A PUBLIC HEALTH PROGRAM FOR CIVIL DEFENSE EMERGENCY FEEDING OPERATIONS IN NEW YORK CITY

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A disaster brought about through atomic or bacteriological warfare will create stupendous environmental sanitation problems of which food control will be only a smaller part. The food problem in the disaster area may be dealt with from three points of view:

1. Contamination (radioactive, sewage, glass and debris);
2. Processing problems caused by disruption of water supply and power; and
3. Mass feeding (not only in the disaster area but also in evacuation areas).

A comprehensive emergency plan for a large metropolitan area is presented which is based largely on prior training and instruction of the sanitarian.

The part played by the civilian-defense food-control official in an atomic energy disaster, in the course of bacteriological warfare, or when other military weapons bring death and destruction to a city, is, in relation to the whole, small. Financing, evacuation, burying the dead, caring for the sick and wounded, billeting the homeless, and the reorganization of civil and industrial life to meet the new war situations, are tasks of such staggering magnitude that it is little wonder that so many think them hopeless of accomplishment and that so little is being done to prepare for them. Fortunately, the food-control problem has natural limitations, and planning is not only possible but when carried out, promises of much fruitfulness if atomic war should strike, as well as much benefit to the welfare and health of the community during its peaceful years.

It is unfortunate that in current thinking and common parlance our problem is described as "food-control." It would be much more satisfactory, once and for all, to designate this subject by what it really is: environmental and food control in civil defense emergencies. This point is emphasized because the greatest contamination and infection of the food supply during a military disaster will come from the outside, from the intestinal tract of man, the flying glass of smashed windows, and the radioactive isotopes in the air, dust, or water. It is that outside environment with its health hazard which must be so contained and controlled as to prevent infection and contamination of the food. In addition, it is not possible nor practical to separate the work of the food-control official from that of the environmental sanitation officer.

Until the moment of the atomic bomb blast, the food supply will be safe and wholesome to the degree that it is at the present. Foods which are potential carriers of pathogenic organisms will have been carefully inspected, controlled, pasteurized or given other heat treatment, refrigerated, and dispensed to the consumer with maximum protection. Foods which are liable to contamination with filth, foreign material, or objectionable matter will have received the most careful surveillance of many food-control agencies at city, state, and federal levels.

Foods which are likely to be adulterated with dangerous or objectionable chemicals will have been under the most intensive scrutiny and exacting examination, and up to that horrible moment of death, destruction, and fierce devastation, the elaborate controls so carefully devised and so conscientiously enforced by thousands of men and women in hundreds of public health and food-control agencies for the protection of the public will operate.

And then the awful moment.........

Mr. Churchill's comments on such a moment are noteworthy:

"Not less formidable", he said, "than the material effects are the reactions which will be produced upon the mind of the civil population. We must expect that under the pressure of continuous air attacks upon London, at least 3,000,000 or 4,000,000 people would be driven out of the open country around the metropolis. This vast mass of human beings, numerically far larger than any armies which have been fed and moved in war, without shelter and without food, without sanitation and without special provision for the maintenance of order, would confront the Government of the day with an administrative problem of the first magnitude. Problems of this kind have never been faced before, and although there is no need to exaggerate them, neither on the other hand, is there any need to shrink from facing the immense, unprecedented difficulties which they involve."

To bring this problem closer to the individual, and it is with individuals that we must be concerned, what has to be envisaged is a family left on the street, after a bomb has fallen in a more or less radioactive environment, outside a damaged house or with no house at all, with no spare clothes, no place...
to eat or wash or rest, ignorant of what a rest center means or where one is, with only a sparse knowledge of all the multifarious welfare services provided by the authorities, shocked and hazy about what to do and where to go for assistance, food, and shelter. With infinite variations in circumstances, this is the sort of situation which may confront millions of people who will be made homeless during atomic raids.

In connection with the prevention of infection and preservation of health of the victims as related to their food supply, the situation may be somewhat as follows:

**Conditions in Disaster Area**

The food supply that is available will be in two places—within the disaster area and, outside the disaster area, and the supplies in both places may be divided into three groups:

1. Finished products
2. Partly processed products

First consideration will be given to food stocks in the disaster area. For convenience food stocks, as used here, will include containers and packaging material, which also may be an important source of food contamination. All three groups of products in the disaster area are subject to radio-active isotope contamination.

The second great hazard of contamination will occur when, for one reason or another, sewage is not disposed of in the usual, efficient manner which is now the practice in large cities, and foodstuffs become contaminated with it. Here the greatest hazard will occur when finished foods ready for consumption are exposed to sewage. Contamination of the partly finished foods or raw materials will be less hazardous since additional heat treatment and other sterilizing will accrue to such food during the further processing.

The third kind of hazard to foods within the disaster area and for which preparation must be made is contamination of the foods with splintered glass, debris, and other foreign material, which may be more or less hazardous to health. Here it would seem that the greatest hazard would occur in the case of raw and incompletely processed foods since the foods in this condition are more likely to have large surfaces open and therefore to be more exposed to foreign matter. In addition, the usual methods of commercial food processing do not help much in eliminating foreign material, but, as a matter of fact may increase the problem. Present commercial methods of food processing with the protective packaging of the ready-for-consumer product are likely to reduce greatly the problem of foreign contamination of finished products.

The fourth kind of problem in relation to food within the disaster area will occur as a result of the lack of water, disruption of power and heating facilities, short-cuts in processing, and disregard of sanitary principles because of the general chaos. Another type of problem which must be kept in mind is the handling of food in central shelters or feeding depots.

