1971
REPORTS OF THE LEGISLATIVE RESEARCH COMMISSION
TO THE
NORTH CAROLINA GENERAL ASSEMBLY

HEALTH

JANUARY, 1971
STATE LEGISLATIVE BUILDING
RALEIGH, NORTH CAROLINA 27602

TO THE MEMBERS OF THE 1971 GENERAL ASSEMBLY

The Legislative Research Commission herewith reports to the 1971 General Assembly its findings and recommendations concerning Health.

These reports were initiated by a committee of the Legislative Research Commission to which the Commission assigned the studies. The Committee on Health consisted of:

Representative Kenneth C. Royall, Jr., Chairman

Senator John R. Boger, Jr., Vice-Chairman

Representative Henry E. Frye

Representative H. Horton Rountree

Senator J. Russell Kirby

Mr. John Alexander McMahon

The Legislative Research Commission reviewed the Committee proceedings and adopted these reports on November 13, 1970.

Respectfully,

Philip P. Godwin, Speaker Senator N. Hector McGeachy, Jr.

Co-Chairmen, Legislative Research Commission

LEGISLATIVE RESEARCH COMMISSION REPORTS

CONCERNING HEALTH

1. Health Manpower Needs in North Carolina.

2. New Categories of Health Manpower: Physician's Assistants.

3. Utilization of Medical Facilities at the Eastern North Carolina Sanatorium.

4. Feasibility and Advisability of Licensing Commercial Donor Blood Banks and Personnel Employed Therein.

5. Cost and Feasibility of Teaching First Aid in the Public Schools.

REPORT OF THE LEGISLATIVE RESEARCH COMMISSION

TO THE 1971 GENERAL ASSEMBLY

Health Manpower Needs in North Carolina

Raleigh, North Carolina

November 13, 1970

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REPORT BY THE LEGISLATIVE RESEARCH COMMISSION
TO THE 1971 GENERAL ASSEMBLY

Health Manpower Needs in North Carolina

INTRODUCTION

The Legislative Research Commission was directed by Resolution 55,

> "to make a broad and in-depth study of the health manpower needs of North Carolina and of measures necessary to produce or provide the right kinds and numbers of personnel. . .[and] analyze the distribution problems and possible solutions to providing more equitable health care to all who need it. . .[and] to suggest changes in the health care system that are needed to meet the demands for care and for additional manpower."

Manifestly, this charge was a difficult and challenging one and required considerable attention.

Pursuant to this directive the Health Committee of the Commission conducted a series of four public hearings, held several other conferences and reviewed numerous letters and documents. The Committee thus received from a wide segment of the health care field general information and specific suggestions directed to the question "What should be the responsibility of state and local government for meeting the health needs of the citizens?" (See appendix for a listing of those who appeared before the committee). From these proceedings have come two reports, "New Categories of Health Manpower; Physician's Assistants," and this general report on health manpower.

The deans of the three medical schools in the state were particularly helpful, as was the dean of the School of Allied Health Professions at East Carolina University, in providing information and suggestions for meeting the health manpower problem.

The Committee kept in close contact with the Task Force on Health Manpower of the State Comprehensive Health Planning Advisory Council and utilized its recommendations in the preparation of this report.

BACKGROUND

The scarcity of physicians, dentists, nurses, and other health care manpower, particularly in remote areas, has been highly publicized. Although there are a number of alternatives for alleviating this problem, the three most obvious ways are to provide for better distribution of health care personnel, to encourage better utilization of the skills of all health care personnel and to educate more health care personnel.

Well aware of the extreme cost of education for health care personnel, the Legislative Research Commission encourages objective determination of manpower needs and full use of available resources as a procedure for meeting the needs. Optimum utilization of resources is expedited through careful planning and coordination, involving all who are interested and affected. In this connection, the Board of Higher Education and the Board of Education, the two state agencies charged with the legal responsibility for the planning and coordination of education at all levels in North Carolina, have established advisory committees on medical, dental, and nursing education. In addition, a similar committee on allied health care professions education is in process of organization. The State Comprehensive Health Planning Advisory Council, with staff from the office

of Comprehensive Health Planning, provides ongoing advice and recommendations on the broad range of health planning goals and objectives.

These advisory committees, consisting of knowledgeable and interested members, should provide sound mechanisms for studying and recommending to the state various solutions to problems in health care manpower. The broad involvement of multiple viewpoints through the committees has already accentuated the importance of more allied health care personnel, many of whom are in as short supply and are as desperately needed as physicians. These paraprofessionals include the physician's assistant, physical therapist, medical record librarian, speech pathologist, medical technician, dental hygienist, X-ray technician, and others. Efforts to relieve the medical doctor shortage have not obscured but have focused attention on the necessity for the state to study the use and education of more auxiliary health care manpower.

Recent developments in planning and providing for the education and availability of personnel in the various health care fields are outlined below.

Medical Care Manpower

In the spring of 1969 a special committee of the State Board of Higher Education studied the question of the needs for medical manpower in North Carolina and how the state can increase the production of doctors as quickly as possible. After examining the available evidence the committee concluded that "although the number of additional physicians required nationally has not been satisfactorily determined, it is clear that more physicians are desperately needed in North Carolina and that a high priority should be given to the expansion of opportunities for medical education and to the development of additional facilities for this purpose."

The committee made several recommendations concerning the most economical, efficient, and rapid ways for increasing the production of medical manpower, including expansion of UNC Medical School enrollment, state assistance to Duke and Bowman Gray, encouragement of high school science education and health career motivation, continuation of the contract with Meharry Medical School, development and expansion of allied health sciences programs, planning for another state medical school, and establishment of an advisory committee for the Board of Higher Education on medical education.

As the result of recommendations of the 1967-69 Legislative Research Commission and other efforts, the 1969 General Assembly enacted the following legislation:

(1) Appropriated $10 million to the School of Medicine at the University of North Carolina at Chapel Hill to expand its operations and output of physicians.

(2) Appropriated $127,554 for the 1969-71 biennium to the School of Medicine of the University of North Carolina at Chapel Hill for the establishment of a Department of Family Medicine.

(3) Appropriated $273,740 to the School of Medicine at the University of North Carolina at Chapel Hill to provide special teaching programs for North Carolina medical students ($141,986) and to improve education of personal and family physicians ($131,754).

