

SOCIAL BARRIERS TO OPTIMAL HEALTH¹

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IN the course of charting the direction which the health of a community is taking, the public health statistician will be in receipt of the widest range of facts, of variable precision and accuracy, and relating to the extent of illness in the area under his observation. Mindful of the prior history of specific diseases in a given locale, he will evaluate the information within his possession, in an effort to point out new and desirable efforts to achieve those health objectives considered reasonable of attainment in this day and age. As control of certain diseases is successfully reached, he is led to catalogue the rationale and methods which contributed to these accomplishments. And when lack of success is the outcome of a planned expenditure of effort, he has reason to reflect on the nature of the obstacles which impede progress. Perhaps with this brief introduction you may appreciate the circumstances which underlie the choice of subject matter, one which, at first glance, would seem far astray for a biostatistician to cover.

By the term "social" one has in mind the concept of person to person relationships as contrasted, say, with relationships between persons and the physical aspects of their environment, the air they breathe, the water they drink, the temperature of the region in which they live, etc. The social characteristics of a group of individuals, whether it be a family, a neighborhood, or some other population segment have reference to attitudes, values, and behavioral patterns which are transmitted from person to person in the course of daily contact. "Optimal health" infers the highest level in physical, mental and social well being which an individual can attain in the light of current knowledge on the control of disability.

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The thesis which I propose to discuss in this paper is that these social attributes are in many instances an essential part of the framework within which the health worker must play his role. They may serve to facilitate the operation of a program for the promotion of health or contrariwise may severely hinder the progress of such work. It is well, therefore, to consider those aspects of the social milieu which serve as obstacles to the attainment of optimal health. In this way, one may come to understand the limitations which are imposed upon the goals one may expect to reach or one may avoid failure by adjusting a program of action to conform to the existing social structure or one may elect to modify the components of the social structure which are critical obstacles towards the attainment of a health objective and which do not otherwise contribute in a positive manner to the welfare of the group.

The approach, thus outlined, becomes increasingly relevant as public health workers concern themselves with programs designed to minimize illness and disability from chronic disease, as they delineate their responsibility in the promotion of mental health, and as health officials are called upon to contribute to the planning of sound programs for the growing numbers of aged members in our population.

CHADWICK AND SOCIAL FACTORS IN HEALTH

Recognition of the importance of cultural patterns upon the health of a community may be found in the prophetic reports of Chadwick, Farr, and Shattuck. The attention which this relationship has been given by these great public health thinkers serves to underline the fundamental nature of this argument. For example, you will find in the *INQUIRY INTO THE SANITARY CONDITION OF THE LABOURING POPULATION OF GREAT BRITAIN* (1) a report of the Committee of Physicians and Surgeons at Birmingham wherein the observation is made in connection with family life that the "habit of a manufacturing life (gainful employment) being once established in a woman, she continues it and leaves her home and

children to the care of a neighbor or of a hired child, sometimes only a few years older than her own children, whose services cost her probably as much as she obtains for her labor. To this neglect on the part of their parents is to be traced the death of many children; they are left in the house with a fire before they are old enough to know the danger to which they are exposed and are often dreadfully burnt." The open fireplace may no longer be a threat but should we not consider with some seriousness the sequelae of separation of the pre-school child from close and secure relationship to the mother. Now it may be argued that such issues are primarily economic in nature. But immediately following the passage quoted above, one may find an illuminating contrast of the sanitary condition of families equated as to income but remarkable in the difference in the state of their social well being as determined by the quality of housing, the adequacy of food, and the ability to avoid dependence upon the public exchequer. And on this point, it is further reported "that above a certain amount say 12 shillings or 14 shillings of weekly income, wages alone without intelligence and good habits, contributes nothing towards the comfort, health and independence of the working population." In this famous inquiry into the health of a nation, Chadwick has clearly perceived that the manner in which individuals organize themselves into family units is in itself a significant determinant of the social and mental health of the family members and may also affect their physical health.

A detailed review of the writings of the eminent medical statistician William Farr (2) gives indication of considered thought on the relative importance of the several elements of the community environment which contribute to health or disease. Thus in his study of the factors associated with significant differences between healthy districts and others not so happily disposed he was led to conclude that "the precise degree of influence which the various agencies have in causing the high mortality of towns is not easily determined. Opinions

differ as to what fraction of the suffering and death is to be set down to the want of water or of sewerage; crowded lodgings, narrow streets, ill ventilated workshops, the destitution of skillful medical advice, the neglect of children, doses of opium and quackery."

