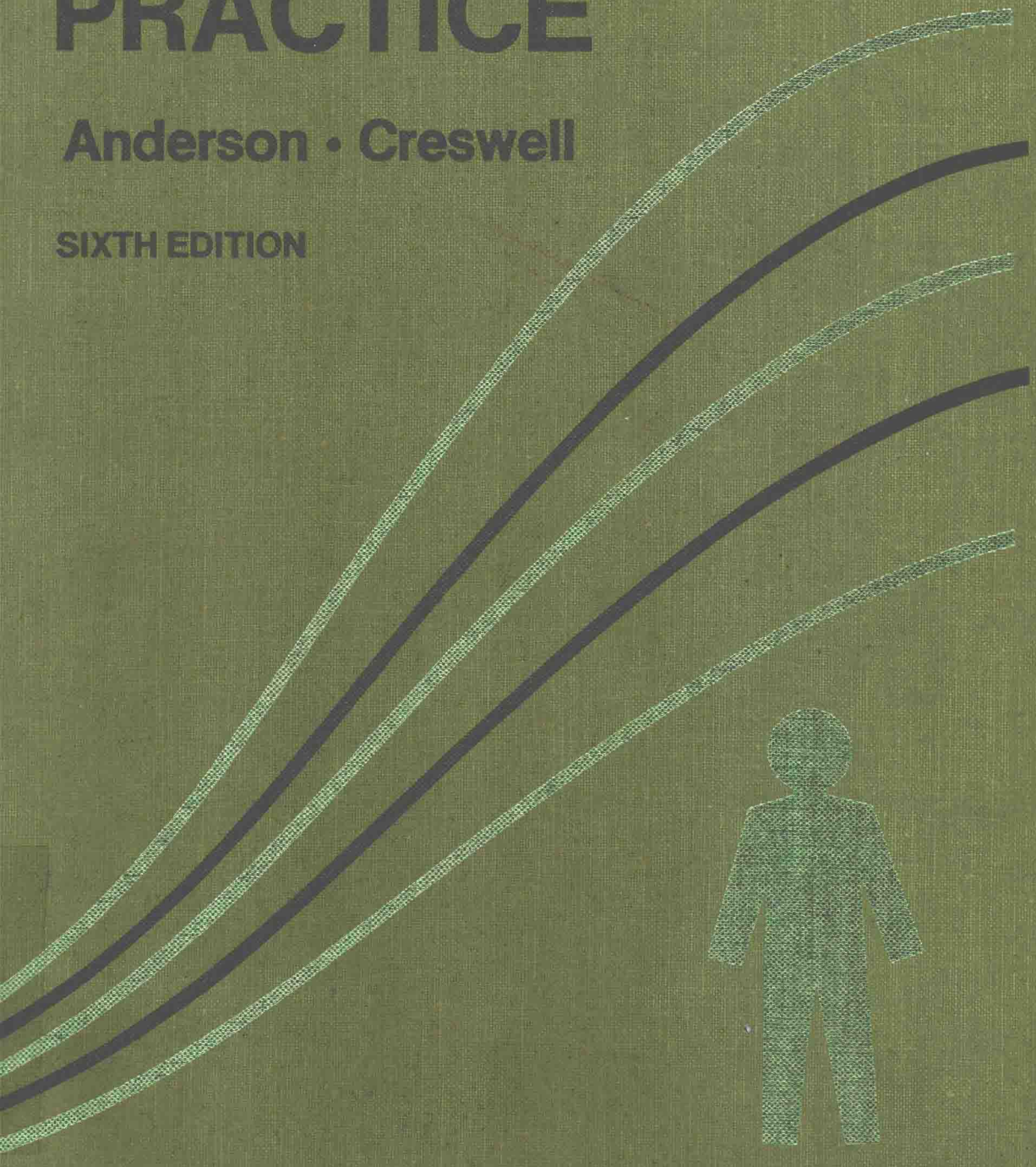
SCHOOL HEALTH PRACTICE

Anderson • Creswell

SIXTH EDITION



SCHOOL HEALTH PRACTICE

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SCHOOL HEALTH PRACTICE

PREFACE to sixth edition

We live in what may well be the most fantastic period in all of recorded history, and perhaps we are privileged to be a part of it. More events of historical significance have occurred in the past half-century than were recorded in any previous ten centuries, perhaps in the whole period of recorded history. Economic, political, industrial, social, cultural, educational, scientific, medical, and health advances have accelerated at an unprecedented rate. All of this has made life more and more complex and has created problems too sophisticated for a considerable number of our citizens to solve.