(4) Appropriated $350,000 for fiscal 1969 and 1970 to provide financial assistance for the education of North Carolinians as physicians at the medical schools of Duke Unviersity and Wake Forest University, both private institutions. The assistance amounts to $2,500 for each student, $250 of which is credited to the annual tuition of the student. The general purpose

of the appropriation is to strengthen the practice of family and community medicine in North Carolina.

(5) Appropriated $375,000 to East Carolina University for the 1969-71 biennium for planning and development of a two-year curriculum for a school of medicine.

(6) Authorized and directed the Legislative Research Commission to investigate and report upon the feasibility of utilizing any unused medical facilities at the Eastern North Carolina Sanatorium in Wilson for the purpose of supplying eastern North Carolina's unmet medical education and health needs.

(7) Endorsed and encouraged medical vocation guidance and counseling efforts in high schools, medical education loans by the Medical Care Commission, and recruitment efforts by the North Carolina Medical Society and the Old North State Medical Society.

(8) Urged the Board of Higher Education and the Board of Education to pursue actively the strengthening of science and other aspects of pre-medical education both in public high schools and in higher education facilities across the state.

(9) Authorized and directed the Legislative Research Commission to study North Carolina's health manpower needs, measures to increase the health manpower supply, and means to accomplish indicated changes in the health care system. (Note: This report is part of the study thereby authorized).

In spring 1970 Representative Kenneth C. Royall, Jr., of Durham, chairman of the Health Committee of the Legislative Research Commission, conferred with representatives of the three medical schools of the state concerning the Commission's legislative mandate to study North Carolina's health manpower needs. In this conference the idea emerged that

There may be ways of increasing the number of graduates of medical schools through the development of various cooperative programs and new forms of state support. It was suggested that proposals could be developed by those involved in medical education which would contribute significantly and relatively quickly to the solution of the physician shortage problem.

By letter of April 22, 1970, to the Director of Higher Education of the State Board of Higher Education, Mr. Royall requested that the Director convene a meeting of those most concerned with the medical education in the state for the purpose of developing a coordinated proposal with specific recommendations to the Health Committee of the Legislative Research Commission.

The Director of Higher Education invited representatives of universities in the state with an expressed interest in the education of physicians to meet on May 26, 1970.

After this meeting an Advisory Committee on Medical Education (to the Board of Higher Education) was created and was given the charge to recommend ways to assure (a) the continued viability of the three medical schools, and (b) the most economical, efficient and rapid ways of expanding present programs and creating new programs for training physicians. This Committee met on several occasions and discussed plans for expansion of the medical school at the University of North Carolina at Chapel Hill; proposals of the Duke University Medical School and the Bowman Gray School of Medicine for increased State financial assistance; the State's purchasing of instructional services in medical education at Meharry Medical College; the willingness and ability of the medical schools at the University of North Carolina at Chapel Hill, Duke, and Wake Forest to accept transfer students from the proposed two-year medical school at East Carolina University; the role of the

physician's assistant in the delivery of health care; and other courses of action.

In reference to these matters, the Advisory Committee on Medical Education on September 10, 1970, took eight positions and recommended them to the State Board of Higher Education for transmission through the Health Committee of Legislative Research Commission to the 1971 General Assembly. On September 18 the Executive Committee of the Board reviewed these recommendations, approved them in full, and authorized the Director of Higher Education to transmit them to the Health Committee. The recommendations are as follows:

(1) That full and continued support be given to the long-range plans of the University of North Carolina at Chapel Hill to expand its entering class of 100 students in 1970 to 120 by 1973, to 160 by 1976, and 200 in the years immediately following.

(2) That the State support North Carolina resident students' four years of medical training in the private institutions, Duke University and Wake Forest University; that the State increase the amount of its annual support going directly to the university medical schools from $2,250 to $2,650 per North Carolina resident student (to offset rising costs); and that the State increase its amount of annual support for tuition remission from $250 to $1,000 per North Carolina resident student. Thus the total annual appropriation per North Carolina resident sutdent would be increased $1,150--from $2,500 to $3,650.

(3) That the Meharry Medical College program through the Southern Regional Education Board be continued for the next biennium and be supported financially by the State.

(4) That the development of personnel to augment and support physician services is desirable and will serve to assist in delivering medical and

health care services to the citizens of the state and that the development and expansion of education programs for such personnel in the institutions of higher education in North Carolina should be encouraged. Further, there are legal matters involved, including the licensing process, that will have to be resolved. The Board of Higher Education supports legislation necessary for the effective utilization of this category of personnel so that any existing legislative restrictions will not impede the implementation of programs directed toward this end. (Note: Appropriate legislative proposals are included in a separate report of the Legislative Research Commission).

(5) That the pilot programs for training "physician's assistants" in progress at the medical schools of Duke and Wake Forest and the proposed program for "nurse practitioners" at the medical school of the University of North Carolina at Chapel Hill are designed specifically to produce a new type of health professional that will increase the productivity of physicians. Such programs should be developed in university medical centers. Their continuance and expansion will require stable financial support, however, and the State should give serious consideration to this need in its over-all plan to relieve the shortage of physicians.

(6) That there is a distinct need for a mechanism within the state to accumulate and disseminate information concerning health manpower requirements in North Carolina. A clearinghouse or information system for health manpower should be established.

(7) That the Advisory Committee recognizes that the North Carolina General Assembly in 1965, 1967, and 1969 authorized a two-year school of medicine to be created at East Carolina University; that East Carolina University is taking steps toward establishing a two-year medical school; that the three operating medical schools of the state have been advised of

the needs of the anticipated students who will complete the two-year medical program at East Carolina University; and that administrators of the four-year schools have expressed a desire to cooperate and a willingness to accept, consistent with the admission policy of the respective schools, collectively up to 16-20 students from an accredited two-year medical school at East Carolina University.

(8) That plans of the medical schools of Wake Forest and Duke to further increase their entering class to 100 and 128 respectively when necessary additional resources become available should be encouraged.

The Health Committee of the Legislative Research Committee recognizes that physician manpower in North Carolina must be increased markedly if the delivery of health services to all of the people is to be improved and expanded. The State has begun the expansion of the medical education program at the University of North Carolina, has provided support for N.C. residents enrolled in the Duke and Bowman Gray schools of medicine, and in addition has taken steps toward establishing a medical school at East Carolina University when the 1969 General Assembly appropriated funds for planning and developing a two year school.