By and large the modes of response which are group determined have been patterns of behavior which constituted errors of omission in respect to desirable sanitary functions. Perversely enough, socially oriented concepts have led to insistence on health measures which have been useless and indeed harmful. Chapin in a truly refreshing essay entitled "The Fetich of Disinfection" (3) uncovers a social barrier to optimal health and with a tenacity of purpose and unshaking courage proceeds to reorient the force inherent in a belief propagated from one generation to another. In connection with his discussion of the hypothesis that infection is spread chiefly by *things* we find, the statement: "Disinfection had its origin in superstition, and its practice so partakes of the character of magic art that it catches the popular fancy. Even if the health officer does not disinfect, the infected family is likely to sprinkle a little sulphur on the stove, or place a saucer of chloride of lime behind the door. Thus unconsciously do we follow the customs of our remote ancestors who exorcised the demon of disease with incense, and incantation." When confronted with the point of view that although not important, disinfection could do no harm, Chapin argued that the confidence the public placed in the efficacy of disinfection hindered the development of rational methods of controlling disease.

These instances of modes of conduct inconsistent with optimal health standards have been primarily family centered. An example of the manner in which community oriented behavioral patterns have affected individual health is reported by Sydenstricker (4). The fact that pellagra, during early studies of this disease was found to be almost entirely restricted to the southern states, could lead to the obvious conclusion that the geographic character of the South was the decisive factor

in this disease. However, the patient and thorough inquiries of Goldberger and his associates (5) proved otherwise. Within the South, it could be shown that the incidence of pellagra was strongly correlated with family income. One might, therefore, be led to a favorable consideration of the economic factor as the essential explanation for the distribution of pellagra. But income was not the necessary condition.

Families living with low incomes were to be found throughout the country in localities where there was no record of pellagra and this was equally true within the South. Pellagra was found only under certain conditions of food supply and dietary habits. To clearly illustrate this distinction between economic and social determination of departures from health, permit me to describe the clear example cited by Sydenstricker. Two cotton mill villages A and B were very similar in respect to income of the families, occupation of the wage earners, sanitation, the ethnic character of the population, etc. The food supply in A was largely restricted during late winter and spring necessitating use of the mill store or commissary where fresh milk, butter, green vegetables, fresh fruits were in short supply. This deficiency was confirmed by study of the records of food supplies obtained by the population during a sample period. The incidence of pellagra in A village was estimated at ten per cent whereas no pellagra was found in B village, where a plentiful supply of greens and milk products was available the year around. There are few instances in the public health literature which so clearly distinguish the roles which social and economic factors may play in the cause of widespread disease.

We do well to remember that income although associated often with the differential prevalence of a disease, does not in itself provide a sufficient basis for a logical concept of causation and may screen a more meaningful relationship and one with more potential from a disease control point of view.

SOCIAL FACTORS IN CURRENT HEALTH PROBLEMS

There are significant social factors today which are worthy

of careful evaluation as we seek to achieve a higher standard of health for a widening proportion of the population.

Obstetric Effects of Work. In considering the principal problems which are faced in the area of maternal and child health, prematurity is unquestionably a leading issue. There have been many and diverse investigations in connection with this problem. Biological factors such as maternal age and birth order have been shown to influence the risk of prematurity but the relationships found have not been marked (6). Differences in the prevalence of prematurity have been demonstrated among white mothers who were stratified by socio-economic status—but the order of the difference, 5.5 per cent in the highest economic fifth as contrasted with 7.4 per cent in the lowest economic fifth was not too exciting (7), nor did it lead to a useful concept in respect to minimizing prematurity. It did suggest the need to investigate the possible importance of income related variables such as diet, work during pregnancy and several others.

In the recent literature on the subject, Stewart has found it possible to separate the factor of work during pregnancy from the variable of income (8). For each of three broad income groups it was found that in respect both to perinatal mortality and incidence of prematurity, mothers who worked were at a significant and marked disadvantage as compared with housewives, i.e. mothers who stayed at home, and further, women who continued working in the last trimester of pregnancy were worse off than those who retired relatively early.

During the current era of full employment when young mothers are encouraged to remain active and keep on the job while pregnant, a social form of behavior has developed, which appears to interfere with the highest attainable levels of infant and maternal health.

