

Health Problems at the World's Fair

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ENVIRONMENTAL health covers the many fields related to healthful living standards. This broad term identifies the personnel trained in sanitary disciplines to evaluate these standards and includes physical equipment and facilities. It also encompasses such specific projects as the control of insect and rodent vectors of disease and denotes the acceptability of food and beverages for human consumption. The environmental health program developed for the New York World's Fair of 1964-65 incorporates all the varied activities implied by the term.

As we gain more knowledge and understanding of health factors, the emphasis for control of specific situations changes and the aims of such a program must also change. This is evident in the programs developed for the 1939-40 New York World's Fair and the 1964-65 fair.

Dr. John G. Grimley, special deputy commissioner of health for the New York World's Fair of 1939-40, faced the basic sanitation problems of controlling sewage and waste, insects, and rodents. He stated that a "great number of areas that were polluted directly from the surrounding territory with [raw] sewage" flowing into the Flushing River created unacceptable odors and health hazards. His initial action, the installation of pumping stations and fills, reduced the problem to one of inspection and administration in 1965.

Grimley also stated that "The reputation of this part of Queens for the size and number and

efficiency of the mosquitoes was the cause of considerable anxiety as to what could be done toward relieving the fair of this type of pest." Drainage and fill procedures were instituted and other actions taken to eradicate breeding. An accompanying concern was "namely, the chironomid or midge problem." Though not an apparent vector of disease, the midge was a nuisance because of its tendency to enter the nose, eyes, ears, and mouth. A satisfactory control mechanism was developed by testing various chemicals and means of application. Continual control required six barges, spraying equipment, and a sizable staff. These efforts to control the midge were successful in 1939, and no comparable difficulty occurred in 1964-65.

A third problem encountered by Grimley was rodent control. The Flushing Meadows area served as a refuse dump area prior to 1939 and was a haven for rats. With the disturbance of their burrows by construction activities, the problem became acute. The primary control measure was invoking Section 251 of the Sanitary Code of the City of New York, which made it a misdemeanor to throw refuse on the grounds. This potent means of controlling rodents within a specific, limited area remains in force, though improved methods of eradication enable us to work toward control of total populations.

During the 1964-65 fair, insects and rodents were controlled by surveys, treatment, and reinspection, using the services of experienced people on a contract basis. This was a minimal effort which resulted in maximum control. The other environmental health problems encountered in 1964-65 were similar to those encountered in 1939-40, varying only in degree of prevalence and methods of control.

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In preparing the environmental health program for the New York World's Fair of 1964-65, the New York City Department of Health developed in 1960 a supplement to the New York City Health Code, designated as the "New York World's Fair 1964-65 Health Code." With one minor amendment, this code served as the guide for sanitary control at the fair, backed by the modern New York City Health Code. As chief medical officer of the fair, I was sworn in as a special world's fair health officer and given the authority to enforce all health code provisions pertaining to the fair and New York City.

Construction of Facilities

Certain actions had to be taken during the construction period to protect the health of the future fair visitors. Grimley's pioneering activities in reviewing plumbing plans, with the subsequent acceptance of good plumbing practices by architects, contractors, and the plumbing trade, made our efforts simpler and more effective. All plans for construction of eating and drinking establishments and public restroom facilities were reviewed by qualified sanitary engineers. Recommendations or suggested corrections were discussed with the builders prior to approval by the medical department to insure compliance with the various sanitary and building codes. Close scrutiny was given to plumbing connections of all potable water supplies with necessary vacuum breakers to prevent contamination through negative pressures, sewage disposal facilities, construction permitting easy cleaning of kitchen and food-dispensing areas, adequate and properly segregated refrigeration for all food items, adequate toilet and handwashing facilities for foodhandlers, adequate supplies of hot water, acceptable dishwashing and rinsing equipment, adequate sources of heat for all steamtables, adequate locker rooms for all foodhandlers, and provisions for removal of garbage and refuse.