Development of the East Carolina medical school plans has proceeded so that the curriculum proposal is now being considered by the N.C. State Board of Higher Education and the program is recognized as "in development" by the Liaison Committee of the American Medical Association and Association of American Medical Colleges. The Carnegie Commission on Higher Education in its recommendations on expansion of medical education has recognized the current development as one of the planned new schools needed to increase physician manpower in the United States.

Dental Care Manpower

A special committee on dental education of the State Board of Higher Education and State Board of Education was established in 1969. This committee has found that there is urgent need for additional dental care manpower in North Carolina. The most optimistic estimates indicate that only 30 percent of the population receives any reasonable amount of regular dental care. Furthermore, this committee reports that there is clear evidence that more dental disease is untreated than treated.

Until recent years the demand for dental care was expressed by only a small percentage of the people and the dental profession was able to cope with this demand although the situation was difficult in many areas of the state. There are several important influences in society, however, which are causing a rapid increase in the demand for dental health services. Improved education of the public, increasing affluence of society, the initiation of Federal and private third party payment systems for dental care, and a changing social consciousness all work to increase substantially the percentage of the population seeking regular dental care and an acceptable level of dental health.

The dentist-to-population ratio of 1:3,600 in North Carolina is extremely unfavorable when compared to the 1:2,100 ratio existing on a national basis. The problem is compounded by a situation of severe maldistribution of dental care personnel throughout the state. There also is a severe shortage of blacks in all phases of the dental health profession.

This committee on dental education recommends a three-part solution to improving the dental health of citizens in North Carolina: 1) Statewide preventive program to be conducted through public agencies and the private practice system. The most desirable approach is to prevent disease

rather than treat it. The health of the population is best served in this manner and costs to the individual citizen and the state are controlled effectively. It is impossible to estimate the effects which would be achieved through the proposed program; it could reduce the amount of dental disease in the coming generation of young people by as much as 30 to 50 percent. Such a reduction would far surpass any benefits which could be achieved by improved services in treatment of disease in the foreseeable future.

The preventive dental health program should be multi-faceted: including the fluoridation of all public water supplies through increased financial assistance, the installation and operation of school water fluoridation systems, self-application topical fluoride program for children who have access to neither public nor school water supplies which are fluoridated, a revitalized dental health education program in the public school system, continuing education programs for dental practitioners and their auxiliary personnel, information to the public about good dental health practices and the various preventive programs, and further consideration given to the administration of fluoride tablets.

2) Education and utilization of dental auxiliaries and expansion of auxiliary functions. The number of patients a dentist can serve may be increased by providing him with properly trained auxiliary personnel. Every effort should be extended to insure that all dentists use auxiliary personnel in the most productive manner and that appropriate numbers of auxiliaries are educated in the various dental programs throughout the state. This should be accomplished by a variety of means, including continuing education programs, more educational resources for dental auxiliaries, experimentation on the expansion of functions performed by

dental auxiliaries, emphasis on teacher programs and student recruitment with special emphasis on the enlistment of minority groups.

3) Education of more dentists. Based on the current expansion of the D.D.S. program at the University of North Carolina School of Dentistry, it is apparent that no substantial improvement in the dentist-to-population ratio can be projected in the next 20 years. While improvement in the dental health situation in the state may be achieved by implementation of preventive programs and the expansion and utilization of dental auxiliaries, it is agreed that an increase in the number of dentists graduated in the state is essential.

Two other recommendations of this Committee relate to the study of licensing methods and support for research in the control and treatment of dental disease.

Nursing Care Manpower

In 1965 the Board of Higher Education and Board of Education established the Joint Committee on Nursing Education. The purpose of this Committee is to study the entire system of nursing education from practical nursing to post baccalaureate education programs and to make recommendations to the sponsoring boards for the development and potential expansion of the system. In carrying out this purpose, the Committee has been active in many areas, including support of the General Assembly in appropriating financial assistance to hospital programs of nursing leading to diplomas in nursing in 1967 and 1969. There is currently a proposal for increasing this support to $500 per student.

This Committee endorses the request of the Medical Care Commission for increased student loan funds in the health field (which includes nursing).

Other Health Care Manpower

There are efforts underway for establishing a special committee on auxiliary health care manpower education. If this effort by the State Board of Education and State Board of Higher Education follows the pattern of the other special committees (on medical, dental and nursing education), it can be expected that the committee will deal broadly with auxiliary manpower problems and make appropriate recommendations for action.

RECOMMENDATIONS

At the outset the Health Committee of the Legislative Research Commission recognized that the problem of health manpower is not severable from the over-all problem of health needs generally and the question of providing an adequate means for assuring that health care is delivered as needed. Accordingly, the Committee posed the questions of what should be the responsibility of State and local governments for meeting the health needs of the citizens and how should this responsibility be met.

All major health related groups, organizations, agencies and most knowledgeable individuals now agree that adequate health care is a basic human right, not simply a privilege. Governmental policy, then, must be based on this principle. Therefore, the following general guidelines for a state health policy are suggested in making legislative decisions on the multitude of health issues that are presented for action:

State and local governments in North Carolina should more vigorously and positively assume their proper responsibility to assure that the health needs of the citizens are met in whatever ways are adequate and by whatever means are available to government. This exercise of responsibility includes the full and effective utilization of resources at hand and the development of other resources necessary to meet the health needs of the people of this state in a comprehensive fashion. This means that priorities must be arranged in state and local financing and budgeting so as to give health planning and service programs the urgent attention required in these times of manpower shortage and health care demand. Government must facilitate private and voluntary activity in all facets of health care and concern; at the same time government must be ready to fill the gaps so that all portions of the

population will have access to medical care and preventive services. The efforts of State and local governments should be carried out in such a way as to take full and continuing advantage of the enormous level of concern and activity by the federal government. Plans, programs and people should be coordinated for the sake of maximum benefit to the people. Attention should be given to prevention of illness as well as to cure, to health maintenance as well as health restoration, to education for all-around health awareness as well as campaigns for categorical concern. Health should be the business of all governmental agencies concerned with services to people:

> *It is bad enough that a man should be ignorant for this cuts him off from the commerce of other men's minds. It is perhaps worse that a man should be poor for this condemns him to a life of stint and scheming and there is no time for dreams and no respite for weariness. But what is surely worse is that a man should be unwell for this prevents his doing anything much about either his poverty or his ignorance.*
>
> *G. H. T. Kimball*

Pursuant to this recommended policy for governmental responsibility for the health needs of the citizens, the following specific, but by no means comprehensive, recommendations are made:

1. A Permanent Committee of the Legislative Research Commission or a State Legislative Study Commission on Health should be created to continue the legislative cognizance over health matters of the State that have some relationship with legislative action. This Committee or Commission should be the focal point between sessions of the General Assembly for the process of debate and discussion on proposed health measures. It should be the place where State agencies and private organizations make their proposals known. The Committee or Commission should not duplicate the activities

of State agencies (including the Advisory Budget Commission), private organizations or their advisory groups; rather the Committee or Commission could serve as the recipient of plans, proposals and recommended courses of action as put forth by these various groups. The known existence of this Committee or Commission would provide ready access to the legislature and this is important in the area of health. Health issues do not arise overnight nor are they solved in a day; they need continuing attention by all who can bring their talents and position to bear on them.

