

A Neglected Opportunity for the Control of Respiratory Disease*

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EVERY health officer at some time feels that he is like a juggler, keeping a dozen different things going in the air at the same time or balancing a variety of programs on the end of his nose. The wise health officer does not attempt to juggle everything at once, lest the whole collection come tumbling about his head. Instead, he varies his program from time to time, pushing first a diphtheria campaign, later the early diagnosis of tuberculosis, a child health day, or a summer roundup, or something else. Thus in the course of a year he has kept his whole program alive, kept his staff interested, and reaped public approbation through the newspaper support which can be given to special campaigns but is more difficult to get for routine activities.

Emphasis in public health programs changes like women's fashions. A new discovery, pressure waves from voluntary groups, enthusiasm of a specialist, sweep our activities this way and that, mold our efforts and force the Cinderellas of our program to the background while the more popular sisters shine in the light of current professional acclaim.

On what then can the health officer base his selection of activities? There is, of course, the *Appraisal Form* of the

American Public Health Association, and no health officer should attempt to run a health department without this as his constant guide; yet this document through its changing editions, reflects the changing favorites in our public health esteem.

It is desirable, from time to time, to take counsel with ourselves and examine the appropriateness of our activities. In such a stock-taking there are three simple practical criteria which are sound and which any health officer can use in determining where to direct his major efforts.

The first is that of disease prevalence. What are the biggest community health problems as indicated by morbidity and mortality rates and other statistics? If there were no other factors to be considered, these figures would at once clearly determine our attack. However, important as these figures are, this criterion cannot be used alone because we do not have any known means of effective attack on some of these rates.

The second, therefore, is, What are the known effective procedures? If this criterion alone were rigidly applied, our program would be quite elemental because there are, in fact, only a few procedures which are infallible: vaccination, inoculation against diphtheria and typhoid, pasteurization, water purification and a few others.

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In addition to these two scientific criteria, there is a third practical consideration which the professional man is frequently apt to minimize. That is public opinion. Since we derive our support from public funds, we must do some of those things which the people who support us think we should do. Only in this way can we get continued support to do the things we want to do, pending that happy time when, through sufficient public education, the things we want to do and the things the public want us to do become identical.

THE CRITERION OF STATISTICS

Applying the first of these criteria to our local public health picture, we find a large group of diseases high in the list of causes of death, disease, and disability. They are the so-called respiratory diseases—pneumonia, influenza, scarlet fever, measles, tuberculosis, and others. Most workers believe that all of these diseases are communicable; yet nothing done so far has had any considerable effect in preventing their communication. We believe that all of these enter the body through the mouth; yet we have, in our public health procedures, constructed almost no barriers on this route of infection. We believe that most of them are principally infectious in their early stages; yet we are surprised that quarantine and other post-symptom measures have so little effect. Practically we have, as administrators, accepted defeat in the control of respiratory disease and are awaiting the discovery of some new vaccine, or other sure and easy process of creating an immune population that we will not have to bother about. While thus waiting for the laboratory to produce a solution, people are dying and morbidity rates do not decrease. According to the criterion of statistics, major efforts of the health department should be directed to control of respira-

tory diseases. I need not call your attention to the fact that the full picture of human disability is not given in the morbidity rates for these diseases. They may frequently be the initial factor in contributing to premature death in the later years of the individuals affected. A possibility of conquering just one of these diseases, as we have conquered yellow fever, cholera, typhoid fever, and diphtheria, is a great opportunity. Any possibility of controlling all of them is worth serious consideration.

WAITING ON THE LABORATORY

This brings us to a consideration of the second criterion—What can we do about control of respiratory disease? The defeatist attitude has not produced the brilliant public health victories of the past, and the continued high prevalence of respiratory diseases must act as a challenge to the present generation. In facing this challenge let us examine our current measures of attempted control. They can be classified under four headings: education, quarantine, medical service, and sanitation.

Programs of health education have been specifically aimed at inducing people to build their general health so that they may more successfully resist infection; to secure prompt medical attention; and to avoid infecting themselves and others. In view of the tremendous task to be done—the overcoming of prejudice, inertia and ignorance—changing habits of thought and actions of 120,000,000 people—the public health education program in this country has been puerilely weak. This is not in criticism of all those who with and without training for the task have worked sincerely in this field without much encouragement or anything like adequate support from appropriating bodies. To be thoroughly effective health education programs would require budgets resembling those of

national commercial advertising campaigns. Until funds for public health education have increased many-fold and our technics have become more certain, progress by the educational route will be slow.

