Discussion

The method reported here has several advantages: it consists of the complete and specific conversion of DPG into inorganic phosphate under the influence of a single enzyme; as pointed out by Rose and Liebowitz,[7] it is superior to procedures that depend on the measurement of enzymatic rates in which such factors as time of incubation and temperature are critical; and the use of a hemolysate instead of a blood filtrate for the enzymatic reaction is particularly convenient since it requires very little blood, the subsequent precipitation of the proteins occurs in such dilution that adsorption of phosphate on the precipitate is minimized, and ambiguities relating the volume of the filtrate to the original volume of blood are avoided.[16]

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SPECIAL ARTICLE

ANNUAL DISCOURSE – THE PHYSICIAN IN A CHANGING SOCIAL STRUCTURE*

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Abstract The Social legislation of 1965-66 represented a post-war II adjustment with a shift in ethics from individualism in an agrarian society to a complex organization in a dominantly urban society. Consequently, a reformation in health services confronts physicians, who have long enjoyed a respected position in providing care for those who assumed personal responsibility. Now that society has assumed responsibility, proof of competence is demanded from the physician receiving payment for service. Thus, unless present methods of continuing education are strengthened, government threatens to control their accreditation and to demand licensure of physicians based on periodic re-examination.

The profession is responding by exploring several methods of continuous education and is offering specific alternatives to government regulation. The Massachusetts Medical Society is challenged by three specific alternatives to achieve its role in this changing social structure.

In the past 100 years of our history, there were three great actions that profoundly altered the education of our national human resources. These were the Abolition of Slavery, the passage of the Morrill Act to establish land-grant colleges and the Social Legislation of 1965-66 that declared health a human right. The 89th Congress changed the concept of health maintenance from an individual to a social responsibility by enacting Public Law 89-97 (Medicare and Medicaid), P.L. 89-239 (Heart Disease, Cancer and Stroke Amendments) and P.L. 89-749 (Comprehensive Health Planning).

The changes ordered by the Civil War and the passage of the Morrill Act faced a prolonged resistance not anticipated by the relatively few men hopeful for the total welfare of man. Illustration of this slow change in attitudes lies in the fact that the educational acts of Senator Justin Smith Morrill, of Vermont, to establish the agricultural colleges were signed by President Lincoln in 1862 but were not funded by Congress until 1890. They established the precedent of national aid to education in its words, "to promote the liberal and practical education of the industrial classes in the several pursuits

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and professions in life." Likewise, the rights of blacks 100 years after announced freedom, recently sparked by a Nobel Laureate, the late Martin Luther King, are still evolving in a turbulent society.

This turbulence has revealed the shifting in ethics and motivation from 19th century beliefs that one worked for oneself and not for Society, then predominantly agrarian, to the beliefs since World War II that one must adjust to a complex societal organization in a primarily urban society. This turn away from individualism now confronts the physician engaged in the only personal service system in the United States where he has long enjoyed a respected position in providing care for those who assumed personal responsibility.

Thus, our generation of physicians is challenged by the Social Legislation of 1965-66. We are in the midst of a reformation with respect to medical care and with it the concept of the essential relation of medical education to the delivery of the best care. This movement began early in this century when the use of insurance coverage for illness spread first through Europe and then extended slowly into the United States. The early opposition of physicians to health insurance is well documented. Acceptance of the concept has come reluctantly with the relentless spread of third-party payment for illness. At first it was voluntary, with individuals subscribing to Blue Cross, Blue Shield, through insurance companies or through employer agencies, and by prepayment comprehensive care through groups such as the Kaiser Permanente and Health Insurance Plan of New York City.

With Medicare and Medicaid the federal government established a national tax basis for medical care. Extension of this tax basis seems inevitable to many, but it is being tempered by the alternative proposals such as Universal Health Insurance sponsored by Governor Rockefeller, by physicians who seek to maintain a contribution by the beneficiary that identifies with personal responsibility to reduce costs and by Congressmen who forsee an unacceptable, perpetually rising cost for the total health care of our citizens.

Just where, then, will the physician fit into this maelstrom of events that will determine his or her medical education, the choice of career and the professional rewards in the years ahead?