The function of the Committee or Commission would be to advise the General Assembly through the Legislative Research Commission on all health matters appropriate for legislative concern. A broad representation on the Committee or Commission is indicated: predominately legislators but also representatives from the health professions and health organizations. Staff for the Committee or Commission could be provided by the proposed Health Manpower Information Service or by some other arrangement.

One alternative to this proposed Committee would be to expand the functions of the Medical Care Commission to provide broad health advice to the General Assembly; this approach, however, lacks the participation of legislators.

2. A Health Manpower Information Service should be established by the Governor in order to coordinate the collection, analysis, interpretation and dissemination of information about health manpower needs in North Carolina. It should be created by statute and placed in the Medical Care Commission or, alternatively, in the Division of State Planning in the Department of Administration.

Health manpower availability, use and distribution is acknowledged to be a crucial problem, but very little information is available on the extent

of the problem. Information which could guide decision-makers in analyzing the problems and in planning programs to alleviate the situation is lacking. Health manpower programs are fragmented among the many educational systems and using agencies. There is no central source of information or data about availability, needs, resources, or opportunities for health manpower.

A Health Manpower Information Service would encourage communication and coordination among the several groups involved in health manpower training and utilization to help bring about an equilibrium between supply and demand (market) factors in health manpower. It would not duplicate current information gathering activities; rather, it would supplement these activities.

Following is a partial list of some functions appropriate to a health manpower information service:

- Collect information on available health manpower (numbers, skills, distribution, employment, shortage or average estimates, potential utilization patterns)
- Collect information on education and training programs in the State--basic and continuing education (programs, curricula, numbers of students, anticipated graduates, financial assistance available, placement opportunities)
- Collect information on legal requirements, licensure, constraints on practice, etc.
- Collect information on formal continuing education programs to maintain and upgrade skill levels
- Study manpower utilization patterns
- Provide consultation to agencies and institutions on all aspects of health manpower supply and demand, training, utilization, curriculum standards, licensure, etc.
- Advise Legislature on manpower needs and priorities to enable it to make appropriate decisions
- Establish liaison with agencies and institutions involved in health manpower activities (such as the higher education system, Boards of Health and Mental Health, Regional Medical Program and Comprehensive Health Planning, Labor Department, Health Careers Program, New Careers, etc.)
- Disseminate information to the public including information about health careers and financial aid.

3. The recommendations, discussed above in this report, made by the Advisory Committee on Medical Education, Joint Committee on Dental Education, and the Joint Committee on Nursing Education of the State Board of Education and the State Board of Higher Education should be given thorough and favorable consideration by the General Assembly.

4. The "B" budget request of the State Board of Higher Education entitled "State Aid to Private Medical Schools" should be given favorable consideration in order that the medical schools at Duke and Wake Forest (Bowman Gray) be given further stimulus to expand the enrollment of North Carolina residents at these schools.

5. The "B" budget request of the State Board of Health entitled "State Aid to Counties" should be given favorable consideration in order that local health department programs be expanded and improved for the benefit of local citizens. Local health departments are the first line of defense in protecting the health of the public. Having made notable efforts, the counties now find it difficult to maintain this protection without substantial aid from other sources. It is essential that the State should augment these local efforts.

6. The "B" budget request of the State Board of Health for programs in preventive dentistry should be given favorable consideration in order that the dental health plan of the State Dental Society and the State Board of Health may be implemented as soon as possible.

7. Those recommendations released in November 1970 by the State Comprehensive Health Planning Advisory Council which require legislative action or support should receive thorough and favorable consideration by the 1971 General Assembly. The ideas and efforts of the many persons involved in the work of the Council are to be commended and their proposals should be put to work for the benefit of the health of the people of this state.

Appendix A

Persons Appearing Before The Legislative Research Commission
Concerning Health Manpower

APPENDIX A

Persons Appearing Before The Legislative Research Commission
Concerning Health Manpower

Dr. Edwin Monroe, Dean, School of Allied Health Professions, East Carolina University

Dr. Isaac Taylor, Dean, School of Medicine, University of North Carolina

Dr. C. Arden Miller, Vice Chancellor, Health Affairs, University of North Carolina

Dr. W. Fred Mayes, Dean, School of Public Health, University of North Carolina

Dr. F. M. Simmons Patterson, Acting Executive Director, Regional Medical Program

Dr. Jacob Koomen, Director, State Board of Health

Dr. A. Granville Tolley, Department of Mental Health

Mr. Elmer M. Johnson, Assistant State Planning Officer

Mrs. Thelma Lennon, Director, Pupil Personnel Service, Department of Public Instruction

Mrs. Mary Edith Rogers, N.C. State Nurses Association

Miss Helen E. Peeler, N.C. State Nurses Association

Mr. John H. Ketner, Assistant Executive Director, N.C. Hospital Association

Mrs. Janet M. Proctor, N.C. Medical Care Commission

Mr. Cameron West, Director, Board of Higher Education

Mr. Anthony Bevacqua, Department of Community Colleges

Dr. E.T. Beddingfield, President, N.C. Medical Society

Mr. Marion Foster, Executive Director, North Carolina Hospital Association

Mr. Carl Fasser, Physician's Assistants Program, Duke Medical Center

Dr. J. Elliott Dixon, Ayden, N.C.

Mr. Stephen L. Joyner, Physician's Assistant, Ayden, N.C.

Dr. Ernest W. Ferguson, Plymouth, N.C.

Dr. Leland Powers, Director, Division of Allied Health Programs, Bowman Gray School of Medicine

Dr. Glenn Pickard, Assistant Professor of Medicine, UNC Medical School

Dr. Amos Johnson, Garland, N.C.