To help this nation deal with its health problems, the health education profession needs to expand its efforts to extend knowledge and emphasize the practice of health based upon advances in medical science. The urgent need is to have health knowledge put into practice, for one who has vast knowledge but does not apply it in everyday life is no better off than one who can read but never looks into a book. It is at the grass roots level that the greatest impact is made.

Health knowledge is expanding at a geometric rate. This imposes a special demand upon all health educators to keep abreast of advances in the field. Health education departments in colleges and universities are staffed with scholars who attempt to prepare their students as specialists in the science and application of health. At all levels dedicated teachers of health have a life-long impact upon their students. No one knows where and when this educational influence ends.

Physicians and educators have long maintained that the most important health examination of the school child is the one he or she receives at the time of entry into school. Such an examination should be available to all children and should be of such thoroughness that the probability of missing a disability or defect will be in the order of an irreducible minimum. This would elevate the teachers' level of confidence in the health examination and should lead to constructive health education.

The Multiphasic School Entrance Examination is a recent answer to this need. It attempts to enlist the best medical, dental, and other health personnel available and, in an organized procedure, to conduct a complete examination of a child with thoroughness and efficiency. This requires cooperation among the school, the health department, the medical profession, and other members of the community who have a service to contribute. An explanation of the operation of such a program is presented in this edition as a possible guide for others. This is not thought to be the only possible organized health examination program, but one which may be adapted and adjusted to fit the variations inherent in every school and community situation.

Sex education and drug abuse continue to be of immediate concern in the contemporary education community. To serve the teacher who is dealing with these challenges, special teaching units are presented,

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based upon education in human interrelationships—the great unsolved problem of mankind. Teaching units for the primary and intermediate grades do not deal with human sexuality as an isolated concept but as a part of the basic need for human adjustment. This material is presented at levels that the children can understand, in terms of the kinds of interrelationships and reactions that they have experienced. Such education lays the groundwork for an understanding of the more complexly emotional interrelationships experienced at the youth and adult levels.

Special units on drug abuse are presented for the junior high or middle school levels and the senior high school level. Experience indicates that these periods are times at which children can best benefit from the concepts of drug use and misuse. Treating drug education in the context of a total program of health education enables students to understand the relationship between drug use and health or illness. It also helps them to appreciate both the benefits of proper use and the dangers of misuse.

While many factors determine the level to which the school health program will rise, none is more important than the professional preparation of those who carry on the program. This includes the elementary teacher, the health educator in the junior and senior high schools, the school nurse, the administrator, and the other personnel who have some role in the school health program. The basic preparation of all school health personnel is grounded in the complete core subject matter relating to health services, health education, and healthful living. That which is sound and lasting is the purpose to which this edition is directed. Much supporting and supplementary material is presented, but the prime thrust is to the basic subject of school health practice.

Having an additional, highly qualified author in the preparation of the sixth edition of *School Health Practice* provides an extension of the material covered in the book and provides a new point of view. For students, this increases the value of the edition for their immediate needs and for references in their future professional requirements.

Many people have contributed to this edition, and to all of them we express our sincere thanks. This includes all the children in the various schoolrooms we visited. Also, many thanks to the teachers who cooperated so effectively in providing samples of health activities within their classrooms. Special thanks are extended to John H. Gilberts, M.D., Associate Professor and Assistant Director, Family Practice, University of Oregon Medical School, and to Dr. George J. Sirnio, Director of Health Education, Salem, Oregon Public Schools. These two opened up all of their facilities for examination and use.

