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ABSTRACT

The history of allied health occupations is one of increasing service to patients, especially by providing specialized services in selected parts of patient care with or under the direction and supervision of physicians. The AMA and 28 collaborating organizations accredit educational programs for 24 allied medical occupations, and are ready to do more to help Wisconsin improve its allied health educational programs. Wisconsin needs more efficient and more productive allied health educational programs for physician support personnel so that more people will get more and better health and medical services. A master plan is needed for allied health education to interdigitate the many kinds of institutions which provide allied health educational programs. Vocational education (Career education) can be a respectable and respected component of the total education available to students, and appropriate academic credit should be granted. (A list of AMA-accredited medical education programs at 53 institutions in Wisconsin is attached.) (Author)

School of Allied Health Professions Seminar
Center for Health Sciences
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AMA AND ALLIED HEALTH MANPOWER

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The American Medical Association has a long-standing interest in and commitment to the allied health professions and services. The AMA Board of Trustees states that:

> "Every allied health occupation owes its existence to the need for some patient service. And where the care of the patient is concerned, the physician has a legal, a moral, and an ethical responsibility which he cannot avoid. Allied health workers share the responsibility, but only the physician has the responsibility which extends over the complete range of patient services. As the major professional association for practicing physicians, AMA feels keenly its responsibility to all physicians to provide coordination and direction to allied health education, in order that appropriate standards for patient services may be established and maintained....There is great interest today in the development of inter-disciplinary educational programs in which the physician and various allied health workers will learn together the health team approach to the care of patients. This would appear to call for increasing cooperation between medicine and allied health disciplines in the maintenance of education standards."

The AMA House of Delegates adopted a *Report on Education and Utilization of Allied Health Manpower* which sets the policy "that the AMA continue to give all possible support to improving the professional and financial potential of careers in the allied health fields."

Perhaps it would be helpful to differentiate between the words medical and health. The words medical and health are not synonymous and should not be used interchangeably. Much more than medical care is needed to assure the state of total physical, mental, and social well-being (not merely the absence of disease) which is so often quoted from a World Health Organization document as a definition of health. Medical care is part of health care; allied medical person-

nel are part of the total allied health personnel. Physicians, other independent practitioners, and allied medical professionals provide medical services to patients. Allied health occupations can be considered to include a comprehensive range of professions and services, but I propose to refer to those allied health occupations which work with or under the direction and supervision of physicians in providing services to patients -- the occupations which the Division of Allied Health Manpower called "Medical Allied"[2] and which we in the AMA call "Allied Medical". By the way, the Division of Allied Health Manpower is now in the Bureau of Health Resources Development of the Health Resources Administration.

I would like to report on five aspects of the AMA and allied health manpower:

1. History of allied health occupations
2. Accreditation of educational programs
3. Wisconsin manpower needs
4. A master plan for allied health education
5. Vocational education as a component of higher education

1. History of Allied Health Occupations

Until a century or two ago, medical care was provided by the physician. It became obvious that the patient needed many services which did not require the long and expensive education it took to prepare a physician, so the profession of nursing developed. Notice that both the physician and the nurse are concerned with the total care of the patient.

Shortly after the beginning of the century, new kinds of patient services were developing, and this called for new kinds of health personnel. X-ray and laboratory tests were developed, and non-physician specialists were trained to take and develop the x-rays or to do much of the work involved in laboratory tests. Rehabilitation called for occupational and physical therapists and several other allied health occupations. Unlike physicians and nurses, these allied health workers are not concerned with total patient care; such allied health workers are *specialists*; their education and experience are concentrated in just one part of the total services for patients. By the way, this is why allied health workers can contribute to *better* patient care; physicians are the first to say that there are certain things which can be done best by qualified allied health professionals.

Dr. C. H. William Ruhe, Secretary of the AMA Council on Medical Education, explains that allied health professions begin typically with the care of the patient and then work backward to educational institutions. Dr. Ruhe said:

"Characteristically the process develops as follows. First a need is identified at the level of patient care and persons begin to perform a function which fills this need. Generally this happens because a physician trains somebody to help him with a patient-care task. After a while, the assistant, whether originally a nurse, an office girl, an orderly, or a high school student working during summer vacation, develops a certain proficiency in his task. He may be hired away by another physician or by a hospital to perform the same task in a different surrounding. The original physician then trains another to replace him and another, and another as the services of such persons come into demand. Eventually, he develops a small school so that several such persons may be trained simultaneously. If the need is genuine and has been identified elsewhere, other traing programs spring up.

"As the numbers of those produced increase, the graduates of the programs associate with each other and form some kind of society. Gradually they become interested in elevating practice standards in their own fields and in improving the training by which their members are produced.

"Usually, the group of physicians in whose special area of medicine the assistants have been trained then get together with the graduates of the programs and agree on certain kinds of standards. Formal statements of minimal educational programs are developed and eventually, if the professional bodies agree on the need and method, review of existing programs is carried out to determine whether they meet the standards.