Dr. Cecil Sheps, Director, Health Services Research Center, University of North Carolina

Dr. Ralph Boatman, Director of Continuing Education, School of Public Health, University of N.C.

Dean Lucy Conant, School of Nursing, University of North Carolina

Dr. George T. Wolff, Past President, N.C. Academy of General Practice

Dr. Morris Schaefer, Professor and Head, Department of Health Administration, UNC School of Public Health

Miss Lydia Holley, Director, Community Rehabilitation Services Program, School of Public Health, Chapel Hill

Miss Audrey Booth, Director of Nursing Education, N.C. Regional Medical Program

Dr. James Bawden, Dean, School of Dentistry, UNC

Dr. William L. Hand, Jr., President, N.C. Dental Society

Dr. Claibourne W. Poindexter, Chairman, Dental Society's Task Force on Preventive Dentistry

Dr. Louis Shaffner, President, N.C. Medical Society

Dr. Harvey Estes, Jr., Professor and Chairman, Department of Community Health Sciences, Duke Medical Center

Dr. Frank Edmondson, President, Board of Medical Examiners

Mr. William Hilliard, Executive Director, N.C. Medical Society

Mr. John H. Anderson, Legal Counsel, N.C. Medical Society

Mrs. Juta Fowlkes, Chairman, Health Affairs Committee, Occupational Therapy Association

Miss Irene Hollis, Director, Occupational Therapy, UNC Medical School, Hand Rehabilitation Center

Miss Helen Kaiser, Associate Professor, Physical Therapy, Duke Medical Center

Miss Anne Parrish, Consultant in Physical Therapy, State Board of Health

Miss Ann Hodges, Director, Physical Therapy, Rex Hospital

Dr. I.E. Ready, Director, Department of Community Colleges

Mr. John Young, Assistant Director for Project Development, N. C. Regional Medical Program

Appendix B

Resolution Directing the Study

NORTH CAROLINA
GENERAL ASSEMBLY
1969 SESSION
RATIFIED RESOLUTION

RESOLUTION 55

HOUSE JOINT RESOLUTION 306

A JOINT RESOLUTION AUTHORIZING AND DIRECTING THE LEGISLATIVE RESEARCH COMMISSION TO STUDY NORTH CAROLINA'S HEALTH MANPOWER NEEDS, MEASURES TO INCREASE THE SUPPLY, AND MEANS TO ACCOMPLISH INDICATED CHANGES IN THE HEALTH CARE SYSTEM.

WHEREAS, while medicine today offers great promise for the improvement of the human condition and alleviation of human suffering and our society is committed to the removal of the barriers which have kept many people from the fulfillment of this promise, yet today and in the next decade the critical need is for health manpower---the right numbers and kinds of people in the right places; and

WHEREAS, the Legislative Research Commission of 1967-69 was directed to study ways and means of providing more medical doctors for small towns and communities; and

WHEREAS, the study by the Legislative Research Commission revealed that the problem is national as well as local, that many diverse factors are at play in its identification and interpretation, that many persons and institutions have a continuing effect on its manifestation and solution, and that the shortage of physicians in rural areas in North Carolina is undeniably entwined in the very much larger and more comprehensive problem of sufficient health manpower and

adequate means of health services delivery in all parts of the state and nation; and

WHEREAS, North Carolina is near the bottom of tne list in regard to physician-population ratios and the shortage and distribution problems were found by the Commission to be related to economic factors, population concentration, specialization, medical school orientation, and many other factors affecting supply and demand, and this and a wealth of other information is contained in material presented to and garnered by the Commission and retained in the Commission files for further study; and

WHEREAS, the Legislative Research Commission of 1965-67 studied the shortages in technical and professional personnel in the field of medical services and found that additional State concern and assistance were necessary to cope with the problem of providing more nurses and other paramedical personnel; and

WHEREAS, the Report of the National Advisory Commission on Health Manpower in 1967 concluded that while the growth of some health services will outpace the growth of population in the coming decade, paradoxically, the physician shortage will continue to worsen, that inadequate health care will continue to exist for the disadvantaged (disadvantaged for any reason, including proverty, geographic isolation or rural residency, age, etc.), that difficulty of entry into the medical care system and of obtaining personal contact with a physician will not be eased, unless measures to increase the supply of health manpower are found and changes in the health care system are accomplished; and

WHEREAS, The General Assembly recognizes its responsibility to all of the citizens of North Carolina to

maintain vigilance over matters pertaining to their health and to assume the burden of identifying and seeking answers to the health care problems confronting the citizenry now and in the future, particularly the problem of health manpower; Now, therefore, be it resolved by the House of Representatives, the Senate concurring:

Section 1. The Legislative Research Commission is hereby authorized and directed to study the health manpower needs of North Carolina.

Sec. 2. The Commission shall make a broad and in-depth study of the health manpower needs of North Carolina and of the measures necessary to produce or provide the right kinds and numbers of personnel. It shall also analyze the distribution problems and possible solutions to providing more equitable health care to all who need it. It shall seek to suggest changes in the health care system that are needed to meet the demands for care and for additional manpower.

Sec. 3. The Legislative Research Commission shall report its findings and recommendations to the 1971 General Assembly.

Sec. 4. This Resolution shall become effective upon ratification.

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REPORT BY THE LEGISLATIVE RESEARCH COMMISSION TO THE
1971 GENERAL ASSEMBLY

New Categories of Health Manpower: Physician's Assistants

Introduction

As part of its study of health manpower under Resolution 55, the Health Committee of the Legislative Research Commission gave particular attention to the newly developing categories and types of health manpower, especially the physician's assistants programs. Accordingly, two public hearings were conducted on this subject and portions of other public hearings were given over to the subject. Considerable information was obtained about the need for persons who are trained to serve as assistants to physicians and the utilization of such persons. Testimony was received from educators, practicing physicians, practicing physician's assistants, nurses, government employees and others.

Background

The physician's assistant is trained to perform certain well defined tasks and functions. He learns to take patient histories, do physical examinations, biopsies, lumbar punctures, and other procedures ordinarily performed by a medical doctor. He is trained to monitor vital signs, give medications and keep progress records and other procedures usually performed by nurses. He is also taught to operate certain diagnostic and therapeutic instruments, such as electrocardiographs, respirators, cardiac monitors, as well as carry out extensive laboratory studies commonly done by technicians.