C. L. Anderson
William H. Creswell, Jr.

Far best is he who is himself all-wise,
And he, too, good who listens to wise words;
And whoso is not wise nor lays to heart
Another's wisdom is a useless man.

HESIOD (800 B.C.)

PREFACE to first edition

Health promotion is a recognized component of present-day functional public school education, which is designed to prepare each youngster to deal with life's academic, cultural, and practical needs. No phase of the school's activities has more to contribute to the student than does the health program. Closely interwoven with all phases of school life, the health program aims to develop each student in terms of his present and future needs. As an achievement in living, health is integrated with all aspects of school life which contribute to the effectiveness and enjoyment of life for each youngster.

Primary responsibility for the health of the child rests with the parents, but the school is in a strategic position to contribute effectively to the health of every school-age child. The school does not assume the role of the parent nor substitute for the parent. Rather, the school health program is planned to fortify and supplement the efforts of the parents.

The *what*, the *how*, and the *why* of the functional school health program are the substance of this publication. Special attention is given to the practical considerations of everyday school life. The approach has been that of presenting a clear, unified, composite picture of school health as represented by the most valuable contributions of the many health educators who have devoted their talents to the school health movement. So far as possible, superfluous material has been discarded and the truly essential substance has been presented. Material of an older vintage has been refreshed to fit the modern school situation. Much of the material is new but nevertheless bears the label of having been tried and found to be effective.

A self-contained textbook designed to serve the optimum preprofessional and in-service health preparation needs of teachers must be based upon actual experienced needs and practices. Successful educators in the field represent a fertile source of information on the health preparation needs of teachers. An extensive survey of the experience and thinking of successful teachers served as one guide in determining the content of this manuscript. College faculties, preparing teachers in health, were further consulted for suggestions on the desirable content of a comprehensive school health textbook. With the recommendations of these various professional groups as a guide, the organization and content of the manuscript were developed.

Because the child is the concern of all school health work, attention is given to an understanding of normal child growth, development, and health. Common departures from health are introduced to enable teachers to understand their proper role in contributing to the needs of the child who falls outside of the normal range. The complete school health program is developed so the material can be applied to the model health program of the large school system or adapted to the needs of the system or school with a minimum health program. Teachers with a modicum of resourceful-

ness can adapt the instructional materials to their particular classroom needs.

The school health field has attained that level of maturity where it has its own terminology, expressions, picturesque passages, and even shibboleths. Anyone writing in the health field today will use expressions that are the creations of others and the accepted tools of the profession. Maeterlinck, in his essay on *Literary Manners*, commented, "I have at times been twigged for using sentences and phrases that had a familiar ring or were identical with what others had written before me. No writer who loves words, their flair, nuances and beauty can escape such impeachment. We are struck with some beautiful line or paragraph reread many times and lo! later we may find it has popped into our heads as something original. Our only excuse is our utter innocence."

Acknowledgments must begin with an expression of gratitude to that vast number of public school teachers who have expressed their health preparation needs and have thus contributed to the form and substance of the manuscript. These people represent a segment of that legion of unheralded and unsung classroom teachers who are the institution of education in America. An expression of appreciation must be addressed to several individuals: Dr. Rex Putnam, Oregon Superintendent of Public Instruction, for making all of his department's health resources available; Professor Lucille Hall Jones, Walla Walla College, for her work in developing the School Health Program Evaluation Scale; Dr. Helen G. Smith, State College of Washington, for her constructive review and appraisal of the entire manuscript; Dr. Bernice Moss, University of Utah; Dr. Charles J. Hart, Brigham Young University; Dr. Franklin B. Haar, University of Oregon; Professor L. J. Sparks, Willamette University; Professor I. E. Langstaff, Saskatchewan Teachers College; Professor Warren Smith, Lewis and Clark College; Professor Betty J. Owen, Pacific University; Professor Anna Pavlov and Professor L. J. Carmody, Central Washington College; and Dr. C. F. Shockey, Seattle Pacific College.

