

# PUBLIC HEALTH ASPECTS OF CANCER CONTROL

SAVEL ZIMAND<sup>1</sup>

IT is over thirty-five years since the cancer control movement was launched in this country. But though a number of health departments have for years conducted cancer programs, and in 1937 the Federal Government established the National Cancer Institute, it is only since the close of World War II that public health agencies have begun to regard work in this field as a major responsibility. Under the steady influence of the American Cancer Society and its affiliated branches, it has become increasingly clear to the great body of public health workers that even with our present limited knowledge a great deal can be done to decrease mortality from this disease. The methods to be employed towards this aim are discussed below. But first a few facts on the extent of the problem may be considered.

## MORBIDITY AND MORTALITY DATA

No accurate cancer morbidity data are available, for in most states cancer is not a reportable disease. There are, however, informed estimates on the number of cases of cancer in the United States. These are based on a survey made in the years 1937-1939 by Harold F. Dorn, Senior Economist of the United States Public Health Service. Dorn estimated that at any given time during these years there were about 475,000 to 500,000 persons under treatment for cancer. Of this total, about 300,000 new cases were diagnosed for the first time during each year. In addition there are those who have been treated and cured as well as those with undiagnosed malignant tumors. The number in the latter two categories is unknown.

Now as to cancer mortality. In 1900, cancer ranked eighth among the leading causes of death. Its death rate has been steadily increasing, since 1929 cancer has been the second cause of death. In 1900, cancer claimed 40,700 deaths as against about 189,000 in 1947.

There are several important factors that account in part for

<sup>1</sup> Director of Health Education, New York City Cancer Committee.

the increases in the recorded cancer deaths. These include: (1) more cancer cases than formerly are now recognized due to greater accuracy in diagnosis; (2) all states are now in the registration area and the cancer mortality statistics are also more accurate due to more faithful reporting of cause; (3) overall increase of the population (from 76,000,000 in 1900 to about 142,000,000 in 1947); and (4) the average length of life of the individual has increased, so more people reach the age at which cancer is most apt to develop. And as has been said, while young men may die, old men must die.

Our population is steadily aging. In 1900, only 18 per cent of the total population was 45 years and older. By 1944 this had risen to 27 per cent. Since 90 per cent of all cancer deaths occur in this age group, this aging of our population has contributed greatly to the rise in the cancer mortality.

While in 1900 the cancer mortality rate was 64 per 100,000, in 1940 it was 120. However, in 1940, the cancer death rate adjusted to age distribution of the year 1900 was only 80.3. The Statistical Service of the Metropolitan Life Insurance Company estimates that about 70 per cent of the increase in the crude cancer death rate observed since 1900 can be attributed to the changes in age characteristics of the population.

This raises the all-important question whether, once correction has been made for our aging population, an individual of a certain sex and age is more likely to die of cancer now than such an individual used to be. Figures compiled recently by the American Cancer Society indicate that during the period 1936-1945, the cancer death rate did not increase among women, if corrections were made for the aging population. In fact, there appears to be a very slight decrease, the reductions occurring in the age group 45-74. Among men, not only does cancer cause more deaths in the older age group, but it is responsible for an ever increasing proportion of all deaths. (One in 80 for men under 20 and one in 8 for men over 40.) Among women, however, cancer deaths reach a peak in the ages 40 to 60, when over one death in four is due to cancer.

It is well to point out that, according to estimates made by Harold F. Dorn, about 34 per cent of all patients in whom a diagnosis of cancer is made die within one year. Add to this however, that while a large percentage of persons with cancer of the digestive and respiratory systems die within one year of diagnosis (not onset of the disease), five-year survival rates among patients treated for early accessible cancers, such as the breast, lip, skin, are much more favorable—about 75 per cent for cancer of the breast and 95 per cent for cancer of the skin. This reflects not only the results achieved by early diagnosis and competent treatment, but indicates their importance as the most promising method in the anti-cancer campaign at this time.

#### OBJECTIVES OF CANCER CONTROL PROGRAM

1. One of the most obvious objectives in cancer control programs is *popular instruction*. Its aim is to familiarize the public with a few essential facts in order to secure rational action and to allay unfounded fears. Catchy slogans, which cannot be substantiated, should be avoided. This does not eliminate the necessity of presenting the facts with the most effective technique, as to selection of content and form.