"Meanwhile, the technical society has grown in size, strength, and number and has usually developed its own set of ethical standards and rules of conduct. Eventually the group usually seeks some kind of registry or certification or licensure with the legal and legislative channels of the various states. In this way, a new profession has been born.

"It is only after many training programs have been in operation for some period of time, and formal educational standards have been developed, that responsibility for these programs is assumed by regular educational institutions. Ultimately, they may become completely based in our traditional educational institutions (i.e., our colleges and universities). But initially, the training programs are carried out under individual auspices in doctors' offices or in hospitals or clinics. Later, the clinical training and the basic higher education are linked to form a total professionsal program."

For each practicing physician there are a dozen other health workers, and this ratio continues to grow as physicians delegate more tasks and the public requests more medical care services paid by insurance. Physicians, nurses and allied medical professionals participate as a team in providing the best possible diagnosis and treatment for the patient. Ernest B. Howard, M.D., Executive Vice President of the American Medical Association, says it like this in the preface of the AMA paperback book titled *Horizons Unlimited:*

"The two fields -- medicine and careers allied to it -- are inseparable. They are equal partners working together in a common cause of the highest order -- making life healthier, happier, and more productive for each of us."

2. Accreditation of Educational Programs

The U.S. Commissioner of Education has recognized the AMA Council on Medical Education and the collaborating organizations to accredit educational programs for seventeen allied medical occupations -- the first seventeen for which *Essentials* were adopted. The minimal standards for AMA accreditation are called *Essentials*.

	Year *Essentials* adopted	Present Name of Occupation	Number of Years for which recognition is granted
1	1935	Occupational Therapist	One
2	1936	Physical Therapist	One
3	1937	Medical Technologist	Four
4	1943	Medical Record Administrator	One
5	1944	Radiologic Technologist	One
6	1953	Medical Record Technician	One
7	1962	Respiratory Therapist	Four
8	1962	Cytotechnologist	Four
9	1967	Clinical Laboratory Assistant	Two
10	1968	Radiation Therapy Technologist	One
11	1969	Medical Assistant	Two
12	1969	Nuclear Medicine Technician	One
13	1969	Nuclear Medicine Technologist	One
14	1970	Histologic Technician	Four
15	1971	Assistant to the Primary Care Physician	Four
16	1971	Medical Laboratory Technician	Two
17	1971	Specialist in Blood Bank Technology	Four

Six more occupations will be on the agenda for the May meeting of the U.S. Commissioner of Education's Advisory Committee on Accreditation and Institutional Eligibility:

18	1972	Respiratory Therapy Technician
19	1972	Medical Assistant in Pediatrics
20	1972	Operating Room Technician
21	1972	Urologic Physician's Assistant
22	1973	Electroencephalographic Technician
23	1973	Electroencephalographic Technologist

At the present time, twenty-eight national organization are cooperating in a consortium for allied medical education.[3] The Council on Medical Education, American Medical Association collaborates with the:

1. American Academy of Family Physicians
2. American Academy of Orthopaedic Surgeons
3. American Academy of Pediatrics
4. American Association for Respiratory Therapy
5. American Association of Blood Banks
6. American Association of Medical Assistants
7. American College of Chest Physicians
8. American College of Physicians
9. American College of Radiology
10. American College of Surgeons
11. American Electroencephalographic Society
12. American Hospital Association
13. American Medical Electroencephalographic Association
14. American Medical Record Association
15. American Occupational Therapy Association
16. American Physical Therapy Association
17. American Society of Anesthesiologists
18. American Society of Clinical Pathologists
19. American Society of Electroencephalographic Technologists
20. American Society of Internal Medicine
21. American Society for Medical Technology
22. American Society of Radiologic Technologists
23. American Thoracic Society
24. American Urological Association
25. Association of Operating Room Nurses
26. Association of Operating Room Technicians
27. Society of Nuclear Medicine Technologists
28. Society of Nuclear Medicine

Richard O. Cannon, II, M.D., Dean of the Division of Allied Health Professions at Vanderbilt University, is Chairman of the AMA Advisory Committee on Education for the Allied Health Professions and Services, which advises the Council on Medical Education on matters concerning allied medical education; a Panel of Consultants consisting of representatives of the collaborating organizations and some Special Advisors provide consultation to the Advisory Committee and Council on Medical Education. The head of each collaborating organization designates the Consultant who represents that organization.

Each organization collaborating with the AMA provides its respective competencies. Each organization specifically concerned with accreditation for an allied medical profession provides expertise in its specific area: each participates in drafting the basic requirements essential for the educational program (the *Essentials*) and revisions when necessary; each provides experts to visit schools and to ascertain whether the educational programs meet, or preferably exceed the *Essentials*; each provides representatives to meet as a review committee to receive reports of program survey teams and recommend action. The American Medical Association, through its Council on Medical Education, may provide participants for survey teams. The House of Delegates of the American Medical Association adopts the *Essentials* and revisions; the Council on Medical Education provides formal accreditation for allied medical educational programs. All this is done in collaboration with the 28 medical specialty and allied health organizations.

