

# SANITATION PROBLEMS IN FOOD VENDING MACHINES<sup>1</sup>

SAMUEL H. HOPPER

*Department of Public Health  
Indiana University School of Medicine  
Indianapolis*

Food machines are not a public health problem as long as they are constructed and operated in compliance with the Code (1).

One method of problem solving consists of an awareness of the possibility of a problem and the consequent action for the preparation of materials and methods for its prevention. This has been the situation with food vending machines. A brief account of the developments in food vending machines with respect to public health will provide a better understanding of the present situation.

Approximately ten years ago the National Automatic Merchandising Association (NAMA) added a staff member whose sole responsibility is public health. In addition, the NAMA voluntarily formed a council of health advisors composed of representatives from all of the national public health organizations which have an interest in the general area of food protection. This includes the IAMFES, as an example. The council membership includes people from state, local and federal governmental agencies, the universities, the armed forces, professional organizations and industry. The council has not and does not endorse or approve anything. It recommends policies and procedures to the NAMA which, incidentally, has implemented every recommendation made to it. Thus, the NAMA, a self regulating voluntary group, formed the Automatic Merchandising Health Industry Council (AMHIC) which tries to anticipate problems relating to the vending of foods and recommends procedures for their prevention. The success of this industry in policing itself by working with governmental and professional groups is an outstanding example of the public health policy of cooperation instead of coercion.

## SOME PROBLEMS AND ACCOMPLISHMENTS

A review of the AMHIC minutes for the 1965 meeting will provide a general idea of the scope, depth, and attention to detail which the council gave to possible problems in food vending machines. The

problems and situations reviewed in the following paragraphs are not listed in order of relative importance.

There is a need for better communication within the industry in order to bring health accomplishments to industry at desirable levels of management. Included in this were the steps taken to keep the directors and members more fully informed.

Interpretation of Vending Code of the U. S. Public Health Service by the NAMA and the NSF should be more uniform. During 1965 the correspondence relating to machine approval, listing, and identification indicated that all problems were settled satisfactorily. Continuous efforts are made by all agencies to further good relations and promote uniformity. Those who have had experience with the Milk Code, the Restaurant Code or with Standard Methods for the Analysis of Milk or Water know that it takes many years to achieve uniformity of interpretation. This is a continuing situation which is really not a problem as various solutions are evident. However, it merits constant attention and the demonstration schools for instruction in machine inspection attest to its importance. Any health department wishing to train its sanitarians in the inspection of food vending machines has merely to request that help from the Public Health Counsel of the NAMA.

Emphasis was given to the importance of the 45 F milk temperature requirement in the Milk Code and its relationship to the Vending Code. Probably the most important aspect of food vending relates to control of temperature. The Vending Code specifies that "Potentially hazardous food within the vending machine shall be maintained at a temperature of 45 F or below or 140 F or above, whichever is applicable". Regulatory agencies spend considerable time and effort in the seemingly never ending work of convincing commissary operators that holding foods at either cold or hot temperatures is an excellent method for the prevention of food poisoning. Obviously, temperature control is not the only method for the prevention of food poisoning and other equally important items will come to mind, such as hygienic practices and environmental cleanliness; but temperature control is a problem.

<sup>1</sup>Presented at the 53rd Annual Meeting of the International Association of Milk, Food and Environmental Sanitarians, Inc., in Minneapolis, Minnesota, August 15-18, 1966.

## EVALUATION OF EQUIPMENT DESIGN AND OPERATION

Recognizing the logic and value of the Code requirements, the NAMA enlisted the help of two universities to act in the capacity of evaluating agencies. Their job consists of the interpretation of the Public Health Service Code by means of a manual provided by AMHIC. All new machines are examined against a detailed checklist and manufacturers whose equipment meets the requirements are issued a Letter of Compliance which indicates to all health departments that the machine was built to conform with the specifications of the Code.

The experience of the evaluating agencies to date has been that the manufacturers have cooperated 100% in trying to meet the health requirements. It is to their benefit to do so, as operators of machines will not purchase them unless they are assured that each model has been examined and has been approved for the Letter of Compliance. The NAMA publishes an annual list of approved machines and this is available on request. The system of examination and approval has prevented many situations from becoming problems and the professional public health workers who have been a part of AMHIC can point with pride to a decade of experience without a single case of food poisoning which can be related to machine construction. Note that the operation of a machine is a matter entirely separate from its construction, and this is a problem in food vending.

## NEED FOR EDUCATING THE OPERATOR

The best mechanical device ever made, be it an automobile or a vending machine, cannot and will not function properly unless the operator understands the conditions under which it is to be used and how to use it. If he has a commissary which does not pass the Restaurant Code, then he might possibly make a mistake in the kind of food which he offers for sale. If he does not store, transport or handle perishable products the way he should, the machine will not correct his mistakes. It is up to local health departments to determine these facets of food preparation and handling. Good food in good condition put into a vending machine will stay that way if the operator keeps his machine clean and in first class working order. If he is negligent concerning the type of foods and the care of his equipment, then

it is up to the sanitarian to investigate the situation and apply corrective measures where indicated.

If one had to name the primary problem in food vending, it would probably be the relationship of the local health department with the commissary supplying the operator and this would include the manner in which the machines are operated. In the few instances wherein some sickness has been reported in relation to food and beverage vending machines, it has been determined that some change in machine construction was made locally.

Changes in the Manual were recommended by the council and the details were left to the Secretary. Also there was a recommendation that publication of summaries of federal, state and local regulations be continued. Included in this was information on vegetable base lighteners and a CO<sub>2</sub> cylinder safety manual.

Additional discussion related to the implementation of a program for rechecking machines to be sure of continued compliance. The attention of the group was directed briefly to the use of soda pop bottles for vending milk. This has not become widespread and does not constitute a problem in food vending machines. Similarly, there was a report on the characteristics of the new non-nutritive sweeteners being used in syrups.

## IMPORTANCE OF PROPER OPERATION

In summary, sanitation problems arise from the manner in which a machine is operated. It was pointed out that the temperature control is a major problem and requires constant attention. The machines are not perfect but the manufacturers are willing and anxious to adopt changes in their methods if the Automatic Merchandising Health Industry Council recommends that they do so. It is possible to keep the equipment in first class operating condition and to take great care in the preparation, transportation and storage of perishable foods. Health department personnel whose duties involve the sanitation of food vending machines can do a great deal to prevent the occurrence of a problem by working closely with the various groups in this industry.

## REFERENCE

1. The Vending of Food and Beverages. A Sanitation Ordinance and Code, 1965. Public Health Service Publication Number 546. Section V, Item 6, Page 9.