Control through quarantine and isolation has been disappointing and some will say that these measures as ordinarily practised are practically without effect in preventing the spread of respiratory diseases. Most of these diseases are infectious in their incipient stages; many occur in mild form and are never diagnosed or reported; carriers play a part in the dissemination of some of them. Quarantine and isolation of the cases actually diagnosed and reported therefore segregate only a part of the potentially infectious population and this part temporarily, too late, and usually incompletely. Quarantine as a standard procedure in some of these diseases has already become less severe; at best it is an inadequate measure of control.

Medical treatment and nursing care of diagnosed cases are not to be omitted in listing measure of control, particularly as these services reduce the infectiousness of the attacked individual. They also may have a material effect in reducing the incidence or seriousness of after effects, postpone death, and thus are quite definitely public health measures with a bearing on the death rate. Good medical service and nursing care are essential in the public health control of any disease. They do not in themselves furnish a program.

Of the four measures of control then there are education which is weak, quarantine which is uncertain, medical service which is insufficient, leaving sanitation to be considered. The control of respiratory disease through sanitary measures has seldom been tried thoroughly in a sustained program. While waiting for the laboratory to discover a readier measure of control,

this may offer a fruitful means of attack. Sanitation as here considered means the establishment of procedures wherever possible to prevent the mouth discharges of infectious persons from being imbibed by others.

The only important point at which the health officer has it in his power to interpose barriers to this salivary exchange is in his supervision of public places serving food and drink. Furthermore, he is the only person who can erect and maintain this barrier. Among all of our public health programs sanitation of the public germ exchange as it exists today is one of the most difficult. The problem is complicated by lack of inspectors, uncertainty of procedures, the tremendous increase of public eating places, particularly of the rush order or counter type, and the hostility of food and drink dispensers to any program that requires them to spend money.

A recent and serious factor is the return of the saloon, or as we politely call it, the tavern. In prohibition days we could ignore speak-easies because they were supposed not to exist, and without legal existence we could not enforce public health ordinances to protect their customers. Now that the bar has moved from the basement to the first floor, or from the back room to the front room, we are necessarily faced with a sudden increase in our problem of sanitary supervision. There is a tradition among bar tenders that beer glasses should not be washed. This is fostered by the brewers. It has caused a falling off in the standards for all glass washing, according to the Los Angeles City Health Department.¹ With beer dispensing leading the downhill parade, vigorous action by health officers is called for if the gains which have been made are to be preserved. Already Vincent's angina is on the increase, and many communities have reported epidemics of this disease.

The U. S. Public Health Service,² the American Medical Association,³ and countless health authorities have reiterated that the commonly used unwashed drinking glass or other drinking or eating utensils may transmit infections; yet by and large, we have really done very little to eliminate the common drinking cup as it is seen at soda fountains, roadside stands, and quick lunch counters. A dip and splash in a tank of dirty water does not sterilize, yet this is about all the washing that most of our eating and drinking utensils get in many public places serving food and drink today. If we do not take this situation seriously, we cannot expect the public or the dispenser to.

Here is a statement from a news release of the health department of a large city:

At the larger resorts two men are on duty night and day and they see to it that hamburger and hot dogs stand keep meats and breads from possible contamination. Glass washing and the scalding of all dishes and cutlery is closely watched by these inspectors.

Such a statement is an insult to the intelligence of the thousands of people who patronize these stands and whose eyes tell them that glasses are not washed and dishes and cutlery are not scalded. But when an able and distinguished health officer makes a solemn statement of this nature and a child can see that the situation is otherwise, he invites the purveyor's disrespect of the law and dulls the sanitary sensibilities of the public.

There is no insuperable impediment to the sterilization of public eating and drinking utensils. The problem has been partly met in some places by the use of individual cups made of paper which are used once and thrown away. But where individual service of this kind is not desired there are available dishwashing machines of all sizes which effectively cleanse and sterilize. If this

equipment cannot be afforded there are inexpensive means of sterilizing by hot water, steam, or chemicals.

The importance of sterilization of commonly used eating and drinking utensils has been shown by many investigators. The studies by Cumming,^{4, 5} and by Lynch and Cumming⁶ on the transmission of influenza are particularly thorough and significant. Nevertheless there is still a great need for continued research in this field. Many questions need further exploration such as:

1. What temperature of wash waters and exposure times are necessary to secure adequate bacterial destruction?
2. What criterion can be established for determining when cleansing is "adequate"?
3. What is the relative effectiveness under operating conditions of chemical sterilization versus heat sterilization?
4. Is there a test organism that can be used to measure pollution from respiratory sources as *B. coli* is used to measure pollution from intestinal sources?