Organized medicine has a long-standing precedent of asking educators to make independent studies of medical and allied medical education, with special reference to the accreditation of educational programs. Here are three outstanding examples:

Medical Education

It was the Council on Medical Education of the American Medical Association which asked the Carnegie Foundation for the Advancement of Teaching to review medical education. The two-year study was begun in 1908 by Dr. Abraham Flexner of the Carnegie Foundation. On site visits he was accompanied by Dr. N. P. Colwell, then Secretary of the AMA Council on Medical Education. The Flexner Report[4] was well received, with the result that the 160 schools in 1905 were reduced by consolidation and closures to 95 in 1915, and 80 by 1927.

Graduate Medical Education

In the 1960's the American Medical Association again expressed its continuing concern by requesting an external examination of the internship and the residency -- the constituent parts of graduate medical education. Upon recommendation of the Council on Medical Education, the Board of Trustees of the American Medical Association authorized the establishment of a Citizens Commission on Graduate Medical Education, with a majority of the Commission members from outside the field of medicine. The Chairman was John S. Millis, Ph.D., then President of Western Reserve University in Cleveland. In the Preface of the August 1, 1966 report titled *The Graduate Education of Physicians*, Dr. Millis explained that the "The Citizens Commission on Graduate Medical Education has operated as a Committee of the whole and has not employed a staff. Data, opinion, and relevant evidence have been presented to the entire Commission. Thus, the ensuing report represents the conclusions formed by the members. It is not a staff report in which a committee has concurred."[5]

Allied Medical Education

The American Medical Association, American Society of Allied Health Professions, and National Commission on Accrediting sponsored a Study of Accreditation of Selected Health Educational Programs. It was the Council on Medical Education's Advisory Committee on Education for the Allied Health Professions and Services which prepared the proposal for the SASHEP study and the grant application. The Commonwealth Fund financed this independent study. Arland F. ChristJaner, President of the College Entrance Examination Board and formerly a university president, served as Chairman of the Study Commission, and William K. Selden, retired Executive Director of the National Commission on Accrediting, was employed as the Staff Director. The Assistant Director was Jerry W.Miller, who is now Director of the Commission on Accreditation of Services Experiences, American Council on Education. A majority of the members of the SASHEP Commission were educators. SASHEP published its *Commission Report* in 1972.[6]

An AMA-ASHAP-NCA Study Committee on Accreditation held four meetings in 1973 and drafted a proposal for the establishment of a Joint Council for the Accreditation of Allied Health Education for the supervision and accreditation of allied health education. The AMA and NCA have approved the proposal.

A total of 2,711 educational programs have been approved by the AMA and the collaborating organizations as of December 1, 1973:

1.	Assistant to the Primary Care Physician	39
2.	Clinical Laboratory Assistant	175
3.	Cytotechnologist	109
4.	Electroencephalographic Technician	*
5.	Electroencephalographic Technologist	*
6.	Histologic Technician	17
7.	Medical Assistant	55
8.	Medical Assistant in Pediatrics	1
9.	Medical Laboratory Technician	5
10.	Medical Record Administrator	30
11.	Medical Record Technician	37
12.	Medical Technologist	734
13.	Nuclear Medicine Technician	53
14.	Nuclear Medicine Technologist	
15.	Occupational Therapist	40
16.	Operating Room Technician	*
17.	Orthopaedic Physician's Assistant	8
18.	Physical Therapist	66
19.	Radiation Therapy Technologist	41
20.	Radiologic Technologist	1,109
21.	Respiratory Therapist	132
22.	Respiratory Therapy Technician	1
23.	Specialist in Blood Bank Technology	58
24.	Urologic Physician's Assistant	1
TOTAL		2,711

* Essentials adopted, programs under evaluation, approval pending

A list of AMA-accredited allied medical educational programs in Wisconsin is attached.

National data indicates a general increase in class size and overall enrollment. Although more than 2,000 of these educational programs are based in hospitals, there is also a significant trend toward junior college and vocational school sponsorship of allied medical educational programs. More than 200 AMA-approved allied medical educational programs are based in junior colleges or vocational schools. Educators are experimenting with innovative educational concepts and rejecting the traditional emphasis on length of program and required courses. New programs are being designed to produce the necessary competency levels, placing less emphasis on didactic instruction. *Essentials* are being revised to allow more innovative training programs to be considered for AMA approval, and educators are seeking to ommodate students with non-traditional backgrounds, ng equivalency testing and proficiency examinations.

Clinical Education is a necessary component of educational programs for allied medical occupations. Notice how this is emphasized in the following strong statement of support for community and junior colleges.

> The Council on Medical Education realizes the present and potential contribution of the community/junior colleges in allied health education, and is aware of the services it can provide as a focus for accreditation activities for these institutions. The number of community/junior colleges, along with the many allied health disciplines involved, make such coordination important for the public good. It is the position of the Council on Medical Education that formal clinical affiliations with adequate medical and health services is a basic requirement to assure the proper preparation for involvement in patient service. It is evident that increasing numbers of individuals will be educated and trained in the community/junior colleges and will develop skills in providing patient services as they assist the physician and other health professionals. The Council on Medical Education encourages the establishment of allied medical education programs in community/junior colleges in which clinical affiliations are an integral part of the program.