The status of the physician's assistant can best be described as that of an intermediate level professional with extensive

technical capabilities. He provides the physician with many services which free the physician from those tasks which do not demand his level of education, training and background for more valuable services. In a state that is low in its ratio of doctors to population, the physician's assistant may help provide more physician hours more quickly to more of our citizens. He may help to free from 30 to 90 percent of the physician's time, according to testimony, allowing him to spend more time with more complicated cases and procedures.

Although there is a wide variety of physician's assistants programs throughout the country, the two programs in North Carolina, at Duke and Bowman Gray, cover a period of twenty-four months. For acceptance into the program the student must have at least a high school diploma and one year's work in the health field. There are nine months of academic training and fifteen months of clinical training in which the student rotates through the traditional medical fields. Even though the primary objective of the program is to fulfill the needs of the first line community physician or the community hospital, he can function in every segment of medical practice.

Definition of the legal status of this new type of personnel is of prime importance in their future utilization. The Committee was concerned with ways to encourage the physician's assistant programs and to assure graduates of a legally authorized role on the health team.

Under the existing licensure framework, new types of personnel may perform independent functions only if they are authorized to do so by a licensing statute or by some other explicit exception to

the Medical Practice Act. If the proposed functions of new personnel are solely dependent, to be performed only under the supervision of a physician, then it is possible that custom and usage within the medical profession may eventually provide legal sanction. Under such circumstances it is assumed that the safety of the patient is protected by the physician's professional training. Although relying on custom and usage may eventually answer the question, it poses certain inherent uncertainties and needless vulnerability for the individual physician and physician's assistant, should action be taken against them.

Even if professional assistants become widely used and accepted, the very existence of other licensure laws poses an additional danger in civil litigation. In addition to the fact that the physician does not have the presumption of competence on his side when he delegates to unlicensed personnel, at least one court has actually indulged a presumption against a physician who made such a delegation. In addition, and aside from the question of civil liability, if the physician delegates to an unlicensed assistant those tasks which could be considered as within the "practice of medicine," the assistant may be prosecuted criminally for the unlicensed practice of medicine, and the delegating physician may be similarly prosecuted for aiding and abetting.

The sum total of these problems has a significant impact in impeding the utilization and usefulness of this new category of health personnel. In view of the uncertainties inherent in the current situation, those associated with such programs have sought to clarify the legal position of such assistants, and have held a number of conferences for this purpose. The conferences have been attended by representatives from the legal profession both within

and outside the state, the organized professions of medicine and nursing, educational institutions, etc., in order to reach a consensus as to the optimal method of solution. The House of Delegates of the Medical Society of the State of North Carolina, recognizing such a need, passed a resolution at its 1970 meeting authorizing its Legislative Committee to work with such groups and the North Carolina Legislative Research Commission in developing such statutes.

Consideration of Alternatives

The most obvious means of regularizing physician's assistants is to license them in a manner similar to the licensure of other health personnel. This would alleviate some of the dangers of civil and criminal liability, and enhance the status of physician's assistants as an occupational category. It could also protect the public through the specification of minimum qualifications. This is, however, felt to be an unwise solution. This solution would tend to fragment health care delivery by creating other licensed interests and creating jurisdictional disputes within the health care field. Licensure would also freeze the role of assistants at a level which may later become outmoded or unrealistic, and impede occupational mobility by imposing rigid, specific requirements. Other approaches considered include: (1) licensing of the users of physician's assistants; (2) establishing a committee on health manpower innovations responsible for approval of programs; and (3) enacting a statute authorizing general delegations and establishing registration.

After considerable discussion, the last of the above suggestions was felt to be the most appropriate. Four states currently have

general statutory provisions authorizing delegation of functions to be performed under supervision. These statutory provisions are framed as exceptions from the medical practice acts of the states. Under such an exception it would be for the individual physician to determine what his assistant can or cannot do, upon consideration of his needs and the particular qualifications of his assistant. The physician would assume the responsibility for such delegation, and the fact that an improper delegation would continue to be a cause for action against the physician would inject caution into the actual delegation practices of the individual physician.

From the standpoint of the public, this approach, by removing the fear of unwarranted civil and criminal liability, would likely encourage the development and effective use of this new type of personnel which is so badly needed, in view of the existing physician shortage. Public protection should be assured by the physician's continued liability in instances of actual negligence, and the knowledge that if he does not, in fact, exercise direction or supervision, he will not benefit from the exception's protection at all.

Findings

The hearings and documents submitted in connection with this study on health manpower produced a convincing amount of evidence that the physician's assistant promises to be a valuable addition to the health care team in North Carolina and elsewhere. The on-going programs at Duke and Bowman Gray for training physician's assistants have been successful pioneering efforts and have attracted considerable national attention. Both are worthy of commendation and consideration for State support. Testimony from

practicing physicians who have employed physician's assistants produced confirmation of their usefulness in extending the physician's hands and legs in delivering quality medical care. The physician's assistants who appeared at the hearings exhibited a confident and professional manner in describing their experiences and in asking for clarification of their legal status. The Medical Society of North Carolina endorses this health manpower development and the proposals for its legal support. The Board of Medical Examiners has been involved along with other interested parties in the formulation of appropriate legislation. Most nurses do not seem to consider physician's assistants as a competing group but rather as another helper in the big task of providing health care for all the people. Therefore, the following recommendations are made.

Recommendations

(1) The Development of new types of health manpower, such as the graduates of the physician's assistant programs at Duke University Medical School and Bowman Gray Medical School, is recognized as a valuable contribution to the improvement of health care in North Carolina. Therefore, these types of efforts and innovations in the training of new health workers is encouraged and should be given support and assistance by all state agencies, including appropriate cooperation in utilizing or permitting utilization of the functions and services offered by all new health manpower categories as they develop.

(2) The legal status of persons serving the function of an assistant to a physician, and particularly those persons who are graduates of physician's assistant programs, should be clarified

by amending the Medical Practice Act to authorize the general delegation by a licensed physician of acts, tasks or functions to a qualified assistant and to permit such assistants to register with the Board of Medical Examiners as persons approved as assistants. Enactment of the bill included in Appendix A would accomplish this recommendation. The draft Rules and Regulations in Appendix B, which are proposed for adoption by the Board of Medical Examiners, would appear to be the type of action that would implement the recommended legislation.