A discerning educational approach is necessary if we are to reach the state of motivation where knowledge means action and results in a greater reduction of cancer mortality. Neither can cancer instruction of the laity be limited to a week or a month a year. Education demands continuous year-around activity by specific media and personal contacts which carry a specific message for a specific group and is designed to make them act. The methods to be employed have to be worked out by personal contact and the type of materials to be used have to be chosen in the light of personal needs.

Much cancer education is now being carried on. To give one example, during 1947 the New York City Cancer Committee provided educational programs for twenty meetings a week, and had more than twenty-six film showings a week. But more

intensive activities are necessary even in places where a great deal of educational work is already being conducted. And the educational program must have the active interest and participation of the community.

2. *Education for Medical Students.* No public health program has ever been successful without a well-planned program of professional education. Teachers at medical schools and others have repeatedly pointed out the need for adequate integrated teaching of medical students in diagnosis, prevention and treatment of cancer. Physicians and surgeons active in the cancer control movement also are emphasizing constantly the necessity of periodic refresher courses, and programs to bring newer cancer knowledge to physicians as it is acquired. The United States Public Health Service and the American Cancer Society and its branches are supporting, with special grants, programs for better medical training in the field of cancer.

3. *Adequate Diagnostic and Treatment Facilities.* There are now in the United States over 400 cancer diagnostic and treatment clinics approved by the American College of Surgeons. In addition, many hospitals throughout the country, while not conducting tumor clinics, take care of cancer patients in other appropriate departments. There should be a nation-wide survey of available facilities to determine the needs for increased and improved facilities. But even present data indicate a lack of adequate facilities in some parts of the country, and communities should act promptly to meet this need.

4. *The Cancer Detection Center.* These centers, of which there are now about 250 in the United States, represent a newer development in the cancer control field and are still in the experimental stages. They furnish physical examinations for apparently well individuals and are public-health tools for the discovery of cases in the earliest stages.

It has been found that, in general, such preventive and detection services in other public health fields serve to decrease morbidity and improve the health of the population. But in the case of a disease such as cancer, where there is no definite

knowledge of the cause of the disease and no specific approved test to determine its presence, the effectiveness of detection centers must be based on the number of cancer cases in early curable stages brought to light which otherwise would remain undiscovered and upon the discovery of conditions which are recognized as predisposing to cancer.

Only a thorough evaluation, with the help of accurate data on cure rates of different types of cancer in different age groups, can determine to what extent they accomplish this aim and whether they need modification. But even now one point is obvious. We shall never have enough such centers to take care of the entire adult population. It is therefore important to encourage practicing physicians to conduct cancer detection examinations similar to those given at the centers. This may require a carefully planned educational program for physicians (symposia, institutes, post-graduate courses, etc.), and education by physicians of their patients.

5. *Hospital Facilities.* It is unnecessary to add that no cancer control program can function effectively without adequate hospital facilities, and that the availability of sufficient hospital beds for cancer cases depends to a large extent on the adequacy of the number of beds available for all sick requiring hospitalization. From the data on hand it is difficult to state to what extent the need for hospitalization of cancer cases is being met now.

6. *Home Care of Advanced Cancer Patients.* While a public health cancer control program is mainly built about the principle of finding cases early in order to increase the cure rate, the advanced cancer cases—in the main a welfare rather than a public health problem—cannot be neglected in the organization of cancer services. It is well known that institutional facilities for the care of indigent advanced cancer patients, as well as for all chronically ill, are inadequate. At the same time it is recognized by many experts that many advanced cancer patients can be satisfactorily taken care of in their own home provided they can have medical supervision and nursing service as

needed. This would also free hospital beds for those in need of hospitalization.

The New York City Cancer Committee has made an arrangement with Montefiore Hospital which provides a constructive program for the care of such patients in their homes. This program has now been financed by the New York City Cancer Committee for nearly two years. It has proved to be a most worthwhile and effective service, and points the way for further organization of such services. Based on the above demonstration, other organizations are now experimenting with similar projects for other types of chronically ill patients.