The AMA Council on Medical Education's Advisory Committee on Education for the Allied Health Professions and Services has ten Subcommittees at work for some of the major changes needed in allied health education -- changes in:

Common Courses and Career Mobility
Continuing Education
Equivalency and Proficiency Examinations
Fees for Accreditation Services
Institutional Approach to Program Evaluation
Instructor Preparation
Legislation
Military-Allied Medical Education
Research
Terminology

3. Wisconsin Manpower Needs

In the April *Wisconsin Medical Journal*, Dr. Donald R. Korst reports on physician "Manpower by Specialty in Wisconsin"[7]. Dr. Korst writes that "Wisconsin presently has one physician per 815 population compared with the national ratio of 715." He concludes that "Present growth trends appear to be related to group practice. The needs for the greatest increase of physicians in training appears to be in pediatrics, internal medicine, and obstetrics - gyneclogy. There is also a need for increase in size or number of programs in anesthesia, dermatology, neurology, orthopaedics, otolaryngology, psychiatry, rehabilitation, radiology, and urology."

Dr. Korst reports that 44% of Wisconsin physicians are graduates of the University of Wisconsin or the Medical College of Wisconsin; 20% come from neighboring states, 21% from other states, 13% are foreign medical graduates (half from Asia), and 2% are Doctors of Osteopathy.

He notes that "In Wisconsin 31% of physicians in practice identify as general practice, 28% as surgical specialty, 19% as a medical specialty, and 23% as another specialty." Interesting references are made to group practice. Dr. Korst says that "The practice patterns are self 32%, group 21%, partners 15%, hospitals 19%, medical school 8%, and government 3%." He refers to "the current trend for recent graduates to choose group practice." Certainly one of the reasons for this has been the distinguished services provided by groups in a number of Wisconsin communities; the Marshfield Clinic is one outstanding example.

Education for allied health occupations is sure to be influenced by the health maintenance plan (HMP) developed by the Wisconsin Physicians Service, a subsidiary of the State Medical Society of Wisconsin. Three years ago in Wild Rose, Wisconsin, the Wisconsin Physicians Service was asked to help a local health care co-op that had developed financial problems. The resulting HMP concept is a mixture: a little prepayment, some fee-for-service, some solo practice, and a few multi-specialty groups. Subscribers pay some, but not all, services provided by primary physicians. Subscribers prepay a monthly per-capita amount -- a health maintenance fee- which covers small items such as office visits, immunizations, injections, and other primary care services. In addition, specialists submit claims to the Wisconsin Physicians Service for the higher-cost services.

> "Perhaps the most unusual feature of the HMP is the 'health management' concept. When enrolling in an HMP, each Blue Shield subscriber agrees to let his physician or medical group make all decisions concerning his health care. In return, the subscriber receives an expanded range of coverage benefits, with minimal exclusions and no dollar maximun."[8]

The HMP's are operating in 20 counties in Wisconsin, where 872 of a possible 904 physicians are HMP providers because county medical societies are co-sponsors. At least 26,900 Blue Shield subscribers -- or 85% of those eligible -- are HMP enrollees.

The point for us, of course, is that for each physician there are a dozen or so other health workers, because there are many patient care services which can be provided by nurses and allied health professionals. Here in Wisconsin it might be feasible to call upon existing agencies to contribute their respective competencies in maintaining a census of allied health positions and budgeted job openings. I am thinking of the Wisconsin State employment agency and the Wisconsin Hospital Association; and similar organizations concerned with the employer and employee. Take special note of the multi-disciplinary needs of the small Wisconsin hospital and the medical clinic. Another helpful state agency is the Wisconsin State Board of Vocational, Technical and Adult Education.

4. A Master Plan for Allied Health Education

Allied health education and mobility would be facilitated by articulation of the many kinds of settings and institutions in which education is being provided. To this end, a kind of Master Plan is needed to define the qualities of the several kinds and levels of education, so that credit is given for satisfactory education; for example, schools of allied health in four-year colleges and universities should give appropriate academic credit for the relevant education completed in two-year community or junior colleges, and in technical institutes, and also for appropriate academic work completed in hospitals and clinics. Allied health education began in hospitals and other clinical settings, and most allied health educational programs continue to be based in hospitals. More than 2,000 of the 2,700 AMA-approved allied medical educational programs are based in hospitals and other clinical settings.[9]

During the last three decades, there has been an explosive growth in higher education in this country, stimulated in part by the return of millions of veterans after World War II. A substantial part of this growth has been the rapid development of junior or community colleges, which welcome all who want to learn and who are 19 or more years old (the average age of junior college students is 27!). Note than junior colleges offer educational programs for a hundred or more occupations and just a dozen or two of these are likely to be health occupations. That is why the junior college president is not eager to gather the health occupations programs into a school of allied health which would pressure for a disproportionate share of the available resources.