In addition there is need for a simple standard method of laboratory examination by which the health officer can determine whether or not a dispenser of food and drink is obeying laws and ordinances. An inspection of the premises will not suffice. A standard method of examination of wash water or of dishes which could be used as a routine such as we have for the examination of water and sewage and milk would be most helpful in enforcement and would aid materially in comparing the results by various investigators in this field. Other more extensive studies, particularly in the realm of epidemiology, offer prospects of interesting and important results. These are problems which are particularly appropriate for the State Health Department and the universities of this state working in cooperation with local health officers.

Another phase of the program in which the state or national health au-

thorities may well take the leadership in the development of model laws and ordinances. Present regulations concerning the sanitary care of eating and drinking utensils are frequently ambiguous, sometimes impracticable, and in a few jurisdictions nonexistent. The present legal situation is analogous to that which existed in the field of milk sanitation before the adoption and promulgation of the model milk code by the U. S. Public Health Service. State and national leadership in the preparation of model laws will follow if local health officers demand it.

In the meantime much can be done under existing rules. The immediate arm of the health officer in this job is the inspector. With the limited inspection service which most health departments have there is all the more need for focusing this service on the most important tasks. Too often the inspector spends most of his time in observing and reporting on cleanliness of walls and floors and ceilings, whereas the habits of employees and the thoroughness of dishwashing have a more direct relationship to the prevention of disease. Many inspectors enter their jobs with but little training. The only training they get usually is a few days' observation of how the other inspectors handle their work. Thus the errors and deficiencies of the inspection service are carried on from one generation of inspectors to another. These men are important links in the chain of public health protection. A specific course of training for them would be a valuable aid. One city health department (Detroit) goes beyond this and has a program of instruction for the food handlers themselves. The universal adoption of this plan is worth consideration. The present offers a unique opportunity for concentrating on this task through the use of relief workers. The city of Chicago has recently added 200 inspectors to its staff

by this method. The use of more inspectors well trained for their jobs and focusing their efforts specifically on points of danger offers health officers another possible means of controlling respiratory diseases. To reach this objective requires more than a mere overhauling of the inspection service—it requires a completely new approach which will recognize the dignity of the task.

Finally there is a fourth weapon which can be used with little expense, namely, publicity. This was a powerful weapon in improving the milk supply and can be used with equal or greater effect in this field. Most of the things a health officer does are unobserved by the public. They can see no tangible evidence of his activity. The sanitary condition of public eating and drinking places is a matter of almost daily concern to a large number of the health officer's public. This latent interest can be mobilized behind the health officer. It is a force that can be brought to bear with particular strength—for dispensers of food and drink who obey the law, and against those who wilfully and repeatedly violate it. There are few communities in which the citizens would not welcome an opportunity to aid the health officer in a problem of public housekeeping such as this—one which exposes them to unpleasant conditions and potential dangers. Indeed, the health officer who takes the opportunity for leadership of this kind will win for himself a measure of esteem and approbation which should carry over for his whole program.

This brings us back to the third criterion for determining a program—public opinion. There is an unmistakable tide in modern America toward a higher standard of living, toward cleanliness and away from dirtiness. The situation which exists in public eating and drinking places, particularly soda fountains and other counter service

places, is an anachronism. It is on a par with the common drinking cup in railroad cars, and spittoons in the office. The people sense this but, not knowing how to change it, they accept it as the older generation accepted the open privy, and make jokes about it. At one eastern university when a couple of students go across the street for a milk shake or a "dope" they say "let's go over and swap spit." The health officer can capitalize on this latent public feeling and build good will for himself, his department, and his city administration. There is reasonable evidence to indicate that it offers an opportunity for the control of respiratory disease.

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Hermann M. Biggs Memorial Lecture

BIGGS had an orderly and logical mind. These qualities tempered his idealism and his professional vision. "Think things through" was his motto. No one before or since his time has combined with such idealism so practical a program for meeting the public

health and medical needs of his state. Had his program of 1920 been adopted in New York State and carried out in the several communities, we should have today no such serious problems in medical care and medical economics as now confront us.—Thomas Parran, Jr.