Appendix A

Draft Bill Relating to Assistants to Physicians

Draft Bill Relating to Assistants to Physicians

Note: G.S. 90-18 of the North Carolina General Statutes, after prescribing the penalty for the unlicensed practice of medicine, reads:

> Any person shall be regarded as practicing medicine or surgery within the meaning of this article who shall diagnose or attempt to diagnose, treat, or attempt to treat, operate or attempt to operate on, or prescribe for or administer to, or profess to treat any human ailment, physical or mental, or any physical injury to or deformity of another person: Provided, that the following cases shall not come within the definition above recited:

Then follow thirteen exceptions. The proposed bill would be exception (14) to this definition of the practice of medicine, as follows:

A BILL TO BE ENTITLED AN ACT TO MAKE AN EXCEPTION TO THE MEDICAL PRACTICE ACT, RELATING TO ASSISTANTS TO PHYSICIANS

The General Assembly of North Carolina do enact:

Section 1. G.S. 90-18, as it appears in the 1965 Replacement Volume 2C of the General Statutes, is hereby amended by adding a new subsection (14) to read as follows:

"(14) Any act, task or function performed by an assistant to a person licensed as a physician by the Board of Medical Examiners provided that

(a) such assistant is approved by the Board as one qualified by training or experience to function as an assistant to a physician, and

(b) such act, task or function is performed at the direction or under the supervision of such physician, in accordance with rules and regulations promulgated by the Board."

Sec. 2. G.S. 90-15 is hereby amended by adding at the end thereof a new paragraph as follows:

"For the issuance of an approval of an assistant to a physician, the Board may require the payment of a fee not to exceed a reasonable amount."

Sec. 3. Nothing in this Act shall be construed to limit or prevent any physician from delegating to a qualified person any acts, tasks or functions which are otherwise permitted by law or established by custom.

Sec. 4. All laws and clauses of laws in conflict with this act are hereby repealed.

Sec. 5. This act shall become effective upon ratification.

Appendix B

Proposed Rules and Regulations of the North Carolina Board of Medical Examiners

The following are recommended rules and regulations according to which the proposal contained in the bill in Appendix A could be administered:

Proposed Rules and Regulations of the North Carolina Board of Medical Examiners

Rule I
Definitions

Section 1. The term "Board" as herein used refers to the Board of Medical Examiners of North Carolina.

Section 2. The term "Secretary" as herein used refers to the Secretary of the Board of Medical Examiners of North Carolina.

Section 3. The term "assistant to a physician" as herein used refers to auxiliary, paramedical personnel who are functioning in a dependent relationship with a physician licensed by the Board and who are performing tasks or combinations of tasks traditionally performed by the physician himself. Examples of such tasks would include history taking, physical examination, and treatment, such as the application of a cast. The regulations are not intended to cover or in any way prejudice the activities of assistants not engaged in direct patient contact or the performance of assistants with tasks well-defined by statute or recognized custom of medical practice.

Section 4. The term "applicant" as used herein refers to the assistant upon whose behalf an application is submitted.

Rule II
Application for Approval

Section 1. Application for approval of an assistant must be made upon forms supplied by the Board and must be submitted by the physician with whom the assistant will work and who will assume responsibility for the assistant's performance.

Section 2. Application forms submitted to the Board by the physician must be complete in every detail. Every supporting document required by the application form must be submitted with each application.

Section 3. If for any reason an assistant discontinues working at the direction and under the supervision of the physician who submitted the application under which the assistant is approved, such assistant shall so inform the Board and his approval shall terminate until such time as a new application is submitted by the same or another physician and is approved by the Board.

Rule III
Requirements for Approval

Section 1. Before being approved by the Board to perform as an assistant to a physician, an applicant shall:

(1) Be of good moral character and have satisfied the requirements of Rule IV hereof;

(2) Demonstrate in one of the following ways his competence to perform at the direction and under the supervision of a physician tasks traditionally performed by the physician himself:

(a) By giving evidence that he has successfully completed a training program recognized by the Board under Rule V hereof;

(b) By standing and passing an equivalency exam administered by a training program recognized by the Board under Rule V hereof;

(c) By standing and passing an exam administered by the Board;

(3) Pay a fee of $_____.

Section 2. Initial approval may be denied for any of the reasons set forth in Rule VI Section 1 hereof as grounds for termination of approval, as well as for failure to satisfy the Board of the qualifications cited in Section 1 of this Rule.

Section 3. Whenever the Board determines that an applicant has failed to satisfy the Board that he should be approved, the Board shall immediately notify such applicant of its decision and indicate in what respect the applicant has so failed to satisfy the Board. Such applicant shall be given a formal hearing before the Board upon request of such applicant filed with or mailed by registered mail to the Secretary of the Board at Raleigh, N. C., within 10 days after receipt of the Board's decision, stating the reasons for such request. The Board shall within 20 days of receipt of such request notify such applicant of the time and place of a public hearing, which shall be held within a reasonable time. The burden of satisfying the Board of his qualifications for approval shall be upon the applicant. Following such hearing, the Board shall determine on the basis of these regulations whether the applicant is qualified to be approved, and this decision of the Board shall be final as to that application.

Section 4. In hearings held pursuant to this rule the Board shall admit and hear evidence in the same manner and form as prescribed by law for civil actions.

Section 5. Upon being satisfied that the assistant should be approved, the Board shall send a notice of approval to the physician who submitted the application.

Rule IV
Moral Character

Section 1. Every applicant shall be of good moral character, and the applicant shall have the burden of proving that he is possessed of good moral character.

Section 2. All information furnished to the Board by an applicant, and all answers and questions upon forms furnished by the Board, shall be deemed material and such forms and information shall be and become a permanent record of the Board.

Section 3. All investigations in reference to the moral character of an applicant may be informal, but shall be thorough, with the object of ascertaining the truth. Neither the hearsay rule, nor any other technical rule of evidence need be observed.

Section 4. Every applicant may be required to appear before the Board to be examined about any matter pertaining to his moral character.

Rule V
Requirements for Recognition of Training Programs

Section 1. Application for recognition of a training program by the Board shall be made by letter and supporting documents from the director of the program and must demonstrate to the satisfaction of the Board that such program fulfills the requirements set forth in Sections 2 through 8 of this Rule.

Section 2. The training program must be sponsored by a college or university with appropriate arrangements for the clinical training of its students, such as a hospital maintaining a teaching program. There must be evidence that the program has education as its primary orientation and objective.

Section 3. The program must be under the supervision of a qualified director, who has at his disposal the resources of competent personnel adequately trained in the administration and operation of educational programs.