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CONTENTS

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In darkness dwells the people which
knows its annals not.

ULLRICH PHILLIPS

CHAPTER 1
Introduction

Paraphrasing Ralph Waldo Emerson, "We think the practice of school health is near its meridian but we are yet only at the cock-crowing, and the morning star." Although man's attempt to promote health is of ancient vintage, only in relatively recent times has the school been incorporated into the general program of health promotion. Only relatively recently has the school health program developed to a position in which it has had a positive, measurable effect upon the health of citizens. Yet the present-day school health program falls far short of realizing the opportunities afforded it, and many decades now in the future will have passed into history before the school health program will have attained the status in which one can truly say the school health program "has arrived."

Health in the school is an outgrowth of man's constant search for more effective and more enjoyable living. To live an effective and enjoyable life has been the central, dominant purpose of mankind from the beginning of recorded history. To attain this goal, mankind has studied the phenomena of the universe, controlled the forces of nature, developed languages, invented various devices, instituted new practices, written laws and regulations, established institutions, and even sought to improve man's basic endowment.

Periods in history during which man has advanced most are those during which man has made most progress in the promotion of health. Progress in health has always been associated with advancement in the various pursuits of learning and with progress in providing for man's material needs. When health has been neglected, civilization has declined and mankind has retrogressed.

MANKIND'S QUEST FOR HEALTH

Certain periods in the history of the health movement serve as landmarks of man's progress in health promotion. Increased understanding of health and changing concepts of health promotion are reflected in the pertinent contributions of the various periods. The school became one of the principal agencies for health promotion and developed a health history of its own. To understand the true role and position of the school in the health field, it is necessary to understand the background from which school health emerged.

Egyptian health practice. Before the year 1000 B.C. the Egyptians stressed personal cleanliness, compounded pharmaceutical preparations, built earth closets, and laid public drainage pipes—all in the interest of better health. In the light of today's knowledge these elementary practices appear to have been of negligible health value, but they did express the early efforts of man to live effectively and enjoyably.

Hebrew health code. The Hebrews extended the Egyptian health ideas when they formulated the first formal health code in the Mosaic law. Of interest to the health student of today are nine of the basic areas covered by the law:

1. Personal and community responsibility for health
2. Maternity health
3. Control of communicable diseases
4. Isolation of lepers (*Leviticus,* Chap-

ter XIII, gives an interesting account of procedures for control of leprosy)
5. Sanitation of camp sites
6. Fumigation
7. Disposal of wastes
8. Protection of water supplies
9. Protection of food

The Jewish practice of considering pork unclean grew out of the observation that people became ill from eating pork. Trichinosis doubtless existed then as it does today.

Greek approach to health. At the height of Corinthian prosperity and achievement, primary emphasis was placed upon the individual, and secondary emphasis was placed upon the state. In this philosophy the state existed to serve the individual. Consequently, stress was placed upon individual grace, beauty, dexterity, skill, and ability. It was believed that the development of the individual depended on good health and a sound body, which were attained through exercise. Using but the one factor of exercise for the promotion of health, the Greeks attained but a limited level of health. Control of disease, proper nutrition, protection of water supplies, proper waste disposal, and other community health measures were of no concern to them. Each family, or group of families, had its own supply of well water. Because of the lack of a community responsibility or concept, none of the cities of illustrious Greece was large. Corinth had a population of only 35,000. This civilization produced the renowned Hippocrates (460-377 B.C.), whose observations on health and whose teaching and practice of medicine were far in advance of his time. His teachings have influenced men for more than 2,000 years, and he is still considered to be the father of medicine (Fig. 1-1).