My chosen role today, however, is not to digress into exploration of the plans for the care of the people,* but rather to review this relation of physicians' education in preparation for and maintenance of his competence to deliver the care that is now a human right — backed by the *will of government.*

Many have maintained that physicians have been callous to the needs for adequate care regardless of race, environment or social and financial status. Others maintain that the medical community has failed to be heard effectively in this national debate, and that individual physicians busy with caring for people have shunned their social responsibility to co-operate in structuring the health-maintenance organization of the future.

There has been a shift in public policy to the end that the medical profession, the consumers and the educational institutions must recognize that a gap does exist between the rapid advance of knowledge and its application in the delivery of health care. The methods by which people obtain health care and its very quality are under intense scrutiny. A pivotal concern is the quality of the care rendered whoever is to pay either the usual and customary fee or an amount set by a third party. In case of either method of payment it is clear that there is a rising demand for proof of competence of the person receiving the payment. Evaluation of the care delivered is one way to determine competence.

Such practical factors impel the medical profession to strengthen educational methods that have as their objective the assurance to society and to the profession that the graduates of our educational programs are competent to meet the expectations of the body politic.

* * *

Let us examine the evidence affecting medical practice that supports these remarks, which to some may sound like fearful rubbish or a misinterpretation of recent policy decisions both within government and within certain physicians' groups.

The first is the recommendation of the President's Commission on Health Care[1] in 1967:

> The professional societies and state governments should explore the possibility of periodic relicensing of physicians and other health professionals. Relicensure should be granted either upon certification of acceptable performance and continuing education programs or upon the basis of challenge examination in the practitioner's specialty.

These are the words of both consumer and professional representatives on the Commission, and they are telling us the shape of things to come. In brief, you will have to prove your competence.

In March, 1970, the California Legislature considered bill 943, which would add to the medical-practice act the requirement that each physician at four-year intervals must prove that he has taken postgraduate studies or take a challenge examination. The California Medical Association has obtained a delay in implementation for three years while California physicians muster extensive programs in continuing education.

The Arizona Board of Examiners has surveyed the national attitudes on periodic relicensure and last year found that 17 of 38 state boards are investigating this question and discussing the possibilities of periodic state examinations. Meanwhile, New Mexi-

*Those seeking a review of the several plans for health insurance for the nation will find an excellent report by Dr. Stanley W. Olson in the March 11, 1971, issue of the New England Journal of Medicine.

co has just become the first state to require periodic relicensure.

In New York State a recent regulation provides that to be paid for care rendered under Title XVIII (Medicaid), the physician who is not a member of a hospital staff or is not board certified must prove his competence by providing the same evidence required by the American Academy of General Practice for sustained membership – that is, 150 hours of continuing education over a three-year period.

This Academy deserves our salute for its pioneer move in 1947, long before this threat of compulsory proof of competence to require continuing education of its members. The general practitioners realized that the colossal increase in factual knowledge necessary for the practice of medicine had become so great that the medical schools could no longer produce a complete physician in four years, and that someone had to stimulate and assist those caring for people to return to centers of learning to acquire the new skills and knowledge available even after graduate training in hospitals. The M.D. degree merely provides the basic knowledge after which a physician must continue to learn and increase his skills during the remainder of his professional life.

In 1969 the Oregon Medical Association adopted the requirement that, to continue as a member, a physician must provide evidence of about 200 hours of continuing education every three years; recently, the Pennsylvania Medical Society stipulated that 150 hours of continuing education every three years would be necessary to maintain membership. The Vermont State Medical Society considered similar action on May 13, 1971.

From another direction comes another example of increasing insistence on proof of competence. In April, 1970, the Joint Commission on Accreditation of Hospitals approved revised standards pertaining to the medical staff and indicated the responsibility and duties of the staff to provide medical-care evaluation. The revised standards state that the "medical staff provides a continuing program of professional education or gives evidence of participation in such a program by its members." This is not a voluntary approach to the demand for competence, but a professional, self-regulatory mechanism similar to the accreditation process.

Thus, I have reviewed the advice of the President's Commission, the actions of the California, New York and New Mexico legislatures, the provisions of the Academy of General Practice and State Medical Associations and lastly the recent revision of standards for the accreditation of hospitals.