7. *Morbidity Reporting.* The American Public Health Association at its 1946 annual meeting passed a resolution urging health departments to make cancer a reportable disease. Cancer is now a reportable disease by law in about half the states. However, there are only two or three in which a serious attempt has been made to encourage complete reporting.

Certain other states, especially Connecticut, have what is known as a Central Tumor Registry and the reporting is done only through the hospitals. Hospitals are rated on a merit system and those which send in the greatest number of reports with biopsies and similar data receive a proportionately larger share of funds from the state health department for cancer research or the increase of cancer facilities. There is no general agreement as to whether the reporting from hospitals alone is sufficient or whether a central registry on a voluntary basis could be established which would include also the cases from private physicians. At any rate, it is essential to have a recording system to aid in the scientific study of cancer, to make possible a more intelligent public understanding of the essential facts of the disease, and to assist in planning and carrying out sound cancer control activities. To this end, the American Cancer Society and the United States Public Health Service are offering assistance to health departments.

8. *Support of Cancer Research and for Increasing the Number of Experts in Research.* This point is mentioned last merely

for purposes of emphasis, for the cancer problem can never really be conquered until the cause is known and the cure found. We need increased funds for research, but we also need support for the thorough training of capable investigators. Without enough trained investigators, we would be in the position of a cook asked to prepare a wedding feast for which the champagne had been furnished but no water to boil the potatoes, to borrow a simile used by Dr. Raymond B. Fosdick.

#### THE AMERICAN CANCER SOCIETY

Mention should be made of the support given to research by the American Cancer Society and its affiliated branches. During the past two and a half years, the American Cancer Society has coordinated its research program on a nationwide scale under the scientific and technical guidance of the Committee on Growth of the National Research Council. In the past, public and private money may have been wasted because there was no way of finding out whether a particular phase of research was duplicating efforts already made. It might happen that a scientist started work along the very line that another scientific worker, in another part of the country, had already investigated and found a blind alley. Under the present system, such duplication and waste is avoided. Grants for research are approved only after the leading men composing the various panels of the Committee on Growth have satisfied themselves as to the importance of the proposed project.

Since its organization in 1913, the aims and objectives of the American Cancer Society have been enlarged and its program has been broadened so as to include many new projects, such as substantial aid to hospitals and clinics for developing cancer detection centers and cancer diagnosis and treatment clinics; fellowships in cancer research; better medical training in the field of cancer; service for advanced cancer patients; expansion of educational and informational services and innumerable other constructive activities. The Society has encouraged state and city public health departments and the Federal Government to develop an interest in cancer control and has stimulated

medical societies to form cancer committees. It has helped the American College of Surgeons' program for minimum standards for cancer clinics.

#### FEDERAL AND STATE PROJECTS

As already mentioned, public health agencies are now giving special and increased consideration to cancer control. In 1946, Congress made available \$2,500,000 to the states for grants in aid for cancer control activities. For the fiscal year 1947-1948, the cancer appropriation by Congress amounted to \$14,000,000 of which approximately 40 per cent was allocated for cancer control work, with the remainder going into research. Dr. Leonard A. Scheele pointed out last year, that the number of full-time people in state health department cancer control programs would reach 200 by the end of June, 1948, compared with one-half this number a year previously. All this is evidence of the greatly increased interest of official health agencies and their greater acceptance of obligations to participate in cancer control. In addition to the funds allocated by the Federal Government, quite a number of state and city health departments are supporting cancer control activities with their own money and others are about to undertake them.

Although compared with only a few years ago, a tremendous amount of effort and money is now going into cancer control, a great deal more must be done. Individual features of the program need careful evaluation. Only by conducting the work on a sound scientific basis and by making the maximum use of the methods now available can we hope to substantially reduce cancer mortality. But not until science furnishes us with specific tests for its early detection can we really hope to control cancer in the same way that tuberculosis has been controlled. Thus the attack must continue to be a twofold one: maximum use of available methods and research for new methods. And it is obvious that this work cannot be conducted with greatest effectiveness by the special effort of any one group. There must be integration of effort of all organizations and individuals working in this field.