Meanwhile, the four-year colleges and the universities have developed schools of allied health, and the Association of Schools of Allied Health Professions was organized to provide national leadership for this important movement. By the way, ASAHP is re-incorporating itself as the American Society of Allied Health Professions. As usual in the health and medical professions, there is some lack of consensus on terminology; "allied health" is not an acceptable term to everybody; some prefer College of Health Related Professions, for example. Clustering the various allied health professions into a school or college serves to focus discrete elements into a stronger, more coordinated program.

It makes sense to budget money for higher education. Colleges and universities contract with hospitals and clinics to provide clinical instruction to allied health students. Such hospitals are affiliated with the college or university; the college grants the students academic credit for the instruction provided in the clinical setting. Clinical instructors should be granted appropriate faculty appointments, with or without pay. When the hospital provides the instruction, we should make sure that the college doesn't keep all the tuition. We should make sure that the students are not used to provide cheap labor. One major hospital studied the costs of education provided by the hospital and concluded that the services provided by the educational programs were more than equal to the costs!

We should not talk about hospitals going out of the business of education; hospitals will always be needed to provide clinical components of education for allied medical occupations.

Junior and senior college people should and do recognize that important allied health programs have developed in other settings:

HIGH SCHOOLS

Health careers recruitment is directed to grade school, junior high school, and senior high school students. A few high schools are pioneering outstanding educational programs to prepare students for entry-level jobs in health occupations, such as working for practicing physicians and working at jobs in hospitals, and clinics.

VOCATIONAL SCHOOLS and TECHNICAL INSTITUTES

A major allied health program is conducted by the vocational/technical education people who are now calling it "career education". The Western Wisconsin Technical Institute is one of the outstanding institutions in this field. The American Vocational Association and American Technical Education Association are among the leading associations providing national leadership, and Miss Helen K. Powers in the Office of Education is among the leaders in the program of federal support which assists state vocational/technical education programs.

MILITARY INSTALLATIONS

Military medics are taught at Army, Navy, and Air Force bases in a military allied medical education program which is a major component of the total education for allied health occupations in this country. The Surgeons General of the Army, Navy, and Air Force appoint the officers in charge of these programs to a Subcommittee on Military Allied Medical Education, of the AMA Council on Medical Education's Advisory Committee on Education for the Allied Health Professions and Services. A *Compendium of Military Allied Medical Education* is available. The objective is to blend civilian and military allied medical education.

PROPRIETARY SCHOOLS

As tuition increases at tax supported as well as private colleges and universities, the expenses of higher education become increasing obvious. An objective look at higher education (by the courts, for example) results in the observation that the quality of education is the point, not whether or not the enterprise is motivated by a profit. The AMA Council on Medical Education and collaborating organizations accredit allied medical educational programs at proprietary schools, because the medical and health professions are interested in the quality of educational programs, not the method of funding. Ethical practices in education are necessary, of course, but they apply to all: proprietary, private and public schools and colleges.

The four million people who work in health occupations were educated in some of these kinds of settings. We should admit it to ourselves, and facilitate student mobility as they make their choices to prepare themselves for health careers.

This calls for a state and national Master Plan for Allied Health Education, which provides for acceptance -- academic credit -- for appropriate education provided in any and all of these settings. All the usual academic standards must apply: level of education, completion of work, quality of student achievement, etc. In California, for example, academic credit earned in junior colleges is accepted by the state colleges and universities and on the nine campuses of the University of California.

But the usual academic restrictions must be re-examined; the university should not say, "We do not give credit for non-traditional education". We must develop respect for all the settings in which allied health education is provided effectively. Education could be compared to a ratchet: appropriate education should be recorded and credited in a cumulative transcript. The student should know that each major educational achievement is acceptable by the higher education community. In other words, academic credit should be given when it is earned, and colleges and universities should learn to accept appropriate credits earned in other kinds of institutions.

5. Vocational Education As A Component of Higher Education

Academicians get nervous when someone starts talking about job training as though this is education. Well, let's face it: it can be! The school of agriculture, the school of engineering, the law school, the medical school, the school of dentistry -- all these provide vocational education: education for a profession, a job, a vocation.

Obviously job training is not all there is to education; no one says it is. Obviously much more than vocational education is needed for the well-rounded personal growth and development of the well-educated individual. But subject matter need not be useless to be educational!

Education for life, for living, includes learning how to use one's maturity and competencies in productive employment. Vocational education may be a component of the total well-rounded educational program.

Rather than designate career education as non-academic, partly because we look at the entry-level jobs requiring the least formal training, let us look at career programs from the top down: consider agriculture, engineering, law, medicine, dentistry, nursing, pharmacy, and all the other schools and colleges which prepare

students for employment. Let us include career education as we emphasize the need for each student to have opportunities to grow and develop so that he or she can make the most of his or her life.

By the way, the health and medical professions can be an opportunity for student idealists. Some people profess to love humanity -- they chant of peace and gentleness to display their love for all mankind; but they don't particularly care for the individual -- they don't seem to like themselves, and they don't seem to want to help other individuals who need help.