The National Sanitation Foundation standards were used as guides for food preparation and kitchen equipment. Food establishments were required to have operating permits and health certificates signed by the chief medical officer, among others. Before the certificates

could be obtained, all sanitary requirements had to be met.

One cardinal rule was established in this total review procedure. We would compromise on certain construction materials and equipment that were adequate for the duration of the fair, but we would not compromise in an area detrimental to the health of prospective fair visitors. Materials which were considered acceptable substitutes included galvanized sheet for tabletops and sinks rather than stainless steel, linoleum over plywood in place of finished cement or other permanent flooring, and the use of certain easily cleanable plastic containers instead of more permanent ones. All joints and corners in substituted materials had to be tight and easy to clean.

Sanitation Inspection Program

Col. David M. Gale, U.S. Army Medical Service Corps, retired, was selected as the chief health inspector. He was assisted by eight well-trained health inspectors, authorized by the New York City commissioner of health to enforce the health codes of the New York World's Fair and the City of New York. All inspectors were given a brushup course in food and beverage inspection procedures including on-the-job training with inspectors of the New York City Department of Health.

Since the use of many untrained foodhandlers, some from foreign areas and not accustomed to our standards, was anticipated, Article 81 of the New York City Health Code was translated into the major languages including Arabic. The translations were distributed to the various food- and beverage-dispensing concessionaires for training their personnel, who were under the direct supervision of a local manager and the periodic check of our health inspectors.

The approach to obtaining the maximum cooperation in proper foodhandling techniques was educational rather than punitive. In the majority of cases this engendered good will and created an atmosphere of mutual cooperation. During the 1964 season a minimal number of restaurants or food stands were closed only temporarily for health reasons.

The fair site was divided into areas of comparable workloads, with an inspector assigned

to each area and rotated periodically to insure broad coverage. To permit the routine inspections and to cover emergency situations as they developed, inspectors were on duty 14 hours per day, 7 days per week.

All food and beverage establishments were inspected weekly, more often if necessary to verify corrections of previously noted violations. During the 1964 fair season, 5,500 inspections were made at approximately 265 food and drink establishments. In addition, 2,000 inspections were made of pavilions and other installations for general sanitation, evidence of insect or rodent infestation, potability of water supplies, proper trash removal, and properly operating plumbing facilities. The potability of the water was checked routinely at designated points although city water supplies and sewage disposal systems were available for the fair.

Violations of Food Standards

Frequent violations of proper foodhandling techniques included improper food storage procedures for meats and dairy products, inadequate steamtable temperatures, inadequate refrigeration, insanitary cooking equipment, improperly chilled salads and other cold dishes, dishwashing water temperatures below requirements, improper garbage disposal, and certain insanitary foodhandling procedures by personnel. The majority were corrected immediately and the balance with the least practicable delay.

The pre-employment physical examination of a foodhandler was the responsibility of the management. Any employee found to be ill, either by management or by our inspectors, was removed from the job and could return only after being given a clean bill of health by the medical department.

During the 1964 season, there were 119 condemnations of food or beverages. These included 230 gallons of milk, cream, ice cream, ice cream mix, and chocolate drink; 3,731 pounds of meats including frankfurters; 475 pounds of poultry; 2,272 pounds of fish and shellfish; 695 pounds of fruits and vegetables; 84 pounds of dry condiments; 180 pounds of powdered items; 95 gallons of sauces and gravies; 18 gallons of mustard and catsup; 60 gallons of soups; 1 gallon of shortening;

25 gallons of carbonated beverages; 65 gallons of beer; 134 pounds of baked goods; 75 eggs; and 115 portions of frozen TV dinners. These potentially dangerous foods were brought to the attention of the health division either by concession managers questioning the acceptability of the item or during routine visits by the health department inspectors. Constant supervision of all restaurants and bars by fair health inspectors was impossible. Much credit must go to the individual managers who closely and effectively supervised their own operations.