Sex Standards and Gonorrhea. To one who gives more than cursory attention to the epidemiology of the venereal diseases, the problem of controlling the incidence of gonorrhea in urban areas must be a cause for despair and anguish. By its very

nature, this condition depends for its rate of transmission upon the extent of sexual contacts between different pairs of individuals within a prescribed period of time and upon the prevalence of disease existing at the start of the period. In a community where sex partners are stable in their relationship, the spread of disease will be minimized and the problem becomes one of locating the original foci of disease and the increment which has occurred by transmission through the assumed stable sex relationships. However when the relationships between sex partners in a significant segment of the population is of a transient nature and perhaps of a fortuitous character, the distribution of an original pool of disease can reach geometric proportions. Fortunately we do have control forces which prevent this run-away effect. They appear sufficiently effective to keep the reservoir of infection at a constant size. Stated differently, however, the forces for spreading the disease defeat the efforts made to produce a decline in the amount of new infection which takes place in a given time interval.

A further factor complicating efforts in this endeavor becomes operative as an unfortunate effect of the very therapy we employ to treat gonorrhea—penicillin. When less effective methods were available, a relatively prolonged acute stage of an episode of gonorrhea was likely to prove sufficiently disturbing to prevent a male patient from acting as an effective agent in the dissemination of disease. Penicillin has produced remarkable changes in this respect. The drug rapidly causes a disappearance of symptoms. In a few days the patient can shake off a temporary inconvenience to his random sex conduct and then become a candidate for a subsequent attack. As a matter of fact we have noted instances where individuals have within the space of one year been the subjects of as many as nine defined episodes of gonorrhea. Twenty-five per cent of the infections treated in our clinics within a given year represent repeat episodes in an individual previously treated within the calendar year. The one critical factor which keeps gonorrheal infection at fantastically high levels in urban Negro

populations is the lack of stable sex relationships between young adults. A program for control of gonorrhea within an environment of this nature should clearly recognize the limitations which are imposed by the social standards which prevail. Certainly, involved and expensive attempts to bring individual contacts to treatment, unless practiced on a selected basis, can produce, in the above circumstances only the most insignificant return in reducing the reservoir of infection.

Impediments to Adult Health. Before the turn of this century, the view was widely entertained that disease was a natural phenomenon in the maturation of an individual. As a result, the young child was expected to run the gantlet of summer diarrhea, diphtheria, whooping cough, scarlet fever, etc. The role of the physician was to ease the way of the child over each of these obstacles. Here then was the prevailing attitude towards disease and the role of the physician. Early in the 1900's the germ of a new idea took hold. The concept was formulated that disease was not a necessary component of child development. With this as a working hypothesis, and fortified by rapid strides in bacteriology, a remarkable reorientation took place in medicine as applied to infant and child care and later to maternal care. The prevention of widely prevalent and serious disease became the order of the day. Techniques differed depending upon the disease; systematic health examinations and immunization were the principal tools.

Consider the disbelief and scorn which the "sound" medical thinker must have evidenced in 1900 if he were told that standards of health some years hence would necessitate frequent examinations of an overwhelming percentage of infants during the first year of life and in the absence of illness, and the same would be true for mothers during the entire length of their pregnancy interval. He would wonder where the physicians were who would do such work. Fortunately they were forthcoming.

As we consider the issues involved in promoting a higher standard of health for adults, those same attitudes prevalent

before the start of this century constitute serious barriers to progress. Group attitudes, by and large, lead to the concept that much of chronic illness is a necessary condition of the adult aging process. Socially dictated behavior is such that, in the main, a physician is consulted only in the face of symptomatic illness. And there would appear to be little question but that the general practitioner has not been willing to urge his clientele to plan careful routine physical examination.

I am inclined to believe that sound logic leads to the conclusion that such conditions as arteriosclerosis, arthritis, diabetes cannot, today, be prevented in the same sense as we have been able to accomplish it in respect to diphtheria, smallpox, and pertussis. However, it is not unreasonable to suppose that the time of onset can be delayed and the extent of disability and progress of these diseases can be held to a minimum through systematic health supervision of the adult, including instruction in diet, advice concerning work patterns consistent with the patient's physical condition, diagnosis and treatment of early recognizable departures from health norms and reduction of disability resulting from severe episodes of the disease process.

