	Accredited by NLN		State	Total Programs	Accredited by NLN	
		Number	Percentage			Number	Percentage
Ala.	12	9	75	Neb.	14	11	79
Ariz.	6	4	67	N. H.	11	7	64
Ark.	7	4	57	Nev.	1	0	0
Calif.	56	30	54	N. J.	39	25	64
Colo.	8	7	88	N. Mex.	2	2	100
Conn.	20	17	85	N. Y.	121	71	59
Del.	6	4	67	N. C.	34	6	18
D. C.	6	6	100	N. Dak.	9	3	33
Fla.	18	10	56	Ohio	58	46	79
Ga.	19	9	47	Okla.	11	5	45
Hawaii	3	3	100	Oreg.	5	5	100
Idaho	4	1	25	Pa.	106	64	60
Ill.	72	44	61	Puerto Rico	9	0	0
Ind.	24	18	75	R. I.	7	6	86
Iowa	24	20	83	S. C.	15	2	13
Kans.	20	14	70	S. Dak.	10	7	70
Ky.	15	7	47	Tenn.	17	13	77
La.	12	10	83	Texas	34	18	53
Maine	6	3	50	Utah	6	4	67
Md.	20	15	75	Vt.	4	3	75
Mass.	55	42	76	Va.	28	10	35
Mich.	31	20	65	Wash.	17	8	47
Minn.	26	23	88	W. Va.	14	6	43
Miss.	11	2	18	Wis.	22	22	100
Mo.	27	18	67	Wyo.	1	1	100
Mont.	4	3	75				
				TOTAL	1107	688	62%

## SUMMARY

Percentage of Schools of Nursing Accredited by NLN	Number of Jurisdictions	Percentage of Schools of Nursing Accredited by NLN	Number of Jurisdictions
100%	6	40-49	5
90-99	0	30-39	2
80-89	6	29-29	1
70-79	11	10-19	3
60-69	9	0-9	2
50-59	6		—
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Source: North Carolina Board of Nurse Registration and Nursing Education. (Data taken from *Nursing Outlook*, June, 1962, and February, 1963, and *Schools of Nursing*, 1962.)

February 1963 data show that each of thirty-eight jurisdictions had fifty percent or more schools NLN accredited. Six jurisdictions have all schools NLN accredited. Alaska has no schools of nursing.



## APPENDIX B

### Persons Who Assisted Through Interviews and Correspondence

#### **The Duke Endowment (Hospital and Orphan Sections), Charlotte**

Marshall I. Pickens, Executive Director  
George P. Harris, Director, Field Service

#### **National League for Nursing, New York**

Gwendoline MacDonald, R.N., Project Director, Department of Baccalaureate and Higher Degree Programs

#### **North Carolina Board of Higher Education, Raleigh**

William C. Archie, Director of Higher Education  
Howard R. Boozer, Assistant Director of Higher Education  
Charles H. Little, Jr., Educational Statistician and Analyst

#### **North Carolina Board of Nurse Registration and Nursing Education, Raleigh**

Carrie M. Spurgeon, R.N., Executive Secretary  
Mrs. Dixie King, Public Information Officer  
Mrs. Ethel Watkins, Office Secretary

#### **North Carolina Employment Security Commission (Bureau of Employment Security Research), Raleigh**

Hugh M. Raper, Director  
David A. Garrison, Assistant Director  
James C. French, Superintendent of Reports and Analyses  
James G. Mills, Jr., Labor Market Analyst

#### **North Carolina Hospital Association, Raleigh**

Marion J. Foster, Executive Director  
W. Wright Langley, Director, Health Careers for North Carolina

#### **North Carolina Medical Care Commission, Raleigh**

William F. Henderson, Executive Secretary  
Mrs. Elizabeth Mason, Nurse Consultant

#### **North Carolina State Nurses' Association, Raleigh**

Mrs. Marie B. Noell, R.N., Executive Secretary  
Helen E. Peeler, R.N., Associate Executive Secretary

**North Carolina State Board of Health  
(Local Health Division), Raleigh**

Robert D. Higgins, M.D., Director  
I. A. McCary, Administrative Officer

**North Carolina State Board of Education  
(Department of Community Colleges), Raleigh**

I. E. Ready, Director  
Miriam Daughtry, R.N., Supervisor for Practical Nurse  
and Health Occupations

**United States Public Health Service, Washington, D. C.**

Eugene Levine, Division of Nursing  
Ellwynne M. Vreeland, R.N., Chief, Research and  
Resources Branch, Division of Nursing

\* \* \* \* \*

Mildred L. Montag, Director of Nursing, Teachers College,  
Columbia University, New York, New York

B. Lee Mootz, Director, Forsyth Memorial Hospital,  
Winston-Salem, North Carolina  
(President, North Carolina Hospital Association)