In the health professions, on the other hand, we care very much about each and every individual. We are dedicated to the care of each individual patient, and there seems to be no limit to what we are willing to do to help one person. Consider the painstaking care given to repeated plastic surgery for children with severe burns, and the thousands of hours spent on the rehabilitation of some individual patients. In the dedication of health and medical professionals to serve the individual, we implement our belief in the dignity of man the sincerity of our love for all mankind.

This is characteristic of the health occupations and of the more than four million people who work in them. Health and education have become two of the largest occupations in America, partly because so many young people who have strong and noble ideals believe they can best serve humanity by becoming professionals in health and education.

One of the exciting characteristics of education is that it is concerned with the future. In allied medical education, we are preparing people for employment in the future. Allied medical education begins with the plans we are making now for the students who will be learning during the 1974-1975 school year, the 1975-1976 school year and later years to develop the proficiencies needed to work at health occupations in 1980 and the years that follow. So we are thinking now about the education students need to work in 1980 -- the future. In answer to the question "What kind of future?", each of us would perhaps answer, "Well, one thing I know: it's going to be different!" More than that: the changes are coming along faster all the time. Popular interest in this accelerating rate of change made Alvin Toffler's book, *Future Shock*, a best seller.[10] He provides many examples of the fact that things are changing more rapidly all the time. Toffler writes about duration -- the span of time over which a situation occurs -- and he emphasizes the increasing rate of change. Toffler disagrees with those who predict a future of uniformity; Toffler reminds us that one of the characteristics of the technolgy of mass production is diversity. He says our super-industrialized society is producing the greatest variety of unstandardized goods and services, with diversity costing no more than uniformity. He describes the bewildering choices and the problem of "over-choice"; for examples, a supermarket with thirty-five kinds of honey and the wide range of options offered by automobile manufacturers.

Diversity is becoming characteristic of education. It is not generally realized that the medical school has been made into a kind of supermarket. Allied medical education is moving swiftly toward diversity. Maximum individual choice is the democratic ideal. My guess is that in the future no two allied health students will move along the same educational track. Computers are scheduling more flexibly, with wider ranges of course offerings and more varied clinical educational experiences. The multi-campus university has become routine. Study is being decentralized to the individual study carrel in the library, the multi-media audio-visual study center, and even the students' own rooms in the dormitory or at home. Just as students formerly borrowed books, they now borrow hard-copy readouts from computerized information retrieval systems; students borrow sound and video tapes, materials fromthe language laboratory, and single-purpose multi-media instructional units. Study can continue at any hour and any day of the week. The whole point is to facilitate learning so each student will advance at his own personal pace.

The educated man will be the one who has learned how to learn. The AMA Council on Medical Education is concerned only with the quality of that education for an allied medical occupation. The educational program can be based in public or private schools, colleges, and universities; vocational and technical institutes; schools run by corporations or the military services; or at home. I might add that AMA approval of educational programs by the Council on Medical Education and collaborating organizations encourages innovation and experimentation by providing the security of understanding, cooperation, and support.

* * * * *

SUMMARY

I have tried to give you a staff report on the AMA and allied health manpower:

1. The history of allied health occupations is one of increasing service to patients, especially by providing specialized services in selected parts of patient care with or under the direction and supervision of physicians.

2. The AMA and 28 collaborating organizations accredit educational programs for 24 allied medical occupations, and are ready able, and willing to do more to help Wisconsin improve its allied health educational programs. (A list of AMA-accredited programs in Wisconsin is attached.)

3. Wisconsin needs more efficient and more productive allied health educational programs for physician support personnel so that more people will get more and better health and medical services.

4. A master plan is needed for allied health education to interdigitate the many kinds of institutions which provide allied health educational programs.

5. Vocational education (career education) can and should be a respectable and respected component of the total education available to students, and appropriate academic credit should be granted.

In conclusion may I emphasize that the AMA is a federation of state medical associations, so the State Medical Association of Wisconsin *is* the AMA in your State. Mr. Earl R. Thayer, Executive Secretary of the State Medical Society of Wisconsin, is here in Madison at 330 East Lakeside, and is always interested and helpful on allied health education. Physicians, individually and as organized medicine, are interested in and concerned with the education of the non-physician members of the medical care team. One reason is because physicians want to delegate more tasks to qualified allied health professionals and the physicians need to *know* that the allied health people have had the necessary education. You will find physicians cooperative co-workers in your consideration of a school for the allied health professions.'

REFERENCES

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4 *Medical Education in the United States and Canada*, A Report to the Carnegie Foundation for the Advancement of Teaching. Boston: Merrymount Press, 1910.

5 *Graduate Education of Physicians.* The report of the Citizens Commission on Graduate Medical Education. Chicago: American Medical Association, 1966, p. vi.

6 *Study of Accreditation of Selected Health Educational Programs, Commission Report.* Washington, D.C.; National Commission on Accrediting, 1972.

7 Donald R. Korst, M.D., "Manpower by Specialty in Wisconsin." April 1973 *Wisconsin Medical Journal.* Volume 72, pages 107-112.