Unless strong measures are taken, conditions in such shelters may be like those experienced by the British in their school centers. This is a description of one in Stepney (a suburb of London).

"At night the floor was crowded with people, lying on blankets, mattresses, and bundles of clothing. In the light of dimmed hurricane lamps, some 200 to 300 homeless people had the use of tin pails and coal scuttles as lavatories. By the middle of the night, these containers . . . . overflow so that, as the night advances, urine and feces spread in ever-increasing volume over the floor. The space is narrow so that whoever enters inevitably steps in the sewage and carries it on his shoes all over the building. The containers are not emptied until 8 A.M. By dawn the stench . . . . but I leave this to your imagination. Seven bands were assigned to keep people to wash in: no soaps, no towels. Water was heated over coals, drinking water kept in baths."

There are many reasons why such situations would not be unlikely under similar disaster conditions in this country.

**Conditions Outside Disaster Area**

Control of the environment and food supply outside of the disaster area present an entirely new set of problems. In the main, control of the environment and foodstuffs to preserve health and prevent disease will be on a "business-as-usual" basis outside the disaster area. Many adjustments however will have to be made. For example: if much of the population of a large city is bombed out and more evacuated to nearby rural areas, the city will no longer be in need of its regular daily shipments of vast quantities of staple foods, such as milk; milk producers and processors outside the city will have to seek out other places for the disposition of their large production. If hundreds of thousands of children are evacuated from cities to smaller communities, the health protection standards of the small town would have to be suddenly raised in order to meet the needs of the big city that it has become overnight. An example of this is the present practice of many small communities to permit the local sale of raw milk. Minimum health protection requirements would demand that such milk sold for use by thousands of children newly added to the community would now have to be pasteurized.

Another serious environmental sanitation problem in the area outside the disaster region also occurs in connection with evacuation. The English experience in this connection is interesting:

"As soon as the children arrived in the country the trouble began. Somehow the "enuresis has proved to be one of the major menaces to the comfortable disposition of evacuated urban children . . . . every morning every window is filled with holding, hung out to air in the sunshine. The scene is cheerful, but householders are depressed."

This is not strictly in the nature of a food control problem. Nevertheless, the Environmental Sanitation authorities may be called upon for assistance and advice.

**Plan**

What is to be done about these problems? Is a program possible? What kind of planning can be done today that will be effective in the disaster emergency? To establish a total authority to order all things on the site of such a battle might sound attractive, but such a solution is clearly impracticable. The experiences of others prove that there is no ruthless way through the tangle of problems, past the resistant forces of history, and above the rational and irrational desires of men and women. Such forces must be taken into account in planning for war disaster reliefs of all types including food and environment control.

The plan which has been evolved and organized to cope with disorganization and chaos and which, for
be oriented in the bacteriology of water supplies, the drug inspector with the control of milk supplies, the milk expert with the supervision of x-ray equipment, and the school inspector with food-sampling procedures, and so on, until there is complete interchange of basic information in all aspects of food and drug control and environmental sanitation. Finally, all of the staff are given basic training in the use of equipment for the measurement of contamination with radioactive isotopes and in the decontamination of hazardous materials.

In addition to this, all personnel have been given training in first aid. With this kind of experience, whatever number of personnel is left within the disaster area will be able to operate effectively in the whole field of environmental sanitation. It is indeed awkward to think of the health inspector having to reply to a desperate plea for help that he cannot advise in connection with milk problem because his peacetime job consisted of the inspection of restaurants only.

After the first period of the emergency during which the police, fire, military, medical, and welfare authorities must put out fires, remove the sick and wounded, give first aid, and bury the dead, the monitoring of the bombed-out area begins, and here the health inspector starts his work.

When monitoring is completed and decontamination processes are started, the second or post-emergency period begins. During this period the health inspector will set himself up as the control officer in environmental sanitation matters in his district and place himself under the supervision of any higher health official with greater authority if one is available. If communication is possible, he will advise all other officials whom he can contact that he is on duty. He will secure all available intelligence concerning radioactive contamination in nearby districts and give all information that he has. He will organize the area as well as he can using all possible community resources (with which he has been made familiar in his training) to give the public notice of what is dangerous and what is safe. If precautions are to be taken in connection with the use of certain foods or materials it will be the duty of the health inspector to disseminate such cautionary notices as quickly and as effectively as possible. When he has completed this task in his own district, he will then proceed to perform the same function in another area.

Part of the preparation is the peacetime inspection of over 800 hotels, restaurants, schools, churches, and auditoriums in the City of New York, which have been designated as emergency shelters and feeding stations. The civil defense food authority has prepared menus for evacuees, under varying situations of available fuel and water supply. During an emergency, it will be incumbent upon the food authority to procure supplies of food which will have to pass inspection in order to meet the nutritional needs as closely as possible. In addition to feeding at shelters, there will have to be distribution of foods at supply centers set up within the disaster area for use by persons who are not completely evacuated from their homes. Such food supplies and feeding stations will be controlled by the public-health officer as previously outlined.

It is significant, in this connection, to note the English experience in which the people in a bombed-out area gave every indication of wishing to remain in their own homes, even though the home was in a battle-site area. It is the opinion of many that keeping people in their own homes, to the extent that war conditions will permit, is a practical public-health measure for avoiding disease. Since it is more than likely to be dictated by conditions of the moment, plans must be made for the public-health control of emergency-feeding stations as well as extensive distribution of public supplies for use in the home and this is the principle which is applied here.