Roman health promotion. During the

Fig. 1-1. Hippocrates. His aphorism "Where there is love for mankind, there is love for the art of healing" is reflected in the face of this revered physician, scientist, and teacher. (Copyright, Parke, Davis & Company and reproduced by special permission of Parke, Davis & Company, who commissioned the original oil paintings for the series "A History of Medicine," a project written and directed by George A. Bender and painted by Robert A. Thom.)

time of Julius Caesar the state was first and the individual was subservient to the state. The Romans provided public water supplies by constructing aqueducts that carried water from distant points to the cities. Sewerage systems provided for disposal of community waste. Street pavement and street cleaning were regarded as health measures. Their emphasis on the community approach to problems enabled the Romans to build large cities. At the time of Julius Caesar, Rome had a population of about 800,000. Yet, because of their restricted approach to health matters, the Romans did not enjoy a high level of health.

Asceticism. During the Dark Ages, from about A.D. 400 to 1000, the influence of the church caused all emphasis to be placed on the spiritual aspects of life. The physical was neglected. The more a person neglected or abused his physical being, the more holy he was thought to be. In such an atmosphere the level of health was indescribably low.

Revival of concept of a sound body. Between the years A.D. 1096 and 1248, during the time of the six great Crusades, the soldiers and followers of the Crusades had to be physically strong to withstand the rigors of the expeditions. For military purposes the sound body again became the core of health promotion. Disease and malnutrition took their toll, and the period when knighthood was in flower wilts in terms of today's standards of health.

Health from 1500 to 1800. Even with the revival of learning, health progress was slow. The mysticism that previously had surrounded health still survived, and sickness was believed to be of demoniacal origin. Even in the middle of the seventeenth century, in western Europe 75% of the infants born failed to reach the age of 10 years. Pandemics wiped out large segments of the population. In George Washington's time 90% of the colonists who reached adulthood had been afflicted with smallpox, and the average length of life in colonial America was about 29 years.

Some health progress was made during this era, though no concerted, unified program that distinguished this period developed. William Harvey traced the circulation of blood, and Edward Jenner introduced scientific vaccination. The invention of the microscope was to play an important role in the development of the scientific approach to health in a later period.

Modern era of health (1850 to present). The modern era of health had its beginning in the middle of the nineteenth century. It was ushered in by an awakening of interest in sanitation of the general environment. Although launched on a misconception, it expanded into a program that progressively has reduced the incidence of disease, increased the expectation of life, and extended the general well-being.

The *miasma phase* (1850 to 1880), the first of four phases of the modern era, was based on the erroneous theory that disease was caused by noxious odors. Emphasis was placed on the cleanliness of the general environment. General clean-up campaigns had their beginning in these early attempts of the public to eliminate all noxious odors. Garbage and refuse disposal, street cleaning, fumigation, and cleanliness of home surroundings were considered important to an odor-free atmosphere. The term *malaria* (ill air) is but descriptive of the original belief that this disease was caused by the damp evening air. Interpreting mere coincidence as a cause-and-effect relationship is a frequent mistake of the public's attempt to explain health problems. In the thinking of the period, the fact that the *Anopheles* mosquito preferred dusk for its flight activities was not associated with the disease.

It is significant that Havana, Cuba, probably was the cleanest city in the world; yet yellow fever was rampant. Though ineffective in terms of disease control, measures for general cleanliness of this health phase were not without merit. They laid the groundwork for the more specific measures that were to follow.

The *bacteriological phase* (1880 to 1920) of this era was ushered in by the research work of Louis Pasteur and Robert Koch. The discovery that a specific organism causes a specific disease transferred attention from the general environment to specific things in the environment. It quickly was recognized that spread of disease could be prevented by blocking the routes over which the disease traveled. Emphasis was placed on the sanitation of water and milk and other foods, the elimination of insects, and the disposal of sewage. Sanitary engineers, sanitary inspectors, bacteriologists, and laboratory technicians became essential to the health program.

Control of the ill person, who was the source of the disease, became an established practice. Isolation and quarantine measures were enforced by quarantine officers who dutifully went about putting up nonartistic placards on homes with reported cases of the common communicable diseases. This phase appropriately might be referred to as the tack-hammer stage of public health.