Now, let us see what posture the American Medical Association has assumed. In a report adopted by its House of Delegates in June, 1969, the position was taken that relicensure programs should not be implemented at this time, but that all mechanisms for stimulating continuing education with physician participation programs should be developed within the medical profession. Here in Boston, in December, 1970, the House of Delegates advanced this policy in what may prove to be a historic action by accepting the report of the Board of Trustees entitled "Continuing Competence of Physicians," which states, in part:

> The recognized specialty boards be encouraged by the American Medical Association to consider the desirability of establishing periodic recertification programs, such recertification to be granted on the basis of participation by the diplomate in continuing education, involvement in self-assessment programs, or other conditions deemed appropriate.
>
> That recognized medical specialty societies be encouraged to explore the desirability of establishing similar requirements for continued society membership.
>
> Constituent medical associations (state medical societies) be encouraged to investigate the desirability of requiring periodic documentation by their members of participation in continuing education as a condition for continued society membership.
>
> Existing American Medical Association policy relating to expansion of medical society peer review committees continue to be supported and implemented vigorously, with particular emphasis directed toward expanding the educational aspects of such committees' functions [quality control or medical care evaluation]. . . .

These are the deliberations of men thoughtful for the health and care of over 200,000,000 people provided by 300,000 doctors. The largest medical association in the world has accepted the concept of the relation between the quality of patient care, education and the continuing competence of the physician rendering the care and the collection of payment for services.

* * *

Next, let us briefly examine the several methods in the educational process that from 1920 to 1970 have produced physicians who are considered the finest in the world, but who are alleged to be neglecting their patients, to be insufficient in number and to show early obsolescence in the face of the rapid discovery of technologic skills.

The responsibility for the accreditation of the structure and function of 101 medical schools now resides within the professional sector as it has ever since the Council on Medical Education of the AMA and the American Association of Medical Colleges formed the Liaison Committee on Medical Education in 1942 to carry out accreditation surveys. This Liaison Committee representing the voluntary professional sector includes a representative from the government and the public, and is now recognized by the National Commission on Accrediting, the United States Commissioner of Education, the Bureau of Health Man Power and various state licensure boards as the official accrediting agency for medical education.

When medical specialties and their boards and

societies were organized early in this century, the American Medical Association responded to the need for proof of competence and established accreditation procedures for the graduate programs that follow awarding of the M.D. degree. By means of 21 joint review committees, residency programs in the corresponding specialties established in about 20 per cent of hospitals with 46 per cent of total hospital beds are surveyed at intervals and are either approved, disapproved or placed on probation, to maintain excellence in postgraduate education and the rendering of patient care.

The Council on Medical Education also has an expanding department for the survey and accreditation of continuing education. Since the Vollan report of 1955,[2] in which our Dr. James M. Faulkner took an active role, the number of courses in continuing education has increased steadily from just over 1000 in 1961 to over 2300 in 1970-71, as listed annually in the Journal of the American Medical Association. During the same period the registration of physicians in these courses increased six times.

The opportunities for continual education of the physician in the years after he enters practice are many and varied. In 1903, Sir William Osler, in addressing the New Haven Medical Association[3] on the "Educational Value of the Medical Society," emphasized the fact that "the physician's postgraduate education comes from patients, books, journals and from Societies that should be supplemented every 5-6 years by a return to a post-graduate school."

Now, let us find how the physicians in Massachusetts have followed this advice of one of our great educators.

The last available (1968) statistics[4] show there were 11,369 physicians in Massachusetts, and of these, 8995 were involved in patient care; of these, 5996 were office based and 2999 were hospital based. Thus, about 2:1 begin caring for people in their offices. It may be assumed that these younger men in graduate programs or full time in hospitals are continuously exposed to the educational process, so that the direction of our effort should be toward the approximately 6000 who are based in office practice. Most of these physicians are members of this Society.

The Massachusetts Medical Society, which devotes more than 25 per cent of its budget to medical education, has an enviable record in this regard. It sponsors what many consider to be the best medical journal in the world; in addition, this year the Society doubled to $60,000 its annual support of the Boston Medical Library, a partner in the Countway, the best private medical library in the world.

