

THE PHARMACIST IN RELATION TO THE PUBLIC HEALTH.*

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Mr. President and Gentlemen of the American Pharmaceutical Association: First, I desire to express to the ASSOCIATION my deep pleasure in having this opportunity to address the representatives of the profession of pharmacy in the United States. The fifty-three thousand drug stores in the United States and the thousands of pharmacists employed therein can, if properly interested, be utilized as an active factor in the promotion of the public health.

The AMERICAN PHARMACEUTICAL ASSOCIATION is to be congratulated upon the important work it has recently accomplished in connection with the raising of the standards of education of the various accredited schools of pharmacy throughout the United States. It was a pleasure for the United States Public Health Service to coöperate with the Committee which studied the formulation of the standard curriculum. It is gratifying to note that the course in public health outlined by the Public Health Service has been incorporated in the approved curriculum. It is believed that this will be of great advantage in giving to the pharmacists of the country the information needed by them relating to public health work. In the great warfare against disease, there are a large number of fighters engaged—health officers, physicians, chemists, physicists, bacteriologists, pharmacists, pharmacologists and pathologists. All are lending their best efforts toward the eradication of disease and the protection of health.

Preventive medicine has made such great progress within the past half century that many persons regard it as of entirely modern origin. Such, however, is not the case; for in the study of early peoples, we almost invariably find that the health of the population was a subject of serious consideration and legislation. Hygiene was practiced by the old Egyptians, who gave special attention to their food and child welfare. They recognized the danger of floods to health and resorted to preventive methods. Efforts were also directed toward protection against the introduction of plagues. The inhabitants of old India also gave attention to their food, habitations, games, exercises and the isolation of children in the case of infectious diseases. The Mosaic code of laws contains minute directions for personal cleanliness, the purification of dwellings and camps, the selection of healthful and the avoidance of unhealthful foods, the isolation of persons with contagious diseases and various other points bearing on the welfare of the race. The sanitary code of the Hebrews, especially that part which relates to the slaughter of animals,



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* Portland meeting of AMERICAN PHARMACEUTICAL ASSOCIATION, August 24, 1928.

the food supply and its preparation, the care of cooking and drinking utensils, and the ablution of the hands after every unclean act, appears particularly appropriate in the light of our knowledge of infectious germs and germ carriers gained since the advent of modern bacteriology.

The new hygiene developed within the past fifty years has given us an entirely different conception of many of the factors that enter into the conservation of health and protection against disease. Many an old fallacy has been exploded. The old theory of the spread of disease through fomites, the inanimate things, has been shown to be of far less importance than was at one time supposed. We know that, in fact, this occasionally happens with diseases spread through discharges from the mouth and nose, but instead of accusing letters, books and materials, as well as furniture and other unlikely things which we formerly disinfected or destroyed, we now think of objects recently moistened with saliva, such as drinking utensils, towels, toys, food and fingers. Many of the sanitary practices of fifty years ago have required considerable modification in the light of our present-day knowledge.

Substantial progress has been made by public health authorities in the control and eradication of many of the diseases having an important bearing on the public health. Typhoid fever which, twenty years ago, caused more than 50,000 deaths annually in the United States, now causes less than 10,000 deaths per annum. This splendid showing has been due largely to the application of modern scientific methods in the prevention of this disease. To-day, typhoid fever is a vanishing disease except in the communities that are negligent in applying the well-known principles of modern sanitary science. From the standpoint of preventive medicine an outbreak of typhoid fever is a reproach to the sanitation and civilization of the community. In 1877 the death rate from typhoid fever in the United States was about forty-five per hundred thousand. In 1910 it was 25.5 and in 1925, it was 8.0 per hundred thousand.

Diphtheria is one of the diseases which has responded quickly to the medical discoveries of the past few years. The first aid to the control of this disease was von Behring's discovery of diphtheria antitoxin. In the period immediately following the general introduction of this antitoxin in the treatment of diphtheria (1894-1905) the death rate in twenty-three American cities declined at the rate of 10.2 per cent per year. In twenty-eight American cities for which the rates have been computed, the decline has been from about 116 per hundred thousand in 1890 to 8 per hundred thousand in 1925. This extraordinary achievement in public health work will probably stimulate campaigns for the better control of other communicable diseases.

Tuberculosis at the present time causes less than one-third of the number of deaths attributed to that disease a generation or more ago. While the reduction of the death rate from tuberculosis has undoubtedly been due in part to natural causes, it is probable that very much more of it has been the result of public health activities. Among the specific measures that have contributed to this result are improved and more correct methods of diagnosis, the pasteurization of milk, the abolition of the common drinking cup and other utensils used in common, the inspection of meat products and improved housing.

The first whole-time county health department was established in the United

States in Yakima County, Washington, in 1911. At the beginning of 1928 there were 414 counties in the United States provided with local health service under whole-time health officers. During the past twelve years the Public Health Service has undertaken a program of coöperative administration in rural health work from which have come many sanitary and economic benefits to the Communities and stimulation for the development of whole-time county health service.