Immunization, as a measure for preventing the spread of disease, was a natural outcome of the interest in bacteriology. In 1883 Pasteur developed the inoculation against rabies. Von Behring's development of diphtheria antitoxin was first put to use in 1894. Wright developed the typhoid inoculations in 1904. Lord Lister's development of the use of carbolic acid (phenol) and Ehrlich's discovery of the value of arsenic compounds in the treatment of syphilis further indicate the progress made during this health phase in the prevention and treatment of infectious diseases. The death rate from communicable diseases declined steadily during these forty years.

The *positive health phase* (1920 to 1960) was ushered in largely as a result of what the physical examination of men for military services of the United States during World War I revealed. More than 34% of the men were rejected for military service because of health disabilities, most of which were correctable. It was apparent that, although America had been successful in preventing deaths from infectious disease, the individual quality of health of its citizens had been neglected. To survive is not enough. To build up and to maintain a high level of health in each person also is important. This became the rallying point of the nation's health program. While sanitation measures and control measures, including immunization, were still important, the center of interest shifted to the individual—to human beings. This required new services and new types of trained personnel.

During this period, in addition to sanitarians, sanitary engineers, and laboratory technologists, a vast number of skilled health specialists were employed, primarily for the purpose of promoting the health of the individual citizen. Among these were health educators, nutritionists, industrial hygienists, nurses, pediatricians, vision conservationists, audiometrists, epidemiologists, statisticians, and administrators.

The *social engineering phase* (1960 to present) describes today's public health approach. With the vast array of health discoveries and developments emerging in the past two decades, it became increasingly clear that, if these advances in the health field were to be of use to the public, measures must be taken to bring these health discoveries into the lives of the populace. Analysis of the situation in the attempt to bring discoveries and citizens together uncovered a number of significant factors.

As society becomes more and more complex, a greater and greater portion of the public appears to be incapable of adjusting to that increasing complexity. Consequently the public must be prepared if it is to utilize health developments. This means dealing with groups, neighborhoods, and even the entire population of a community. Public health education has become of special importance in preparing the public for the broad programs of sanitation, health promotion, disease prevention, and all other public health services available today. An understanding of human beings is basic to

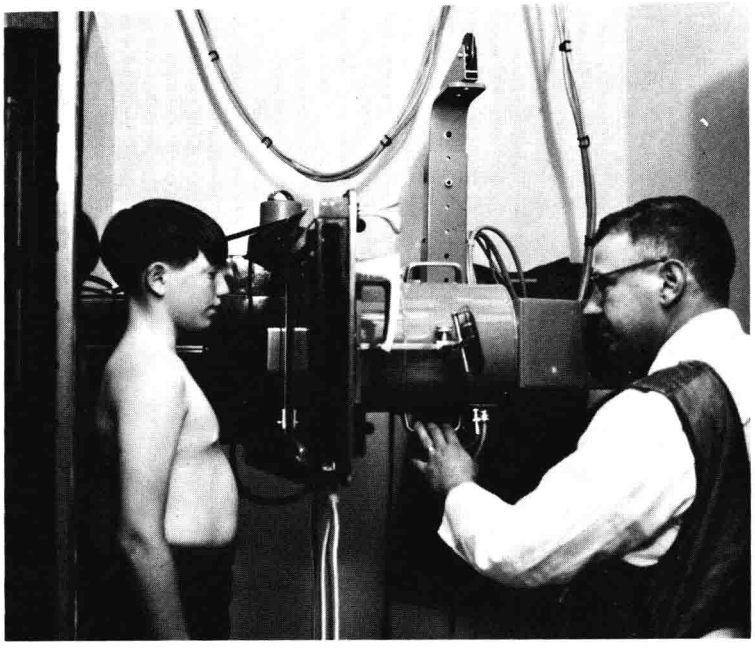

Fig. 1-2. Modern physician. Thoroughly prepared in the science and practice of medicine, physicians of today have available intricate equipment and ingenious methods and techniques that enable them to make diagnoses not possible even a quarter of a century ago. Today's physicians have as great a personal concern for their patients as did the physicians of ancient days.

today's public health service. Ethnic backgrounds; neighborhood forces; personal, family, and group purposes and values; and economic, educational, and religious factors must all be considered if services are to be adjusted to people and if the public in turn is to adjust to the growing health complex.