In 1953 the Society incorporated the nonprofit Postgraduate Medical Institute (PMI) for implementing programs of continuing education. The PMI firmly established itself recently as an innovative educational institute by gaining national recognition for developing two educational technics: the first is the Core Content Literature Review and the second "Continuing Medical Education in Community Hospitals: A manual for program development."

During 1970 the Committee on Advanced Clinical Education (ACE), of the Massachusetts Medical Society, together with the PMI, structured and offered, especially for physicians based five years or more in office practice, unique opportunities to return for at least one month to a teaching hospital to join with students, house staffs and teachers in the care of patients. This type of postgraduate education has obvious advantages over traditional staff meetings, conferences, seminars and short courses. When possible, it will enable one physician participant to live in the hospital and share its many other learning resources. At present several specialty programs are available in the Boston area, and the Committee offers to co-operate in designing courses relevant to individual needs.

These programs in continuing education offered by the ACE are limited in number, like most quality products, but at present with 22 of them arranged in 14 hospitals the potential is approximately 250 physicians returning each year for intellectual restoration for the physician's own good and, what is much more important, for the certain benefit of his patients.

Prophets in our midst predict that this form of during-practice education will become a fixture in the continuous education that all physicians need and many desire in our new social structure. Thus, a young man can expect undergraduate education in a medical school, graduate education in the hospital and continuing education in a center of learning of his own selection arranged through his professional associations.

The number seeking such educational experience ideally would approximate the numbers entering practice each year. Those entering into the health field each year in Massachusetts increased from 708 in 1967-68 to 803 in 1969-70 although it is assumed that all those fully licensed did not enter practice. In 1969-70, 2450 were given limited licenses as interns and residents in the Commonwealth.

The projection of physician manpower supply, without relation to distribution needs, has been variously estimated* in the recent past. Whatever desirable goals are established, the shortage of the past is being met from two sources: an increase in the number of our national medical-school gradu-

*For example, by C. H. William Ruhe, M.D., secretary, Council on Medical Education (personal communication).

ates; and the influx of foreign medical-school graduates.*

The medical schools (including our new University of Massachusetts Medical School) have responded to the demand for increased manpower by increasing their number of graduates from 7081 in 1965-66 to 8367 in 1970. Each year this number will increase in response to the sharp increase in admissions.

Foreign medical graduates who subsequently become fully licensed to practice are entering the United States now at the rate of over 2000 per year; the numbers emigrating who do not obtain a license are unknown. Approximately 32 per cent of interns and residents in approved training programs in 1970 were foreign medical graduates. A surprising fact is that more than 40,000 such graduates are now licensed in the United States and comprise about 12 per cent of the active physicians.

With these increasing numbers of graduates, including the influx of foreign graduates, the profession must anticipate its social responsibility to provide continuing education for all physicians in the years ahead. At present the foreign medical graduates here in Massachusetts are employed in state hospitals primarily because their education had not prepared them to meet state licensure requirements. Recently, the Massachusetts Department of Mental Health approached the PMI to provide educational programs that will increase the competence of some 50 to 60 foreign graduates employed in patient care. Similar educational programs have been effectively provided in Florida and Puerto Rico.

Thus, I have explored the past; now, we must explore the future. Goals must be set by the profession to achieve our ends in a reasonable time, certainly less than the 28 years that it took to fund education for the farmers and, it is to be hoped, within this decade to prove that we can continue to govern a productive medical-educational system that is responsive to the needs of people – both patients and physicians.

Many programs are being offered, and yet I propose alternatives that this society of physicians can establish through its educational arm, the PMI, to achieve our role in this changing social structure.

First of all, we should define the educational needs of the profession through at least these channels: self assessment; evaluation of the care actually rendered in hospitals and possibly through office practice; and a survey of the needs of foreign medical graduates now caring for patients in the Commonwealth.

Secondly, we should in turn arrange continuing education for the professional needs identified by the above efforts, and structure it with relevance to the function of the doctor in his daily care of patients.