It has been shown that money invested in well-directed whole-time health service yields to the average local tax-paying citizen an annual dividend in dollars and cents ranging under different local conditions from 100 to 3000 per cent. A claim made several years ago and not yet successfully challenged is that a dollar invested for well-directed, competent whole-time health service yields to the public welfare more than any other dollar obtainable by taxation of the people can be made to yield in normal times. In the support and encouragement of the development of efficient whole-time local health departments the pharmacists of this country can lend most helpful assistance.

It has been the experience of those engaged in public health work that there must be coördination of efforts in the community. It has been found desirable not to have one agency conduct a campaign directed especially against communicable diseases, another agency attempt to improve the sanitary condition of milk, and still another engaged in maternal and child hygiene. The most effective plan is for all activities having to do with public health to be coördinated and correlated under the direction of a whole-time staff of a well-organized and adequately supported official health department.

With a properly organized whole-time health department the local requirements may be carefully studied and attention given to such particular conditions as seem to require special emphasis. For example, in one community it may be necessary to direct special efforts toward the eradication of malaria; in another community the most pressing problem may be the improvement of the sanitary quality of the milk supply; still another may require special attention to the control of communicable diseases, such as diphtheria, scarlet fever and others.

In attempting to measure the efficiency of health service, consideration must be given to local conditions—climate, topographical, geographic, social, economic and others—under which the work is done, and to the duration, nature and scope of the activities, the cost of the service and the results obtained.

The pharmacist, as a professional and business man, is concerned not only with public health measures, but with personal health measures. The benefits and hazards of the community are common to all, and to advance the public health is a personal obligation. Largely through organized community efforts, the expectation of life at birth (in ancient Rome and present India, less than 25 years, and in George Washington's time about 40 years) has been increased in the United States to 56.74 years for males and 59.59 for females. By means of every public measure designed to prevent sickness and reduce mortality, the pharmacist as well as every other professional and business man, takes care of himself and the community. He has an interest in pure water and milk, proper sewage and garbage disposal, vaccination and immunization, research and the anti-tuberculosis campaign. He knows the value of competent health officers for city, county and

state, and of health funds sufficient in amount and properly expended. He is aware that parks, beaches and other public recreational facilities are related to preventive medicine and to his own well-being directly and indirectly. He sees the benefit of public and private hospitals having ample facilities for the needs of his community with moderate charges for those able to pay and free to the very poor.

The business and economic aspects of public health have long been recognized as being of great importance in any community. The presence of epidemics or pestilential diseases in a locality may adversely affect that community in a number of ways. Quarantines imposed to control the spread of epidemic diseases are always accompanied by great financial loss to the commercial and business interests of a community.

The endemic presence of a given disease in a community is frequently a factor in preventing the business development of that area. For example, persons having control of capital are hesitant about locating important manufacturing establishments or other industries in localities where disabling diseases are known to exist, or epidemics occur frequently. It is only after a community has rid itself of these conditions that commercial development and progress are achieved.

Everyone should have some idea as to what protection of the public health means, what the public should do and what are the responsibilities of individuals or organizations toward this subject. The pharmacist, as a citizen, owes it both to the community and to himself to keep himself and his family in a continuous condition of good health and to so order his acts that he shall not willingly endanger the lives or health of others through spreading disease.

This sense of personal responsibility toward the public health is one of the qualities of individual citizenship which should be fostered by every means at our command. It is this sense of personal initiative and responsibility and the ability of the individual to think and act for himself which is one of the basic elements of greatness of the American Nation, and which will make possible the development in this country of the most effective system of public health protection.

An important means by which the profession of pharmacy may aid in the promotion of public health is in relation to the promotion of health education. The problem at hand is to have each individual in each community know what he should about diet, exercise, health habits and the importance of physical fitness, and how to avoid transmissible disease.

The teaching force for public health education includes physicians, dentists, pharmacists and nurses, who are in personal contact with people, and all health officers and sanitarians, who are familiar with environmental conditions.

As a first step in the process of health education, each individual must be made to realize the fundamental importance of national health to national happiness and prosperity. He must not only feel that keeping himself in a healthy condition enables him more than anything else to live a successful, useful and happy life, but that in doing so he is fulfilling one of the essentials of good citizenship.

One of the great public health problems which confronts all the health authorities of the country is the prevention and control of the venereal diseases. The pharmacists of the country are in a particularly strategic position to coöperate with and assist public health authorities in connection with this matter.

The retail pharmacist has a particularly important relation to the prevention of the spread of venereal diseases because so many patients, particularly with gonorrhoea, consult the druggist for advice or medicine for the self-treatment of their condition. In every such instance the druggist should refer the patient to a competent physician or venereal disease clinic.