Some evidence of the difference between community practice in respect to adult health and the standard dictated by logic has recently come to light as a result of the urban and rural surveys by the Commission on Chronic Illness. In the course of the Baltimore Health Survey (9) the state of an individual's health as reported in a household survey, i.e. as he could perceive it, was compared with the diagnoses which were made on the basis of clinical evaluation. It was found possible to accomplish this comparison for some 800 residents of Baltimore City. When one considers that the comparisons made were based upon conditions with symptoms present at the time of household canvass, it is a matter of some seriousness that none of a group of patients with diseases of the prostate was sufficiently aware of the disturbance to report it; 80 per cent of those with cataract, but not blind, were unaware of

their predicament; and some 60 per cent of individuals with hypertensive heart disease were similarly not cognizant of their condition.

The belief that mature individuals can perceive the state of their health with sufficient acumen to infer that they do not depart from norms consistent with optimal standards, has little basis in fact. Thus a social pattern which seeks to restrict medical examination to those instances when the individual can sense illness will tragically deny to large segments of the adult population the benefits of currently developed medical knowledge. It would be naive to presume that once again we were dealing with purely an economic matter. "Remove the financial barrier to systematic adult health supervision and the population will seek medical care in proper time." The experience of the Commission on Chronic Illness indicates otherwise (10). In the Baltimore Health Survey, 7,000 persons aged 17 years and over were invited to a screening clinic in a centrally located office and operated at hours suitable to the convenience of the individuals canvassed. After persistent follow-up including telephone calls and home visits, 2,024 or only 29 per cent, finally were seen in the clinics, even though the examinations were free of charge and transportation was offered when needed. You will note then the difficult hurdles of long held attitudes and beliefs prevalent in the community which must be surmounted before the attainable standards of adult health can be realized by the populations with which we are concerned.

A NOTE ON PROBLEMS OF THE AGED

The aged have been with us throughout the centuries. However, their relative numbers have increased markedly in the past century. Furthermore, profound social and economic changes in the structure of society have served to focus attention on their problems which appear to be as much socially dictated as they are biologically determined. Too often, one is inclined to regard serious degenerative disease as a plague

casting a dark shadow over the older segments of the population. This is a mistaken notion—one of many which bar the way to a fuller life for the aged.

A review of available morbidity data indicates that almost 80 per cent of individuals 65–75 years of age suffer no days of disabling illness, within a given year, due to chronic illness. These relatively well persons are needlessly separated from a productive role in the life of the community by arbitrary retirement practices. In spite of our claims to an enlightened age as compared with past decades, it is a shocking fact that for at least half a century the proportion of men who continue to work after reaching old age has been rapidly decreasing (11). Thus, in 1890, as many as 68 per cent of men, 65 years of age and over, were counted in the labor force. By 1940, this percentage had dropped to 42. Although interrupted somewhat by the war when policy towards employment of the aged was liberalized, the trend of labor force participation rates for men, 65 years and over, resumed its downward course following the war and in 1955 the annual average rate was reported as less than 40 per cent. Within the age group specified above, the proportion of men classified as deriving income from employment dropped from 40 per cent in 1950 to 36 per cent in 1955 (12). Meanwhile the expectancy of life lengthens.

Who can dispute the incongruity of this situation and the serious implications which enforced retirement must have upon the social well being of older persons?

SUMMARY

The manner in which persons aggregate themselves into social entities, families, communities, etc, and by contact with such units acquire attitudes towards work, diet, and other behavioral patterns is a strong determinant of the standard of health which the individual may expect to enjoy. This principle has been recognized by many leading public health thinkers of the past and has as much relevance today as it had, for instance, in Chadwick's day more than a century ago.

The obstetric effects of work during pregnancy, the limitation which is imposed on the control of gonorrhea by widely prevalent promiscuous sex relationships in defined community groups, the resistance of the adult population to seek routine general examination and the reluctance of general practitioners to urge them, and the practice of arbitrary retirement in industry are examples of social barriers to optimal health.

Public health workers have three possible modes of action when faced by situations of this nature. They may recognize the limitations which are imposed by social barriers upon planned objectives and conserve their resources for more fruitful avenues of work. They may mold a program to fit into existing social patterns or they may find it proper to encourage changes in those components of the social structure which interfere with the promotion of optimal health standards and which do not otherwise have positive values for the community.

As the problems of the first half of this century, primarily in the field of communicable disease control, become reduced in stature, new disciplines may become necessary to successfully approach the timely problems of chronic diseases, mental health and those pertaining to a fuller life for our aged persons. The place of the sociologist and the social worker in the planning and implementation of currently developing programs must receive careful consideration. More important is the necessity for public health officials to consider the role which they should play in the planning of the work of social agencies.

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