8 "Blues Seek Bigger Role in Health Care Delivery" in January 28, 1974 *American Medical News.* Volume 17, Number 4, pages 7-10.

9 "Allied Medical Education Fact Sheet" AMA Council on Medical Education December, 1973.

10 Alvin Toffler, *Future Shock.* New York: Random House, 1971.

WISCONSIN

HOSPITAL COUNCIL OF GREATER MILWAUKEE AREA. Mr. John F. Truck, Health Manpower Coordinator; 9898 W. Bluemond Rd., Milwaukee 53226; (414) 258-9610.

STATE MEDICAL SOCIETY OF WISCONSIN. E. R. Thayer, Secretary; 330 E Lakeside, Box 1109, Madison 53701; (608) 257-6781.

MADISON HEALTH CAREERS COUNCIL - HEALTH FAIR. Thomas Ayrrs, Admin. Asst.; c/o Veterans Administration Hospital, 2500 Overlook Terrace, Madison 53705; (608) 256-1901.

WISCONSIN HEALTH COUNCIL, INC.-HEALTH CAREERS PROGRAM. Mrs Carol Mehlberg, Health Careers Coordinator; P.O. Box 4387, Madison 53711; (608) 274-1820.

WISCONSIN STATE BOARD OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION. Dr. Camilla R. Scholemer, Consultant, Health Occupations Education; 4802 Sheboygan Ave., Madison 53702; (608) 266-0003.

AMA Accredited Allied Medical Education Programs

in Wisconsin

January 9, 1974

(Note: Programs are listed in alphabetical order by city.)

St. Elizabeth Hospital
Wilfred F. Loebig, Jr., Admin.
1506 S. Oneida St.
Appleton, Wisconsin 54911

(414) 733-5533
MEDICAL TECHNOLOGIST

Beaver Dam Community Hospital
707 S. University Avenue
Beaver Dam, Wisconsin 53916

(414) 887-7181
MEDICAL TECHNOLOGIST

Beloit Memorial Hospital
Virgil J. Waelti, Admin.
1969 W. Hart Road
Beloit, Wisconsin 53511

(608) 364-5266
RADIOLOGIC TECHNOLOGIST

Trinity Memorial Hospital
5900 S. Lake Drive
Cudahy, Wisconsin 53110

(414) 769-6000
RADIOLOGIC TECHNOLOGIST
MEDICAL TECHNOLOGIST

District One Technical Institute
620 W. Clairmont Avenue
Eau Claire, Wisconsin 54701

RADIOLOGIC TECHNOLOGIST

Luther Hospital
James D. M. Russell, Admin
310 Chestnut Street
Eau Claire, Wisconsin 54701

(715) 832-6611
MEDICAL TECHNOLOGIST
RADIOLOGIC TECHNOLOGIST

Sacred Heart Hospital
Raymund J. Robbeloth, Exec. Vice Pres.
900 W. Clairemont Ave.
Eau Claire, Wisconsin 54701

(715) 834-7731
MEDICAL TECHNOLOGIST
CYTOTECHNOLOGIST

St. Agnes Hospital
Sr. Joan Wirz, Admin.
430 E. Division St.
Fond Du Lac, Wisconsin 54935

(414) 921-2300
MEDICAL TECHNOLOGIST
RADIOLOGIC TECHNOLOGIST

Bellin Memorial Hospital
Daniel R. Smith, Admin.
744 S. Webster Ave.
Green Bay, Wisconsin 54301

(414) 468-3500
RADIOLOGIC TECHNOLOGIST

St. Vincent Hospital
J.L. Ford, M.D., Director
835 S. Van Buren St.
Green Bay, Wisconsin 54305

(414) 432-8621
MEDICAL TECHNOLOGIST

Mercy Hospital
Sr. Mary M. Berry, R.S.M., Admin.
566 N. Washington St.
Janesville, Wisconsin 53545

(608) 752-7801
RADIOLOGIC TECHNOLOGIST

Kenosha Memorial Hospital
Ray G. Welsch, M.D., Director
Medical Affairs
6308 Eighth Avenue
Kenosha, Wisconsin 53140

(414) 655-2011
MEDICAL TECHNOLOGIST

St. Catherine's Hospital
Sr. Mary Dolorosa, Admin.
3556 Seventh Ave.
Kenosha, Wisconsin 53140

(414) 658-2311
RADIOLOGIC TECHNOLOGIST
MEDICAL TECHNOLOGIST

St. Francis Hospital
Sr. Mary G. Hanson, Admin.
709 S. Tenth St.
La Crosse, Wisconsin 54601

(608) 782-8022
MEDICAL TECHNOLOGIST

Viterbo College
J. Thomas Finucan, Pres.
La Crosse, Wisconsin 54601

(608) 785-3450
MEDICAL RECORD ADMINISTRATOR

Western Wisconsin Technical Institute
Anita G. Smith, Chairman
Health Occupations Division
Sixth and Vine Streets
La Crosse, Wisconsin 54601

