Restaurant Sanitation Program of the U. S. Public Health Service*

A. W. Fuchs
Sanitary Engineer Director, U. S. Public Health Service, Washington, D. C.

Five years have passed since my discussion of the U. S. Public Health Service restaurant sanitation program at the annual meeting of this Association at Tulsa (1). That was, I believe, the first or, at least, one of the earliest discussions of the subject of eating establishment sanitation to appear on your programs. It is, perhaps, significant that the present paper on this subject is presented at the very meeting of this Association when consideration is to be given to the question of extending membership to food sanitarians as well as milk sanitarians.

During these five years, the public health problems associated with the Second World War have come and gone, and the restaurant sanitation program of the Public Health Service has grown from lusty infancy to vigorous maturity. The need for control of eating establishment sanitation has been recognized as never before by state and local health authorities, the industry, and the public. Many communities, spurred by the public clamor for cleaner food service, have inaugurated or intensified this activity.

In these endeavors the Public Health Service acts solely in an advisory and stimulative capacity. It leaves actual enforcement to state and local health authorities, for it has no legal jurisdiction in the control of sanitary conditions except on interstate carriers, and even in this field it enlists the cooperation of state health authorities wherever possible. Its program is, therefore, designed to assist state and local regulatory agencies and other Federal agencies which have the necessary legal authority. Its aim, in brief, is to promote the establishment of effective, well-balanced milk and food sanitation programs in each state, to stimulate the adoption of effective state and local control legislation, and to encourage strict and uniform enforcement through appropriate legal and educational measures.

To implement these aims the Public Health Service compiles annual reports of disease outbreaks from water, milk and milk products, and other foods, prepares model ordinances, undertakes and supports research on food sanitation, furnishes technical and administrative advice and interpretations of recommended standards, trains state and local sanitarians through personal contacts and regional seminars, prepares technical and educational materials for the training of sanitarians and food handlers, conducts demonstration schools for food handlers, makes surveys of state or local conditions upon request, allots funds to the states for the support of public health activities through Title VI of the Social Security Act, and consults with equipment manufacturers and food industry representatives on the design and construction of food utensils and equipment. During the war period Public Health Service personnel were assigned to state health departments for food sanitation duty in the more important military and war industry areas, and mobile laboratory units assisted state and local departments in areas lacking laboratory facilities.

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Importance of Food Establishment Sanitation

The public health control of food establishments is necessary from a number of viewpoints. To the general public which patronizes these establishments the need is largely esthetic—it demands food service under conditions not repugnant to its sensibilities. To the restaurant industry the meaning is principally economic—satisfied customers and avoidance of damage suits. To health officials the problem is one of preventing food-borne disease.

Since 1923 the Public Health Service has compiled annual reports of milk-borne outbreaks of disease submitted by state health departments, and since 1938 these compilations have been extended to include outbreaks traced to water and to other foods. During the 7-year period from 1938 to 1944 there were reported an annual average of 44 outbreaks from water, 41 from milk, and 212 from other foods (Table 1). In other words, outbreaks traced to other foods have been nearly three times as numerous as those from water and milk combined.

Another significant feature is the trend: while outbreaks attributed to water declined during the war years, and those from milk showed no significant change, a steady increase occurred in outbreaks and cases traced to other foods. There is no doubt that the reported outbreaks and cases represent only a fraction of those actually occurring. These figures offer an obvious challenge to health officers and sanitarians to control the cause of food-borne disease. Protection of water and milk supplies deserves continued effort, but food sanitation obviously demands increased emphasis.

Of the diseases involved in food-borne outbreaks, food poisoning and gastroenteritis are by far the most common. Thus, of 298 food-borne outbreaks reported for 1944, the diseases involved were: botulism, 9; chemical food poisoning, 8; dysentery, 7; food poisoning, 157; gastroenteritis, 94; trichinosis, 7; typhoid fever, 10; others,
6. Practically all of these diseases are controllable through appropriate sanitary measures, including refrigeration.