Section 4. Adequate space, light, and modern equipment must be provided for all necessary teaching functions. A library, containing up-to-date textbooks, scientific periodicals, and reference material pertaining to clinical medicine, its underlying scientific disciplines, and its specialties, shall be readily accessible to students and faculty.

Section 5. The curriculum must provide adequate instruction in the basic sciences underlying medical practice to provide the trainee with an understanding of the nature of disease processes and symptoms, abnormal laboratory tests, drug actions, etc. This must be combined

with instruction, observation and participation in history taking, physical examination, therapeutic procedures, etc. This should be in sufficient depth to enable the graduate to integrate and organize historical and physical findings. The didactic instruction shall follow a planned and progressive outline and shall include an appropriate mixture of classroom lectures, textbook assignments, discussions, demonstrations and similar activities. Instruction shall include practical instruction and clinical experience under qualified supervision sufficient to provide understanding of and skill in performing those clinical functions which the assistant may be asked to perform. There must be sufficient evaluative procedures to assure adequate evidence of competence. Although the student may concentrate his effort and his interest in a particular specialty of medicine, the program must insure that he possesses a broad general understanding of medical practice and therapeutic techniques.

Section 6. Although some variation may be possible for the individual student, dependent on aptitude, previous education, and experience, the curriculum shall be designed to require two or more academic years for completion.

Section 7. The program must have a faculty competent to teach the didactic and clinical material which comprises the curriculum. The faculty shall include at least one instructor who is a graduate of medicine, licensed to practice in the location of the school, and whose training and experience enable him to properly supervise progress and teaching in clinical subjects. He shall be in attendance for sufficient time to insure proper exposure of the student to clinical teaching and practice. The program may utilize instructors other than physicians, but sufficient exposure to clinical medicine must be provided to insure understanding of the patient, his problem, and the diagnostic and therapeutic responses to this problem.

Section 8. The program must through appropriate entrance requirements insure that candidates accepted for training possess 1) an ability to use written and spoken language in effective communication with physicians, patients, and others, 2) quantification skills to insure proper calculation and interpretation of tests, 3) behavioral characteristics of honesty and dependability, and 4) high ethical and moral standards, in order to safeguard the interests of patients and others.

Section 9. To retain its recognition by the Board, a recognized program shall:

1) make available to the Board yearly summaries of case loads and educational activities done by clinical affiliates, including volume of outpatient visits, number of inpatients, and the operating budget;
2) maintain a satisfactory record of the entrance qualifications and evaluations of all work done by each student, which shall be available to the Board;
3) notify the Board in writing of any major changes in the curriculum or a change in the directorship of the program.

Section 10. Recognition of a program may be withdrawn when, in the opinion of the Board, the program fails to maintain the educational standards described above. When a program has not been in operation for a period of two consecutive years, recognition will automatically be withdrawn. Withdrawal of recognition from a program will in no way affect the status of an assistant who graduated from such program while it was recognized and who has been approved by the Board.

Rule VI
Termination of Approval

Section 1. The approval of an assistant shall be terminated by the Board when, after due notice and a hearing in accordance with the provisions of this Rule, it shall find:

a) that the assistant has held himself out or permitted another to represent him as a licensed physician;
b) that the assistant has in fact performed otherwise than at the direction and under the supervision of a physician licensed by the Board;
c) that the assistant has been delegated and performed a task or tasks beyond his competence;
d) that the assistant is an habitual user of intoxicants or drugs to such an extent that he is unable safely to perform as an assistant to the physician;
e) that the assistant has been convicted in any court, state or federal, of any felony or other criminal offense involving moral turpitude;
f) that the assistant has been adjudicated a mental incompetent or whose mental condition renders him unable safely to perform as an assistant to a physician; or
g) that the assistant has failed to comply with any of the provisions of Rule VII hereof.

Section 2. Before the Board shall terminate approval granted by it to an assistant, it will give to the assistant a written notice indicating the general nature of the charges, accusation or complaint preferred against him and stating that the assistant will be given an opportunity to be heard concerning such charges or complaints at a time and place stated in such notice, or to be therafter fixed by the Board, and shall hold a public hearing within a reasonable time. The burden of satisfying the Board that the charges or complaints are unfounded shall be upon the assistant. Following such hearing, the Board shall determine on the basis of these regulations whether the approval of the assistant shall be terminated.

Section 3. In hearings held pursuant to this Rule the Board shall admit and hear evidence in the same manner and form as prescribed by law for civil action.

Rule VII
Method of Performance

Section 1. An assistant must clearly identify himself as an assistant to a physician, a physician's assistant, or by some other appropriate designation in order to insure that he is not mistaken for a licensed physician. This may be accomplished, for example, by the wearing of an appropriate nametag.

Section 2. The assistant must generally function in reasonable proximity to the physician. If he is to perform duties away from the responsible physician, such physician must clearly specify to the Board those circumstances which would justify this action and the written policies established to protect the patient.

Section 3. The assistant must be prepared to demonstrate upon request, to a member of the Board or to other persons designated by the Board, his ability to perform those tasks assigned to him by his responsible physician.

Appendix C

Material on File with the
Legislative Research Commission

Material on File with the

Legislative Research Commission

(1) Remarks on the physician's assistant concept by E. Harvey Estes, Jr., M.D., Chairman, Department of Community Health Sciences, Duke University Medical Center

(2) "Physician's Assistant Program", Department of Community Health Sciences, Duke University Medical Center, Presented by Carl Fasser

(3) Statement of J. Elliott Dixon, M.D.

(4) Statement of Stephen L. Joyner, physician's assistant to Dr. Dixon.

(5) Statement by Ernest H. Ferguson, M.D.

(6) "Augmentation of Physicians' Services by a Physician's Assistant by Leland Powers, M.D., Director, Division of Allied Health Programs, Bowman Gray School of Medicine

(7) "Report to the Legislative Research Commission on Physician's Assistants", by C. G. Pickard, Jr., M.D., School of Medicine, University of North Carolina

(8) "On New Roles and Responsibilities for the Registered Nurse", by Lucy H. Conant, Dean, School of Nursing, University of North Carolina

(9) Statement by Edgar T. Beddingfield, Jr., M.D., President, Medical Society of the State of North Carolina

(10) "Legal Considerations Regarding the Family Nurse Practioner", a memorandum by David G. Warren, Institute of Government