Thirdly, we should simultaneously move with the state and federal agencies for a dynamic educational program employing all media for the education of the public to reveal the total health resources now available at the local level of personal needs.†

It is amazing that the average citizen knows where and how to obtain postage stamps, varieties of food and the service for his car, but often lacks the knowledge of how best to maintain or restore his health machine in the shortest time at the least cost.

Moreover, recent dialogues between representatives of this Society and the executive branch of the Commonwealth document the fact that many in these crucial administrative posts and in the news media are little informed of the resources for health care as well as the basic motivations of the physicians of Massachusetts.

Frustrating experiences with the present complex, sometimes overlapping and competing services then lead the average citizen, the well intentioned bureaucrat or newsman to explode in condemnation of the entire medical profession. All this because neither the single doctor, who may be respected, nor the consumer, the newsman nor the bureaucrat is adequately informed of the structure and function of our many health services.

The stark fact that in Puerto Rico in 1969, 57 per cent of people dying were found to have remedial disease but had never reached a medical facility (death neither premeditated or premedicated) is one indication of a great unidentified need for public education. Thus, in addition to the professional requirement for continuous education there is this crucial need for education of the potential patient and those in the administrative and social agencies funded by the State.

Our profession has been challenged to change from a vested interest in disease to an acceptance of a role in total social responsibility for patient care,

*An index of this solution to the problem resides in the ratio of physicians to population, which has been increasing during the past decade in spite of repeated statements to the contrary in the public press and the Congressional record.

Despite the substantial increase in number of physicians, the military power in Congress, led by Representative Hebert (chairman of the Armed Services Committee), has made it clear that its goal is the enactment of a bill designed to establish costly new federal medical schools in at least four regions of the country for training of physicians for service in the armed forces.

In 1959 the Bane report estimated physician-to-population ratio at 149 per 100,000. The population trend in annual average increase is near 1 per cent whereas the average annual increase in the supply of physicians is about 2.5 per cent. Thus, by 1979 there could be an additional 50,000 physicians merely through these differential rates, and the ratio could increase from the present (1970) 165 to 100,000 to 170 to 100,000. Even in Israel with the latter ratio the complaint of doctor shortage persists. Many contend that the problem lies in the distribution of physicians and not in numbers.

†Since this was written I have learned of planning in the Department of Health, Education, and Welfare to explore the possibility of extending both education and health services by encouraging co-ordinated efforts between physicians, the public-school system and the university extension department in their local program.

prevention of disease and assistance in the many social problems that impinge on the fabric of health. We must also listen to the goals expressed by students and recent medical graduates who ask for a reasonable income, fringe benefits for their own families' health and education, shorter hours and leisure time that was the exception under entrepreneurial goals, the sharing of care in groups in a system that provides professional rewards attained with the provision of continuous education.

Conclusions

Changes in our social structure ordered by the body politic are fulfilled only by changes in attitudes of the public. Historically, these have been slow and related to the educational force deployed to change attitudes entrenched.

The maintenance of standards of all medical education and especially the provision of continuing education are the responsibility of the medical profession. New facets of the needs for proof of quality and better distribution of health services have risen as paramount in public policy since the health legislation of 1965-66 declared health a human right. Choices for implementation of these mandates now lie before the 92d Congress.

At issue in our time is whether the voluntary professional sector will strengthen its role or surrender to the government the regulation of standards of education and related care by methods such as accreditation, relicensure and recertification for proof of competence to receive reasonable payment. The cry of crisis indicates the time imperative that predicts changes within this decade. Has the profession the flexibility to mold its attitudes and yet maintain its central role in the delivery of patient care?

Alternatives proposed here are a deeper commitment by the Massachusetts Medical Society to evaluate the actual care rendered and thus to structure continuing education relevant to the needs identified. In addition the Society should provide educational programs that involve consumers, state administrators, newsmen and physicians, including foreign medical-school graduates, to promote the competence and the presence of physicians in delivering the medical care to which all persons are entitled.

To close, I quote the words of a dedicated modern educator, Jaime Benitez, who said, in his commencement address to the University of Miami, Florida, in June, 1970, "The pulse of life is not sheer personal tranquility . . . [but rather] we must search within ourselves and our society for our utmost loyalty and values and formulate once more our basic goals."

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