An analysis of the disease outbreaks reports would yield some very interesting information as to the organism involved, the kind of food, and the method of contamination, but for the purposes of the present discussion an examination of the type of establishment involved may be of particular interest. This information is available for 264 of the 298 food-borne outbreaks reported for 1944, and shows the following distribution: public restaurants in 49 outbreaks; schools and colleges, 38; food shops, 31; hospitals and institutions, 29; industrial cafeterias, 19; labor camps, 16; railroad train, 1; private homes, 50; private parties, 14; picnics, 9; and church suppers, 8. The last four types of establishments, involved in 81 outbreaks, are of a private character; but the remaining 183 (70 percent of the total) are public or semipublic food places which should be subject to control by health authorities.

Recommended Restaurant Ordinance

In the paper previously mentioned (1), I outlined the development of the Ordinance and Code Regulating Eating and Drinking Establishments recommended by the U. S. Public Health Service, and discussed some of the problems involved in drafting an ordinance that would be generally applicable.

It was pointed out that the Public Health Service Sanitation Advisory Board debated the advisability of including a provision for health examinations but concluded that the conflicting opinions of health officers on the value of routine examinations of food handlers did not warrant such a requirement. Instead, the responsibility for prohibiting persons with communicable disease or in the carrier stage from handling food was placed upon the management; broad powers of control when infection is suspected were conferred on the health officer; and education of employees in food handling sanitation was recommended.

The question as to enforcement methods was settled by offering two different forms of the ordinance, one a grading type which permits enforcement by degrading or permit revocation or both, the other a non-grading minimum-requirements type enforceable by permit revocation only. In the grading type, the competitive effect of grading on public patronage tends to improve conditions in eating establishments, thereby aiding in enforcement. The provisions of the several sections of the recommended ordinance were also briefly outlined. It is unnecessary, therefore, to discuss these subjects further at this time.

The editions of 1935, 1938, and 1940 were mimeographed, but the current edition of the ordinance and code was printed in 1943 as Public Health Bulletin No. 280. It is the culmination of nine years effort represented by five different drafts. It embodies the best information on restaurant sanitation available in 1943, but like other codes recommended by the Public Health Service it is subject to change as improvements are developed through research and experience. Suggestions for improvement are invited and given careful consideration by the Sanitation Advisory Board before new editions are prepared. Many proposals submitted by health officers, sanitarians, and members of the industry are now being studied.

Among the principal proposals under consideration is the broadening of the scope of the ordinance to include not only eating and drinking establishments but also all other types of food establishments. At its annual meeting in Washington in April of this year the Conference of State and Territorial Health Officers approved the report of its Committee on Interstate and Foreign Quarantine which recommended
that an investigation be made of the desirability of such a move. To quote from the Committee's report: "A number of State and local health departments have suggested that the PHS Ordinance and Code Regulating Eating and Drinking Establishments be expanded to incorporate provisions applicable to other types of food handling and food processing plants, including bakeries, confectioneries, manufacturers, groceries, meat markets, slaughter houses, etc. Meat packing plants shipping interstate are inspected by the U. S. Department of Agriculture, and interstate shipments of other food products are under the supervision of the U. S. Food and Drug Administration; but meat and food not entering interstate shipment receive only such supervision as the states and local communities may provide." While the basic principles of sanitation of the restaurant ordinance are generally applicable to all food establishments, a careful study will be required to determine the additional provisions needed particularly applicable to each type. It may be some time, therefore, before the scope of the ordinance can be widened.