In 1918-1919 as a part of the venereal disease control program of the Public Health Service, an appeal was sent to 48,500 retail druggists in the United States asking them: (1) Not to prescribe or recommend any remedy for a venereal disease; (2) not to purchase any proprietary remedy to be sold to the public for self-treatment of a venereal disease and not to sell any such remedy after January 15, 1919; (3) to refill only such prescriptions for the treatment of venereal diseases as were given originally to the customer by a reputable physician who is still in charge of the case; (4) to distribute literature furnished by the Public Health Service to persons asking, without a physician's prescription, for remedies customarily confined to the treatment of a venereal disease, and to direct such persons to a reputable physician, to an approved clinic or to the state board of health.

As a result, 28,226, or nearly 60 per cent, of the druggists agreed voluntarily to cooperate with the Public Health Service in the manner requested. This campaign was followed up by similar efforts on the part of many state health authorities with gratifying results. In many states there are laws or board of health regulations which prohibit the dispensing of remedies for treatment of the venereal diseases except on the prescription of a physician.

Prompt and adequate medical treatment of the venereal diseases is the most important single weapon available for their control. Self-treatment frequently produces irreparable damage and should be discouraged by all means possible. No reputable pharmacist will knowingly aid in providing a patient with materials for such self-treatment.

Recognizing the importance of adequate treatment facilities, state health authorities with the cooperation of the Public Health Service, established free clinics for the treatment of indigent patients suffering from venereal diseases. There are in operation now about 460 such clinics. In addition there are about 300 dispensaries operated as part of out-patient departments of hospitals, or otherwise, which are not under the direct supervision of health authorities.

Druggists, physicians and health officers, all must educate venereal patients relative to the necessity for prompt and thorough treatment of the venereal infection. To delay treatment for the venereal diseases only fastens the hold of the infection on the system and allows it to spread and become firmly established. To start off with a temporary or make-shift self-treatment has the same effect. Either may be done in an effort to conceal the trouble or to save money, but the means defeat the end. Venereal disease improperly treated will persist and eventually a much worse condition develops requiring greater care and the larger expenditure of money in the long run than otherwise would have been the case.

In directing persons suffering from venereal diseases in the manner just suggested, the pharmacists of the country will build for themselves a public confidence of great value, and at the same time they will have the personal satisfaction of knowing that their best efforts are being given toward the elimination of the venereal scourge in their respective communities.

The pharmacist also has a definite responsibility as relates to the public health in the keeping and dispensing of biological products that are used in the treatment of the diseases of man. Through a wise provision of Congress, which became effective in 1902, the supervision of the sale of all biological products for use in the treatment of human beings was placed under the direction of the Public Health Service. The proper preservation and dispensing of such biological products is a responsibility of the individual retail pharmacist. Diphtheria antitoxin, tetanus antitoxin, the toxin-antitoxin mixture, smallpox vaccine and numerous other related products must be carefully protected and preserved while stored in the retail drug store. The pharmacist should observe great care in maintaining such products at the prescribed and proper temperature, and in returning to the manufacturer such products that have been held past the date fixed for their sale.

With the development of more recent public health methods, the use of disinfectants and fumigation, following various diseases, has been, to a large measure, discontinued. It is now recognized that mechanical cleansing, by means of soap and water, followed by airing and exposure to sunlight, are the measures most efficacious and best suited to the treatment of rooms formerly occupied by persons ill from communicable diseases. It is a matter, therefore, of some importance that pharmacists should exercise care in the dispensing of fumigants and disinfectants to the public. An effort should be made to sell these articles only where they will be used under proper conditions and where they will be most effective.

The accepted business principle of periodical inspection and timely repair of machinery is particularly applicable to the human machine. The annual physical examination offers a most valuable method of prolonging life, increasing efficiency and reducing to a minimum the amount of time lost on account of sickness. This examination should constitute an annual stock-taking of that very essential commodity, the health of the individual. These physical examinations offer the means whereby diseases and abnormal conditions may be recognized early, thereby affording an opportunity to institute proper measures to alleviate, wherever possible, any disease or abnormality which may be detected. No machine is more amenable to the correction of certain defects than the human body, which, while not altogether fool-proof, is more nearly so than any contraption of steel and wood. Chagrin and alarm at finding a disease requiring treatment or a defect needing correction are not good reasons for avoiding the facts. It would be a serious reflection upon good business sense to neglect to apply such a reasonable and well-recognized business requirement. Life insurance companies have found that policy holders examined each year show a death rate 25 per cent less than do others from the same group at large not so examined. The pharmacists of the country can aid materially in health work by encouraging and advocating periodic health examinations for the general public.

In the field of public health, especially in public health education and the support of and coöperation with the official health agencies, the pharmacists of this country have their opportunity and responsibility in contributing toward the efficacy of applied public health science.

Prepare for Pharmacy Week Beginning October 14th. Let It Be Representative of the Activities of Pharmacy.