All complaints by fair visitors alleging food poisoning were immediately investigated. Often these complaints were delayed several days. The specific foods being blamed could not be obtained for investigation. However, the establishment was carefully inspected to determine whether or not any foodhandling technique had been faulty.

From an estimated 96 million food and beverage servings, a total of only 11 alleged food poisonings affecting 22 persons were reported. Four of these 11 reports concerned 1 person, 3 concerned 2 persons, and 4 concerned 3 persons. No report involved two or more groups of individuals eating the same meal at the same establishment on the same date. Section 11.03 of the New York City Health Code defines a food poisoning outbreak as one occurring in a group of three or more cases. The outbreaks attributed to the partaking of food at New York World's Fair establishments can be considered phenomenally low.

The effective controls exercised by management and our health inspectors were essential in achieving this record. But, other factors contributed to the low rates. These included the general quality control of all food items within the City of New York, the routine use of refrigerated trucks for rapid delivery of dairy products and frozen food items, the use of the most modern and easily cleaned mechanical dispensing equipment, the installation of adequate dishwashing equipment, proper heating and chilling equipment at the food service lines, and the rapid turnover of foods due to the large crowds being served.

Gale left nothing to chance in the operation of his environmental health program. He prepared inspection kits for his inspectors, con-

taining all the necessary forms, thermometers, foodsampling containers, and instructions required to complete an effective inspection. Experience demonstrated the adequacy of the 1964 staffing plan.

Interagency Activities

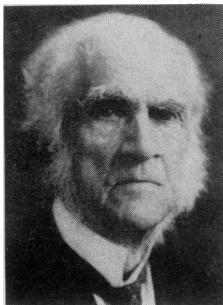
Cooperation by members of the New York City Department of Health with the medical and health department of the New York World's Fair of 1964-65 was outstanding. On a number of occasions, members of the city health department assisted with inspections of the fair's establishments, particularly during peak periods of activity. All laboratory and bacteriological studies required by the fair were performed by city facilities. Other actions taken by the city health department included special

chemical treatment of lake areas to assure the safety from infection of aquatic performers.

Other agencies assigned personnel to the fair either on a regular or intermittent assignment basis. The New York State Department of Agriculture and Markets inspected incoming meat, dairy, and other food products. The Association for the Prevention of Cruelty to Animals supervised proper housing and care of all animals at the fair and the New York State Department of Conservation checked shellfish from New York waters. Close liaison was maintained with the U.S. Bureau of Customs and the U.S. Public Health Service in any matter falling in their respective jurisdictions.

Some have asked, "Was all this planning and preparation necessary?" The answer is another question, "What is the cutoff point in effort expended for the health of the public?"

New York in the 1850's



Dr. Smith

In describing the filth and degrees of disease in New York City during the 1850's, Dr. Stephen Smith quoted before the State legislature a report by the health inspector of the 11th ward, ". . . the streets are extremely dirty and offensive, the gutters obstructed with filth. The filth of the streets is composed of houseslops, refuse vegetables, decayed fruit, ashes, dead animals and even human excrements . . . the substances, when dried by the summer's heat—are driven by the wind in every direction in the form of dust . . . when in the form of 'slush' they emit

deleterious and very offensive odors."

The inspector of the 17th ward reported, "the privies of East Eleventh Street rear are almost always overflowing and the passage leading to them filled with faecal matter. It would seem impossible for human beings to create or endure such vileness," he wrote in evaluating the unsanitary conditions. The most populous districts shared 200 slaughter houses from which blood and refuse flowed into the streets, while fat-boilings, entrails-cleansing, and tripe-curing establishments poisoned the air.

Living in dark, damp cellars that flooded with almost every rain and were below the level of nearby privies were 18,000 persons. Living in the next higher stratum were the tenement house dwellers numbering 500,000, almost half the population of the city—*Excerpted from "The City That Was" by Stephen Smith. Frank Allaben, New York, 1911.*

Portrait of Dr. Smith from the Library of the New York Academy of Medicine