(608) 782-6238
RADIOLOGIC TECHNOLOGIST

Madison Area Technical College
Belle Fiedler, Chairman
Health Occupations Division
211 N. Carroll St.
Madison, Wisconsin 53703

(608) 257-6711
RESPIRATORY THERAPIST
CERTIFIED LABORATORY ASSISTANT

Madison General Hospital
Gordon N. Johnson, Admin.
202 S. Park St.
Madison, Wisconsin 53715

(608) 267-6210
MEDICAL TECHNOLOGIST

HISTOLOGIC TECHNICIAN
RADIOLOGIC TECHNOLOGIST

St. Mary's Hospital Medical Center
Gregory L. Griffin, Asst. Director
720 Brooks St.
Madison, Wisconsin 53715

(608) 251-6100
MEDICAL TECHNOLOGIST
RADIOLOGIC TECHNOLOGIST
NUCLEAR MEDICINE TECHNICAN

University of Wisconsin
William D. McGuire, Asst. Supt.
University Hospitals
1300 University Hospitals
Madison, Wisconsin 53706

(608) 262-1144
OCCUPATIONAL THERAPIST
RADIOLOGIC TECHNOLOGIST
CYTOTECHNOLOGIST
MEDICAL TECHNOLOGIST
PHYSICAL THERAPIST

Marshfield Clinic
Russell Lewis, M.D., Med. Director
630 S. Central
Marshfield, Wisconsin 54449

CYTOTECHNOLOGIST

St. Joseph's Hospital
David R. Jaye, Jr., Pres.
611 St. Joseph Avenue
Marshfield, Wisconsin 54449

(715) 387-1741
MEDICAL TECHNOLOGIST
RADIOLOGIC TECHNOLOGIST

Columbia Hospital
Paul W. Kempe, Admin.
3321 N. Maryland Ave.
Milwaukee, Wisconsin 53211

(414) 964-5100
MEDICAL TECHNOLOGIST
RADIOLOGIC TECHNOLOGIST

Deaconess Hospital
Kenneth S. Jamron, Exec. Director
620 N. 19th St.
Milwaukee, Wisconsin 53233

(414) 933-6767
RADIOLOGIC TECHNOLOGIST
MEDICAL TECHNOLOGIST

Doctors Hospital Complex
Walter G. Harden, Admin.
2711 W. Wells St.
Milwaukee, Wisconsin 53208

(414) 344-9400
RADIOLOGIC TECHNOLGIST
MEDICAL TECHNOLOGIST

Lutheran Hospital of Milwaukee, Inc.
Stanley W. Martin, Exec. Director
2200 W. Kilbourn Ave.
Milwaukee, Wisconsin 53233

(414) 344-8800
RADIOLOGIC TECHNOLOGIST
MEDICAL TECHNOLOGIST

Marquette University
561 N. 15th St.
Milwaukee, Wisconsin 53233

(414) 272-5450
PHYSICAL THERAPIST

Medical College of Wisconsin
561 N. 15th St.
Milwaukee, Wisconsin 53233

RADIATION THERAPY TECHNOLOGIST

Milwaukee Area Technical College
Mary D. Vick, Dean
Health Occupations
1015 N. Sixth St.
Milwaukee, Wisconsin 53203

(414) 278-6258
RESPIRATORY THERAPIST

Milwaukee Blood Center, Inc.
Richard H. Aster, M.D., Director
763 N. 18th St.
Milwaukee, Wisconsin 53233

(414) 933-5000
SPECIALIST IN BLOOD BANK TECHNOLOGY

Milwaukee Children's Hospital
Robert J. Lawrence, Admin.
1700 W. Wisconsin Ave.
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MEDICAL TECHNOLOGIST

Milwaukee County Medical Complex
Marvin F. Neely, Jr., Admin.
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RADIOLOGIC TECHNOLOGIST
CYTOTECHNOLOGIST
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Mount Mary College
2900 Menomonee River Pkwy.
Milwaukee, Wisconsin 53222

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OCCUPATIONAL THERAPIST

Mount Sinai Medical Center
Michael S. Elliott, Admin.
948 N. 12th St.
Milwaukee, Wisconsin 53233

(414) 271-2174
RADIOLOGIC TECHNOLOGIST
MEDICAL TECHNOLOGIST

St. Joseph's Hospital
Sr. M. Jeanne, F.A.C.H.A., Pres.
5000 W. Chambers St.
Milwaukee, Wisconsin 53210

(414) 447-2130
MEDICAL TECHNOLOGIST
RADIOLOGIC TECHNOLOGIST

St. Luke's Hospital
John A. Palese, M.D., Director
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St. Mary's Hospital
Sr. Juliana Kelly, Admin.
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St. Michael Hospital
Sr. Mary Illumina, President
2400 W. Villard Avenue
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RADIOLOGIC TECHNOLOGIST
MEDICAL TECHNOLOGIST

Theda Clark Memorial Hospital
G. L. Aldridge, President
130 Second St.
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Mercy Medical Center
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Stewart W. Laird, Admin.
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RADIOLOGIC TECHNOLOGIST