MILK and FOOD SANITATION

PLANNING A
STATE PROGRAM FOR RESTAURANT SANITATION

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The author discusses the New York State (exclusive of New York City) restaurant sanitation program—past, present and future. The article is based on continuing foodborne outbreaks and the results of 14 community restaurant surveys throughout the state emphasizes the need for improvement in restaurant programs to include clarification of authority on the state level, revised state code qualifications for inspectional personnel, training of food service and health department personnel and coordination of activities.

In discussing a state program for the sanitary control of eating and drinking establishments my experience has been restricted to New York State on both the local and state level. Consequently, my remarks will be limited to experiences and activities in the Empire State. Although we may be unique in some of our functions, in general our problems and approaches could be quite similar to those of other states. New York State is not unlike other states in having outbreaks of food-borne diseases.

LEGAL AUTHORIZATION

The New York State Department of Health consists of various divisions, bureaus, sections, and the restaurant program is a responsibility of the Milk and Restaurant Sanitation Section in the Bureau of Environmental Sanitation. The state is divided into regions and districts to bring the activities closer to the people and scenes of action. The central office is located in Albany, New York, and is charged with the formulation of administrative policies and procedures. Some direct services are given to local units by the central office, but this is a primary responsibility of the regions and districts.

The legislature some years ago included in the Public Health Law, a Public Health Council which is a part of the Health Department. Among other activities, the Council is charged with the promulgation of a state sanitary code to protect the health and welfare of the people. The code, numbering 18 chapters, covers all the state with the exception of New York City. It has the force and effect of law and provides penalties for violations thereof and is recognized and respected judicially by courts throughout the state. The enforcement of the code, in general, is charged to local health units, and the code further provides for the adoption of codes by local government provided they are not in conflict with state requirements. In other words, they can be more stringent within reason and designed to meet local conditions. Local requirements are subject to review by the State Commissioner of Health, and Article XVII of the Public Health Law empowers the State Commissioner of Health or his duly authorized agents to ascertain whether the provisions of the applicable state laws or local regulations are being observed. The state code further provides for the reporting of food-borne outbreaks.

Some years ago the State Department of Health embarked on a limited restaurant program as evidenced by the adoption in 1938 of a chapter in the Sanitary Code relating to restaurants, and the production and release of an educational sound film in 1940 entitled "Twixt the Cup and the Lip" with which many of you are familiar. Progress was slow, many complications arose, and with lack of personnel, and some administrative complications it became, and still is to some extent, a sideline of the milk sanitarian on the state level.

In a well rounded state program clarification of authority and standardization of regulations is necessary. Of the 48 states, food control in 25 states is exclusively in the Health Department, 11 in Agriculture, and 6 in other state agencies, and in 6 it is a dual responsibility shared by Health Departments and one or more other agencies. New York is one of the six states where the control of food is vested in the Health Department and some other state agencies. The Department of Agriculture and Markets is active in food control
including some phases of restaurant sanitation and the State Liquor Authority, the Education Department, the Conservation Department, and the State Department of Health, are also in the picture.

Divided authority does not lend itself to efficient supervision, standardization of regulations, and enforcement. Steps have been taken to clarify the jurisdictions of the various state agencies with respect to restaurant sanitation control, and we hope to alleviate some of the confusion that now exists.

Lack of personnel on the state and local level has also been a factor but is now improving. In New York State decentralization is the order of the day. An extensive campaign to establish full time local health units, stimulated to some extent by financial aid from the state, has resulted in the creation of a number of county health departments and full time city units. The New York State budget includes an appropriation of $11,475,000 for general health in the grants-in-aid program to be distributed to 10 cities having 50,000 population or over and to 57 counties, including 14 where county health departments have been established. This has organized considerably rural and suburban areas where heretofore only limited restaurant control measures could be exercised by the part time local health officers and the district offices of the State Department of Health neither of which were adequately staffed for this purpose.

Another factor that retarded a restaurant program was the lack of interest of some health officials predicated to some extent on morbidity and mortality rates only. In the light of the modern concept of sanitation this attitude is gradually decreasing and is following the pattern of the old raw milk advocates.

DEMONSTRATED NEED

In planning any program, of course, the first essential is to recognize a problem. The epidemiological picture in New York State as recorded in our department records appearing below (see table I and graph) follows the pattern of the reported disease outbreaks due to water, milk, and food issued by the United States Public Health Service for the various states.

