

## POPULATION HEALTH SURVEILLANCE BY QUALITY AND SAFETY FOOD SYSTEMS

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### **Abstract**

*Population health surveillance provides real-time information about dietary factors that create health problems for a certain segment of the population or the entire population. It warns about the measures to be taken to prevent these problems or reduce the effects of their manifestation. It is an efficient way by which to intervene when there is a tendency for the spread of disease outbreaks which involve specialists with increased competences in various fields. The industrialization, free movement of goods and persons, urban population growth and decline of rural communities, are some of the factors that threaten the preservation of the population's health. The aim of this research is to investigate the impact of official controls in food quality and safety surveillance on the health of the population, the lasting impact being the reduction of diseases due to the foods consumption.*

**Key words:** food safety, food system surveillance, foodborne, population health, quality systems

### **INTRODUCTION**

Safety and food quality are two concepts that can create confusion among people uninformed. Food safety is concerned with all aspects of immediate or long term, which can be dangerous for the consumer foods. Therefore, certain foods do not contain anything that is dangerous or harmful to the consumer. Food quality includes all other attributes that influence the value of a product. This includes both positive aspects as: freshness, color and taste appetizing, pleasing texture, negative aspects, such as deterioration, contamination, toxicity, discoloration and odor, and technological issues which are the result of processing methods that went through raw material to the final product. The distinction between safety and food quality influences the nature and content of programmes control.

### **MATERIALS AND METHODS**

Effective food control systems are essential to protect the health of the entire population and is not only limited to the area of the country. Food products must be safe and good quality since moving in international trade.

From consumers, there is increased interest in quality products, at the expense of products that highlight the vivid colors and the original packaging or tempted by a low cost price.

Challenges for the authorities involved in quality control and food safety should consider: increasing pressure from people who have the disease and primary cause improper food consumption, along with the associated risks.

Not long ago, the most important etiological agents of diseases caused by contaminated food were bacteria, parasites and viruses. These agents continue to play a major role and cause health problems from the consumption, but new dangers, such as veterinary drug residues, pesticides, chemicals, heavy metals and other environmental contaminants, are as important as biological factors.

However, the growth of urban population and decline of rural communities caused fundamental changes in food consumption patterns, food processing, food and even food hazards. The rapid change of technologies used in the production, processing and marketing of food required legislation and standards harmonization and standardization of food quality for those with food business in different states (Tăpăloagă Dana, 2012).

The evolution of new systems, modern for the evaluation of food quality, in the same time with changing lifestyles and eating habits was associated with consumer awareness of the importance of quality and safety of food products, with adequate information.

Quality control and food safety precisely monitoring the implementation of legislation, the competent authorities in order to protect

consumers and that all stages of food production, handling, storage, processing, distribution and marketing are fit for human consumption, safe, healthy and quality.

The national food control should cover all processed food and marketed in a country, including imported food. The priority objectives are: to protect public health by reducing the risk of diseases caused by food consumption; to protect consumers from unhealthy foods, unhealthy or altered; to contribute to economic development by maintaining consumer confidence in foodstuffs marketed, compliant trade and international food (Tăpăloagă Dana, 2008).

The competent authorities have the following procedures:

- to verify the effectiveness of official controls that they carries;
- to ensure that corrective action is taken, if necessary, and that the information mentioned are updated where necessary.

Competent authorities establish guidelines which may contain recommendations regarding:

- the implementation of HACCP principles;
- management systems that apply food business operators to meet the requirements of food legislation;
- safety microbiological, chemical and physical of food products.

To ensure adequate protection for consumers and to effectively control or reduce the risk of foodborne, it is necessary to develop an effective preventive strategy based on preventive measures applied at all stages, from obtaining raw materials to the final consumer. The prevention, the source control and also inadequate identification of a particular stage of the productive cycle, is more efficient and have superior results in economic and medical terms, versus traditional control systems, which was based on finished product control.

The official controls are carried out regularly, on a risk basis and with appropriate frequency, so as to achieve the following objectives:

- identification of risks associated with food products, food business operators, foodstuffs or using any process, material, substance, activity or operation that could affect food products safety;

- history of food business operators regarding compliance with the food legislation and the provisions relating to animal health or animal welfare;
- the reliability any of the their controls have already been carried;
- any information that might indicate non-compliance.

All food business activities must have a documented food safety management, proper size and nature of the work, which must be based on HACCP principles. Operators must identify and regularly review the critical points of their technological processes and ensure that in this points are applied control procedures.

The qualifications in food safety and technical standard provide a recognized qualification, gives credibility to government and may be beneficial for consumers and professional status of individuals.

It is necessary that food business operators to prove that they have a food safety management functional, able to ensure the production of safe foods.

This will include the following elements:

- Identify food safety risks that may be present or may appear during the activity;
- Implementing control methods that will reduce the acceptable level or eliminate these risks;
- Clear procedures for non-compliance;
- Keeping up to date of these procedures;
- Records of procedures and verifications carried out.

Raw materials of animal origin such as meat, poultry, eggs, milk, and vegetable raw materials and auxiliary materials currently applied HACCP required preliminary programs. The general trend is to develop the preconditions for that in the near future for these activities to be introduced HACCP complete systems, including:

- Hygienic control of the food business units and implementation of good manufacturing practices (GMP) and GHP principles.
- Hygienic control aspects of the infrastructure of farms, poultry and aquaculture centers.
- Hygienic control of live animals from farms and screening to control or eradicate major diseases under OIE guidelines.

- Monitoring of residues of veterinary medicines and supervising the use of these drugs to prevent misuse.
- Supervision and control of biological, chemical and physical hazards, in order to prevent impact on consumers.
- Supervision and hygiene control status of funds for transportation of animals and animal products;
- Hygienic control and supervision of slaughterhouses, processing plants, packaging and marketing of animal products.

Laboratories performing food analysis are essential components of a food control system. They require considerable investment, both for purchasing equipment for the analysis and the implementation of quality assurance systems.

An increasingly important role in food control systems is the provision of information and public education and also advising all stakeholders. Such activities provide an important means of monitoring and objective evaluation of food through the information provided directly by all stakeholders, and thus they have an essential function to prevent.

Possessing information about suppliers or customers, allows that if an emergency occurs in terms of food safety, food should be identified and tracked in both directions (from raw material suppliers to consumers and consumers to suppliers raw materials) along the food chain (suppliers, processing, distribution, consumption). These informations can be used to withdraw food from the market faster and targeting certain products. The cases of emergencies due to microbiological contamination (eg. *E. coli* O<sub>157</sub>:H<sub>7</sub>), chemical contamination (eg veterinary drugs, dioxins) or physical contamination (eg glass) of product, or has been placed on the meat market unfit for human consumption.

Traceability of food and food ingredients along the food chain is an essential element in ensuring food safety. The Regulation 178/2002/EC establishes rules to ensure traceability of food and food ingredients and a procedure for the adoption of implementing rules for the application of these principles in different sectors (Regulation 852/2004/CE, the general rules for food hygiene point 20).

## CONCLUSIONS

The most important prerequisite that must meet a food product is the lack of harm, the toxic character, because otherwise, of a useful body, it becomes a threat to consumer health and life, but also for food security to all levels.

The minimum main condition to ensure health of the population resides in the consumption of wholesome food that is no factors that could cause illness.

The danger that a food can be potentially harmful to humans results from contamination or pollution it with microorganisms or chemicals.

The main causes affecting quality food hygiene can be shortly presented as follows: natural toxicity, contamination or physical, chemical or biological pollution.

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