Modern public health does not seek to control the populace. It seeks to bring together available health services and the people who need these services by making these people receptive to, and able to utilize, the services in a way that would be most beneficial to them. This requires a form of social engineering not previously demanded of the public health profession. It has become the essential ingredient of modern public health promotion.

In man's quest for health the school has been in a strategic position. The school's role has become increasingly important as man has understood the nature of health and the measures that must be taken to achieve it. Recognition of the school as an important agency for the promotion of health has increased as emphasis on health promotion for the individual human being has increased. The extent to which the school health movement has grown out of advances in health science, health application, and health advancement is as interesting as it is important.

THE SCHOOL HEALTH MOVEMENT

Health of children has long been a concern of the public, and history is replete with individual and group efforts to improve the lot of children. A century or more ago a lack of organization and a lack of understanding of the fundamentals of health prevented any semblance of an organized, continuous program directed primarily to the health needs of the child. Yet some of these early sporadic efforts were forerunners of child health programs

that eventually developed into a school health program.

It is logical that the early contributions to the school health movement should come from Europe. Many of the contributors were nonprofessional people who sought to improve the lot of the growing child. In their efforts to find a way to promote child health, several of these pioneers recognized the possible role of the school in the promotion of the well-being of the child.

European heritage of school health. As early as 1790 Bavaria provided free school lunches for the underprivileged. This program was fostered by Benjamin Thompson, a transplanted New Englander. The eminent European scientist Johann Peter Frank (1745-1821) published a series of papers dealing with the general subject of school health. In 1832 Edwin Chadwick was an assistant commissioner to study the operation of the poor laws of England. A year later he became Secretary of the Factory Commission. From his studies of the conditions of child employment came reforms that recognized the health needs of children.

In 1833 France passed a law that held public school authorities responsible for the health of school children and the sanitation of school buildings. This law was extended nine years later to require that physicians inspect all schools at regular intervals.

Physicians were placed on public school staffs in Sweden in 1868, Germany in 1869, Russia in 1871, and Austria in 1873. In Brussels, Belgium, the first organized, regular medical inspection system was instituted in 1874. Every three months all schools were inspected by a physician. Later dentists and vision specialists were added to the inspection staff.

It is significant that all these early school health activities in Europe were directed toward doing something *for* the child. The concept of preparing the child to do for himself had not yet evolved because the essentials for health education were not in existence. An extensive knowledge of health, plus universal education, is the essential for health education.

MODERN SCHOOL HEALTH ERA

The modern era of school health was launched on the fundamental concept that the school can prepare a person to do what is necessary for the protection, preservation, and promotion of his or her own health. Not only has this era retained the school's responsibility for supervising the child's health and for promoting school sanitation, which it inherited from Europe, but it also has added the all-important objective of preparing each child to make the decisions necessary for his or her health.

Period of recognition (1850 to 1880). It was no accident that the modern era of public health and the modern era of school health should date from the same year. A consciousness of the need for doing something about the health of human beings brought the natural question, "What can the school do?" A combination of fortuitous developments and certain cause-and-effect relationships accounts for the twin birth.

Previous to 1850, the schools in the United States were dominated by the church. This type of imposed pedagogy, which prevailed before 1850, did not lend itself to health education. However, in 1850 tax-supported public schools became a living reality in most of the United States, particularly in the northern section.

A second fortunate development of 1850 was the publication of the *Report of the Sanitary Commission of Massachusetts.* The awakening interest in health promotion had led to the appointment of this commission to study and make recommendations on matters affecting the public health. The Report dealt with several health topics, but significantly included a plan for school health instruction. A layman, Lemuel Shattuck, wrote the Report and penned one of the classic concepts of education when he wrote the following:

> Every child should be taught, early in life, that to preserve his own life and his own health and the lives and health of others, is one of his most important and constantly abiding duties. Some measure is needed which shall compel children to

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