<table>
<thead>
<tr>
<th>STATE RESTAURANT PROGRAM.</th>
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<tbody>
<tr>
<td>Table 1 — Reported Common Source* Outbreaks</td>
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<tr>
<td>Mode of Transmission</td>
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<tr>
<td>(Exclusive of New York City)</td>
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<tr>
<td>Bureau of Epidemiology and Communicable Disease Control</td>
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<td>New York State Department of Health</td>
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<table>
<thead>
<tr>
<th>Water</th>
<th>Milk</th>
<th>Food**</th>
<th>Unknown</th>
<th>TOTAL</th>
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<td>1943</td>
<td>6</td>
<td>4</td>
<td>50</td>
<td>40</td>
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<tr>
<td>1944</td>
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<td>39</td>
</tr>
<tr>
<td>1945</td>
<td>11</td>
<td>4</td>
<td>42</td>
<td>15</td>
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<td>1946</td>
<td>21</td>
<td>0</td>
<td>45</td>
<td>11</td>
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<td>4</td>
<td>0</td>
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<td>6</td>
<td>0</td>
<td>24</td>
<td>2</td>
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*Exclusive of single household outbreaks
**Probably no more than 10 to 15 percent of the true number of occurrences are reported

Probably only 10-15 percent of the actual number of food-borne occurrences are reported. Epidemiological data are often very incomplete because of difficulty, due to incubation periods, dispersal of population, etc., in associating sporadic cases with place of origin. Consequently, most recorded outbreaks concern institutions or special social occasions. Food-borne epemics resulting from mass feeding such as picnics, clam bakes, church suppers, and banquets are easily recognized and accurately reported. However, similar transmission from a public eating or drinking establishment presents a much different epidemiological problem because of the transient exposure and the fact that those affected are not localized and have very little else in common.

There is a growing demand for a well rounded restaurant program on the state level. With the increased growth of organized local units the request for guidance from the State Department also increased and the need for a revised and comprehensive restaurant code on the state level has become urgent.

Of vital importance in determining the need for an overall restaurant program is an appraisal of existing conditions. Three years ago evaluation studies of local programs were started and 14 have been completed to date. The evaluation surveys include inspection of a cross-section of eating and drinking establishments selected at random; a study of the local requirements and their application; record keeping; administration; personnel, and the program in general. Such surveys are of considerable value in evaluating conditions existing at a given time and, among other benefits, afford a base from which to measure future improvement. Recommendations are offered which if accepted and applied, all or in part, will result in a corresponding improvement in the program. A percentage figure of compliance is computed from the results of the inspection of the selected establishments, but, of more importance, is the tabulation of the number and types of violations found.

The surveys are made on request of the local health authority. The findings are confidential. Originally surveys were conducted jointly with the United States Public Health Service but they are now a sole function of the State Department. In the absence of a comprehensive restaurant code on the state level the Ordinance and Code Relating to Eating and Drinking Establishments recommended by the Public Health Service is used as an appraisal yardstick.

The following charts show a summary of the results of the surveys.

You can readily see by the results that there is need for improve-
Restaurant sanitation is not confined to the commercial eating and drinking place. Food service in camps and institutions demands the same protection; coordination of these functions in intra departmental activities is necessary. Most of these functions are administered directly by the state and in addition to actual inspections of institutions, the training of the temporary camp sanitary aides in sanitary food service is an important part of our program.

Realizing the desirability of a comprehensive restaurant code on the state level we are in the process of writing a proposed complete revision. Such a code would unify and make unnecessary the maze of ordinances and regulations on the local level and would, quite logically, impose the same regulations on the remaining rural areas not presently operating under a full-time health department. Certainly the program of the National Sanitation Foundation should be supported and the standards for food service equipment considered in any restaurant code. Recognition should be afforded to the provisions of the Public Health Service recommended restaurant ordinance and code in the interest of securing uniformity.

**Importance of Education**

Education plays an important part in improving restaurant sanitation and in this project the State should assume leadership. There is still some doubt in the minds of a few public health officials whether food handler training produces tangible results and is a sound public health investment. Throughout the country, however, there is a growing conviction that such training is a good investment and is as necessary as training in other fields of sanitation and health activities. True, it is difficult to appraise this relatively new activity but the value of education in itself has long been established.
York State have responded to the need for food handler training and have provided various types of training programs. About 4 years ago the State offered a complete training course, known as the "Safe Food Institute," sponsored by the New York Department of Health and Education. This four session course is recommended to local health departments and other agencies, and is designed to give basic instruction in restaurant sanitation geared to the comprehension of the average employee.

A set of flip charts is provided as a training aid together with a guide or manual giving a narrative for the complete course, suggestions for setting up a program, and a list of recommended films, demonstrations, and other visual aids. The charts are loaned without charge by the New York State Department of Health to local agencies within the State. Certificates of attendance are issued to those who complete the four sessions, and by its uniform application throughout the State one community can safely honor the certificate issued by another.

The four sessions are entitled: Good-bye to Germs, Plates to Please, Safe to Serve, and Tips to You. Several communities have adopted the program as an adult education project sponsored by the local Department of Health and Department of Education. To create further interest and competition some communities are issuing large certificates to establishments when a substantial percentage of their food service personnel have completed the course.

The training of regulatory personnel is conducted by the Training Section of the Bureau of Environmental Sanitation and includes a Field Training Center operated jointly with the United States Public Health Service. It also includes the training of teachers conducting food service personnel training courses. The services of the Office of Public Health Education are also used, as well as other sections and agencies of the State government. Short topical courses are offered at frequent intervals to improve the knowledge of sanitation personnel throughout the State.