Other revisions of the ordinance will undoubtedly result from research studies being conducted by official and unofficial agencies, including the Water and Sanitation Investigations Station of the Public Health Service at Cincinnati, the National Sanitation Foundation, the American Public Health Association, and laboratories that will soon be receiving research grants for sanitation studies awarded by the Public Health Service upon the recommendation of the National Advisory Health Council. To date the Cincinnati Station has investigated detergents (2), has developed a method for determining their overall efficiencies (3), and is now engaged in a basic study of the bactericidal efficiency of quaternary ammonium compounds. The National Sanitation Foundation, supported by enlightened segments of industry, has made grants for studies on dishwashing machines, cold sterilization by chemicals, and other projects concerned with food sanitation. It has aided the Subcommittee on Food Utensil Sanitation of A.P.H.A. in studies to improve the swab test for determining residual bacteria on food utensils. To those of us who for years prayed for facilities to furnish the answers to the many unsolved problems of sanitation, this ever increasing tempo of research bears promise of a new era.

The ordinance is recommended for voluntary adoption by states, counties, health districts, and municipalities in order to encourage a greater uniformity and a higher level of excellence in the sanitary control of eating and drinking establishments. The ordinance itself is only a few pages in length. The accompanying interpretative code gives the public health reason for each item as well as details of satisfactory compliance. By unifying the interpretation of the ordinance, the code serves to minimize enforcement misunderstandings. Paralleling the ordinance are inspection forms for field use and office ledger record forms for posting inspection and laboratory results, both available for quantity purchase from the Government Printing Office.

No better indication of the need for sanitary control of eating places could be desired than the rapid pace at which the model ordinance has been adopted throughout the United States. This ordinance or one based thereon is now in effect statewide in 15 states and the District of Columbia, as well as in 176 counties and 373 municipalities located in 37 states and territories, with a population coverage of over 40,000,000. It has been adopted as state regulations in 25 of these states. Operating under the ordinance are 30 cities of over 100,000 population. A complete list of adoptions is available from the Government Printing Office.

The grading type of the ordinance is in effect in 7 states, 71 counties, and 175 municipalities; the non-grading
type in 18 states, 101 counties, and 163 municipalities; and the type is not reported for 4 counties and 35 municipalities. Apparently, a non-grading ordinance or regulation is somewhat more popular than a grading type.

The distribution according to the edition of the Public Health Service ordinance adopted is as follows: 1935, 5 cities; 1938, 6 states, 65 counties, 100 cities; 1940, 13 states, 101 counties, 144 cities; 1943, 6 states, 7 counties, 84 cities; edition unknown, 3 counties, 40 cities.

**Assistance to State and Local Programs**

Although adequate ordinances are essential, the mere adoption of an ordinance does not guarantee proper enforcement. Much depends on the activity and intelligence of the enforcing agency and on the qualifications of its inspectors. To promote effective enforcement by state and local health authorities, the Public Health Service operates through the Milk and Food Section of the Sanitary Engineering Division in Washington, the eight district offices in the field, and the Water and Sanitation Investigations Station in Cincinnati on research. Each district office has on its staff two or three specialists in milk and food sanitation under the administrative direction of the district directors and the technical supervision of the Milk and Food Section. These specialists are men of various professional backgrounds in the field of public health, including veterinarians, dairy graduates, bacteriologists, chemists, and sanitary engineers.

To assist the states in the improvement of restaurant sanitation, the Public Health Service engages in the following activities:

1. It promotes the organization of an adequate restaurant sanitation program in the state health departments, and the employment of trained sanitarians qualified to exercise leadership and offer guidance to local inspectors. Of material assistance is the allotment of funds to the states for the support of public health activities, appropriated by Congress under the authorization of Title VI of the Social Security Act. According to reports received as of June 1944, legal jurisdiction over restaurant sanitation was vested in the health department in 35 states, in the agricultural or some other department in 8 states, and in both health and agricultural departments in 5 states. But even in the states where the health department does not have legal control it invariably renders advisory service to local health agencies. Within the state health department, restaurant sanitation is a function of the engineering or sanitation division in 28 states, of the food and drug division in 7 states, of some other division in 5 states, and of the engineering and some other division jointly in 5 states.

2. Upon request, interpretations of the ordinance and code provisions and advice on technical and administrative problems are made available through correspondence with the Milk and Food Section and the district offices and through field consultation with the latter.