J. P. Richardson, Superintendent, Presbyterian Hospital,  
Charlotte, North Carolina

R. Zach Thomas, Jr., Director, Charlotte-Mecklenburg Hos-  
pital Authority, Charlotte, North Carolina



## APPENDIX C

### Consultants

- Helen C. Belcher, R.N., Project Director, Nursing Education and Research, Southern Regional Education Board, Atlanta, Georgia
- A. J. Brumbaugh, Educational Consultant, Clearwater, Florida
- Charles Cardwell, Director, Medical College of Virginia Hospitals, Richmond, Virginia
- Mrs. Lucile Petry Leone, R.N., Assistant Surgeon General, Public Health Service, United States Department of Health, Education, and Welfare, Washington, D. C.
- Mrs. Margaret Sheehan, R.N., Director of Nursing, University of Chicago, Chicago, Illinois

### Advisory Committee on Nursing Education of the North Carolina Board of Higher Education

- Mrs. Edith P. Brocker, R.N., Assistant Dean, School of Nursing, Duke University, Durham
- L. C. Dowdy, President, Agricultural and Technical College of North Carolina, Greensboro
- E. V. Fox, Administrator, Kate Bitting Reynolds Memorial Hospital, Winston-Salem
- E. N. Grubbs, Director, New Hanover Memorial Hospital, Wilmington
- C. Horace Hamilton, William Neal Reynolds Professor of Rural Sociology, North Carolina State of the University of North Carolina, Raleigh
- William F. Henderson, Executive Secretary, North Carolina Medical Care Commission, Raleigh
- Mrs. Eloise R. Lewis, R.N., Professor and Director of Continuing Education, School of Nursing, University of North Carolina, Chapel Hill
- Manson Meads, M.D., Dean, Bowman Gray School of Medicine, Wake Forest College, Winston-Salem
- Mereb E. Mossman, Dean, University of North Carolina, Greensboro

Mrs. Marie Noell, R.N., Executive Secretary, North Carolina State Nurses' Association, Raleigh

George W. Paschal, Jr., M.D., President-elect, Medical Society of the State of North Carolina, Raleigh

I. E. Ready, Director, Department of Community Colleges, North Carolina State Board of Education, Raleigh

Carrie M. Spurgeon, R.N., Executive Secretary, North Carolina Board of Nurse Registration and Nursing Education, Raleigh

## APPENDIX D

### Members, North Carolina Board of Higher Education

William C. Archie, Director of Higher Education  
P. O. Box 10887, Raleigh

Oliver C. Carmichael (Chairman), Asheville	Allen H. Gwyn, Jr., Reidsville
N. Elton Aydlett, Elizabeth City	W. D. Herring, Rose Hill
William A. Dees, Jr., Goldsboro	Mrs. Harry P. Horton, Pittsboro
Joseph W. Grier, Jr., Charlotte	W. J. Kennedy, Jr., Durham
	Mrs. Harry B. Stein, Fayetteville

### Members, North Carolina State Board of Education

Charles F. Carroll, State Superintendent of Public Instruction  
316 Education Building, Raleigh

W. D. Herring (Chairman), Rose Hill	Guy B. Phillips, Chapel Hill
George Douglas Aitken, Charlotte	John M. Reynolds, Asheville
R. Barton Hayes, Lenoir	Charles G. Rose, Jr., Fayetteville
Charles E. Jordan, Durham	H. L. Trigg, Salisbury
C. W. McCrary, Asheboro	Charles F. Carroll, Raleigh ( <i>ex officio</i> )
	Edwin Gill, Raleigh ( <i>ex officio</i> )

### Members, North Carolina Medical Care Commission

William F. Henderson, Executive Secretary  
P. O. Box 9594, Raleigh

Agnew H. Bahnson, Sr. (Vice Chair- man), Winston-Salem	Powell G. Fox, M.D., Raleigh
J. Street Brewer, M.D., Roseboro	Ernest J. House, Marion
Paul W. Bumbarger, Jr., Hickory	William D. James, M.D., Hamlet
George L. Carrington, M.D., Burlington	Harry L. Johnson, M.D., Elkin
H. Royster Chamblee, D.D.S., Raleigh	Marshall I. Pickens, Charlotte
J. B. Clemence, Salisbury	James J. Richardson, M.D., Laurinburg
E. C. Daniel, Zebulon	Wm. Raney Stanford, M.D., Durham
Mrs. Margaret B. Dolan, Chapel Hill	Paul F. Whitaker, M.D., Kinston
Sample B. Forbus, Chapel Hill	R. Eugene Brown, Raleigh ( <i>ex officio</i> )
	J. W. R. Norton, M.D., Raleigh ( <i>ex officio</i> )

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