In addition to other releases the Department publishes the Bulletin, a weekly publication, and Health News, a monthly magazine which carries valuable public health material to all health departments and other interested agencies. Restaurant sanitation is included in the releases and you are all familiar with the wholesome weekly stories by the eminent "Doctor Jones." Pamphlets on various subjects are issued from time to time.

Last year restaurant sanitation was the feature of the June issue of the Health News and included an article by Theodore J. Curphey, M.D., Chairman, Council Committee on Public Health and Education of the Medical Society of the State of New York, entitled "Food Sanitation and the Physician." His concluding paragraph was:

"Finally, to ensure a more efficient organizational approach to the problem at the state level, attempts should be made to lessen the overlapping and conflicting efforts of the various agencies that have in the past led to confusion born of divided responsibilities. Because the problem is of vital concern to every physician, it would seem obligatory for the Medical Society of the State of New York, through its Council Committee on Public Health and Education, to offer its assistance in resolving the situation, by means of the formation of a committee composed of representatives from the State Department of Health, the Department of Agriculture and Markets, the Conservation Department, the Labor Department, and the Medical Society. The objective of the committee would be to develop simpler and more efficient coordination between the several agencies in their handling of the problem of food sanitation in New York State."

**Future Plans**

We realize that there is considerable room for improvement in the food services in New York State. Much has been accomplished in the past and we accept the challenge to stimulate and further promote advances in restaurant sanitation as an integral part of the
coliform bacteria but still contain bacteria capable of growth at low temperatures in dairy products. Because of the considerable differences in ability of different strains of coliform bacteria to grow at low temperatures, prolonged holding at 5°C may result in no increase in coliform count in one sample, but a definite increase in another.

The results of this study differ from those of Dahlgren et al., who reported that the coliform count increased more rapidly than the total count in refrigerated samples; however, he held many of his samples at 45–50°C and at 55–60°C where the growth of coliform bacteria would be greater than at lower temperatures, and he apparently incubated his plates for total counts at 35°C or above, and thus would have enumerated many of the non-coliform bacteria which grow at refrigeration temperatures.

Retention of the coliform test as a quick index of contamination seems justified, but interpretation of negative results should be conservative, because of the considerable possibility the test will not detect some important types of contamination.

Dahlgren et al. found that many of the samples they studied increased very greatly in psychrophilic count during holding at 44°F (6.7°C) for either 4 or 7 days, but few of the samples showed much growth when held at 33°F (0.6°C). Whether growth was considerable at 44°F was related to some degree to source of sample. Trout et al. showed that even at 39±1°F (0.6°C) considerable increases in standard plate count occurred after holding for several weeks; psychrophilic counts apparently were not made.

The limited results on holding samples at different temperatures prior to plating (table 3) suggest the possibility that the quickest practical test for bacteria which develop at refrigeration temperatures, and thus for keeping quality under refrigeration, might consist of holding the sample at 10°C for 2 days, followed by plating and incubation of the plates at 25°C for 3 days. In many instances an indication of high count could be obtained by examination of the plates after 2 days, and sometimes after only 1 day. If the counts rose as high as 200,000 per milliliter after the sample was held 2 days at 10°C, considerable question might be raised about the sanitary conditions under which the product had been processed and the probable keeping quality under usual marketing and home storage conditions. If conditions were distinctly bad, the product probably would be off in flavor at the end of the holding period and no plating would be necessary. Lower holding temperatures would be less rigorous and higher temperatures undoubtedly would lead to development of bacteria which would not grow at usual refrigeration temperatures. A careful study of this suggestion under actual production conditions would be necessary before it were adopted for more than trial purposes.

SUMMARY AND CONCLUSIONS

1. Incubation periods shorter than 3 days at 25°C, 4 days at 21°C, 7 days at 15 or 10°C, and 10 days at 5°C resulted in lower counts on certain samples. The smaller colonies formed in the shorter times also frequently were more difficult to count.

2. Incubation at 25°C for 3 days commonly gave the maximum count for a sample and detected samples giving high counts on plates incubated 10 days at 5°C in all cases.

3. Incubation of plates at 35°C frequently failed to detect samples which gave very high counts upon incubation of plates at 32°C or below.

4. The temperature at which a sample is held influences markedly the effect which different incubation temperatures will have upon the count obtained.

5. Negative coliform counts were obtained on some samples, although these samples contained large numbers of psychrophilic bacteria. A low coliform count is not necessarily an index of freedom from contamination with psychrophilic bacteria.

6. Incubation of plates 21°C for 4 days or 25°C for 3 days is recommended for detection of milk which has a high bacterial count due to growth during refrigeration.

REFERENCES

(3) Dahlgren, A. C. The Relationship of the Growth of All Bacteria and Coliform Bacteria in Pasteurized Milk Held at Refrigeration Temperatures. Ibid., 29, 651-69 (1946).