3. It trains new personnel upon request of the state health departments. This is accomplished largely by the district specialists working with state sanitarians to demonstrate proper methods of inspection, sampling, grading, rating of communities, record keeping, and administration.

4. It provides in-service training for state and local sanitarians through restaurant sanitation seminars conducted periodically in collaboration with the states on a state or regional basis. During 1945, 13 restaurant sanitation seminars were held throughout the country with an attendance of 564 state and local sanitarians. One of the usual features of these seminars is the presentation of a course of instruction to food handlers so that sanitarians may be in position to inaugurate such courses in their own communities.

5. Evaluations are made of state and
local programs by the district specialists upon invitation. States are assisted in making restaurant sanitation ratings of individual communities by the Public Health Service rating procedure. These ratings represent the weighted percentage compliance with the restaurant sanitation standards, and are of value in measuring results and stimulating improvement. Of the 147 communities for which reports were received during the past few years, 29 were rated below 40 percent, 92 were between 40 and 60 percent, and 26 were above 60 percent. Some of the low ratings represented conditions prior to the inauguration of a local restaurant sanitation program. Supplies of rating forms are furnished to states upon request.

6. The cooperation of the industry is solicited in support of state and local restaurant sanitation programs and in the manufacture of food equipment and utensils of sanitary design and construction. One of the outstanding features of the past two years has been the restaurant industry's awakened interest in sanitation through its national, state, and local associations.* Adequate local control programs are approved by the most enlightened members of the industry. Manufacturers of dishwashing machines, realizing the need for improvements, are supporting basic research in this field. Although the food equipment industry is many years behind the milk equipment industry in the production of easily cleanable equipment, there are indications of a desire for improvement as soon as better materials are again available to the industry for new designs. A particular source of complaint has been the lack of cleanability of cracks and crevices of chef whips and similar items. It should be clearly understood that it is the established policy of the Public Health Service to issue no approval of any patented or proprietary article or device. However, opportunity is afforded manufacturers to consult with this office on methods of compliance with recommended standards; and confidential opinions concerning local acceptance of specific materials and equipment are furnished health officers upon request.

7. Factual and technical assistance is given to writers in the preparation of articles on the need for restaurant sanitation for popular magazines.

8. During the war years mobile trailer laboratories assigned to the district offices assisted state and local health departments in the bacteriological examination of milk supplies and restaurant utensils. The need for improvement in the sanitization of utensils is emphasized by the results obtained during 1945 from 5,684 establishments located in 213 communities. Of over 56,000 utensils sampled, only 26 percent complied with the bacterial standard of not more than 100 organisms per utensil surface examined. Of the four types of utensils routinely examined, spoons made the best showing and cups the worst, while water glasses and beer glasses were intermediate. With the war emergency over, the mobile laboratories were discontinued in June of this year.

9. During the war period, reserve officers of the Public Health Service were assigned to state health departments for duty in important military and war industry areas lacking adequate local health services. Among those so assigned were milk and food sanitarians. As this program was made possible through emergency funds appropriated by Congress, it, too, was discontinued in June of this year.

10. For the past three years the Public Health Service has devoted major attention to the portion of its restaurant sanitation program concerned with the education of food handlers.

* The National Restaurant Association recently announced the appointment of a Sanitation Committee which is planning an expanded program of cooperation with health authorities and education of employers and employees.
Education of Food Handlers

Until recently local control programs relied primarily on legal penalties, such as fines, revocation of license, or degrading, for correction of insanitary conditions. Today it is generally recognized that education of food handlers is an effective method of obtaining compliance with sanitary standards. Sanitarians have discovered that most food handlers will improve their methods and acquire sanitary habits with proper instruction, and that legal procedures may be reserved for the recalcitrant minority. The sanitarian who employs the educational rather than the legalistic approach is the one who achieves the most permanent results. The reasons should be obvious: the policeman attitude tends to create resentment and opposition rather than cooperation, and to overemphasize equipment and structural standards at the expense of methods.

Employees of food establishments should have some knowledge of food-borne disease and modes of transmission, should be thoroughly acquainted with food handling and food utensil sanitation, should understand the danger of working when ill or with discharging or presumably infected sores or wounds, and the importance of being meticulous about personal hygiene, particularly cleanliness of hands and finger-nails.

To stimulate the development of food handler training courses by states and cities, the Public Health Service through its district staffs inaugurated a series of demonstration schools late in 1942. Up to July 1946, 123 schools were conducted in cooperation with state and local health departments, local restaurant associations, and other civic groups, with a total attendance of 64,000 employees of food establishments. In addition, 19 schools were held for 9,700 employees of railroad and airline dining cars and commissaries; 19 schools for 1,800 food handlers on Indian reservations; 14 for 1,900 cafeteria employees at industrial plants; 11 for 813 dietitians and food handlers at hospitals; and 9 for 1,600 food handlers at military installations. Most of these courses have consisted of three 1½-hour classes or two 2-hour classes, repeated as often as was necessary to accommodate the attendance.

Largely as a result of the impetus from these demonstrations, organized food handler schools are at present being conducted by 30 state and territorial health departments and by at least 96 cities and counties. In some cities a certificate of completion of a food handlers' training course is a prerequisite for employment in food establishments.

To be successful, such schools must be carefully planned, organized, and conducted. A manual for use in organizing and conducting classes for food establishment employees, entitled "Guide to Safe Food Service" (4), has recently been published by the Public Health Service and is available from the Government Printing Office at 15¢ per copy. Lectures must be supported by suitable demonstrations and visual aid materials such as booklets, posters, slides, sound slide films, and sound movies. Among the materials on restaurant sanitation developed by the Public Health Service are the following:

(1) A mimeographed outline of six lectures for food handlers' training courses.

(2) 175 lantern slides with descriptions of each, for use at food handler schools. The use of these has been discontinued as they have been replaced by

(3) A series of four sound slide films entitled "Our Health in Your Hands," constituting a visual outline of the material that should be presented at a restaurant employees' training course. The subtitles of the four films are: (1) Germs Take Pot Luck; (2) Service with a Smile; (3) In Hot Water; (4) Safe Food for Good Health. The four films with recordings
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are available from Castle Films, Inc., 30 Rockefeller Plaza, New York 20, N. Y., for $10, less 10 per cent discount to non-profit institutions.

(4) A pocket-size manual of instructions for food handlers entitled "From Hand to Mouth." Because of its simple language, its humorous illustrations, and its emphasis on the importance of the food handler's job, this booklet has achieved wide popularity. It is available from the Government Printing Office as Community Health Series No. 3 at 10¢ per single copy or 6¢ in lots of 100 or more.

(5) A series of six posters in four colors, size 10" by 14", entitled "For Our Patrons Health," intended for display in restaurant kitchens and wash rooms. Subtitles are: (1) Wash your hands often; (2) Use a fork—don't be a butter-finger; (3) Keep these cold; (4) Keep these under cover; (5) Handle with care; and (6) Wash every piece carefully. A discussion of the public health aspects of these posters appears in "Sanitary Measures Hold Restaurant Customers" (5). The posters are purchasable from the Government Printing Office at 25¢ per set.

(6) An article on dishwashing for the guidance of sanitarians and the industry entitled "Methods of Sanitizing Eating and Drinking Utensils" (6).

(7) A list of films on milk and food sanitation.

(8) A list of references on restaurant sanitation.

Free sample copies of the posters and publications listed above are available from the Public Health Service.

Sanitarians interested in organizing food handler schools in their communities may apply to their state health department and to the district office of the Public Health Service for assistance.

Federal Agencies and Interstate Carriers

To complete the picture of Public Health Service activities in the field of food establishment sanitation requires at least a brief mention of the advisory service to other Federal agencies and of the control of interstate carriers.

At the request of certain Federal agencies, and under formal agreements with them, the Public Health Service renders advisory and consultant field services on all aspects of sanitation at their various installations. Among these installations are the penal and correctional institutions of the Bureau of Prisons, the numerous parks of the National Park Service, the schools and institutions on Indian reservations under the Office of Indian Affairs, the resorts and camps of the Forest Service, and the blister rust camps of the Bureau of Entomology and Plant Quarantine. Periodic inspections are made by the staffs of the district offices of such phases of environmental sanitation as water supply, sewage disposal, garbage disposal, dairies and pasteurization plants, and insect and rodent control, as well as eating facilities. Recommendations for improvements are discussed with resident supervisors and are included in written reports to the appropriate agencies. In addition, courses of instruction are given for the food handlers at these institutions. A similar service has recently been inaugurated for the hospitals of the Public Health Service. Furthermore, sanitary engineer and sanitarian officers are assigned to full-time duty with other Federal agencies including UNNRA, FPHA, FHA, Veterans Emergency Housing Program, Pan American Sanitary Bureau, Office of Labor of the Production and Marketing Administration, and Bureau of Prisons.

Finally, a few words concerning the only food sanitation activity with which the Public Health Service is legally charged—the supervision of interstate carriers. This program is authorized by the Public Health Service Act (Public Law 410 of 7–1–44), and the Interstate Quarantine Regulations which are now under revision in accordance with this Act. Its purpose is to protect the health of interstate travelers and prevent the spread of disease from
one state to another. Periodic inspections are made of sources of water, milk, shellfish, and other food served on vehicles of railways, airlines, and vessel companies engaged in interstate traffic, as well as methods of handling in dining cars, galleys, coaches and commissaries. Sources are either approved, provisionally approved for a limited period pending correction of substandard conditions, or prohibited. Many courses of instruction have been organized for food handlers employed by the carriers. Supervision of this activity is divided among the Land and Air Carrier Section, the Vessel Sanitation Section, and the Milk and Food Section of the Sanitary Engineering Division at Washington and the district offices in the field. Owing to its limited staff, however, the Public Health Service could not begin to do justice to this program without the active cooperation of the several state health departments.

REFERENCES


Processing Plant Sanitation Conference *

The Department of Horticulture, Virginia Polytechnic Institute, is charged by the state of Virginia with the responsibility of initiating research within the field of fruit and vegetable processing. Eventually course work may be offered that will enable students to obtain specialized training within the field of fruit and vegetable processing.

It was with this idea in mind that the Department took the initiative, with the cooperation of other departments of the Virginia Polytechnic Institute, the National Canners' Association, the State Department of Agriculture, and the U. S. Food and Drug Administration, to provide the program scheduled below.

Canning Plant Sanitation Problems, by K. H. Sanborn, National Canners Research Laboratory, Washington, D. C.

Food Plant Sanitation, by Allen Reitzlaff, Chief, Baltimore Station, U. S. Food & Drug Administration, Baltimore.

Cleaning Canning Factory Equipment, by C. W. Bonner, National Canners Association, Research Laboratories, 1739 H Street, N.W., Washington 6, D. C.

Control of Flying and Crawling Insects in Processing Plants, by G. W. Underhill, Associate Entomologist, Virginia Agricultural Experiment Station.

Spray With DDT to Control Flies, by J. O. Rowell, Entomologist, V.P.I.


Ventilation in Processing Plants and Prevention of Condensation, by P. B. Potter, Agricultural Engineer, V.P.I.

Good Plant Keeping, by C. W. Holdaway, Head, Department of Dairy Husbandry, V.P.I.

What the State Department of Agriculture Can Do to Aid in the Plant Sanitation Program, by S. S. Smith, Director, Division of Dairy & Foods, V.P.I.

Canning Factory Wastes and Methods of Disposal, by K. H. Sanborn, National Canners Research Laboratory, Washington, D. C.

The above papers have been prepared in mimeograph form and can be secured by writing to Professor E. L. Overholser, Department of Horticulture, V.P.I., Blacksburg, Virginia.