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The National Environmental Health Association (NEHA) represents more than 6,700 governmental, private, academic, and uniformed services sector environmental health professionals in the U.S. and its territories and internationally. NEHA is the profession's strongest advocate for excellence in the practice of environmental health as it delivers on its mission to build, sustain, and empower an effective environmental health workforce.

Policy Statement on the Adoption and Implementation of the Current Food and Drug Administration's *Food Code*

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Foodborne illness is a serious public health problem in the U.S. (Scharff, 2010). The Centers for Disease Control and Prevention (CDC) estimate that foodborne illness causes approximately 48 million illnesses, 128,000 hospitalizations, and 3,000 deaths in the U.S. each year (CDC, 2018). To address food safety and foodborne illness, the Food and Drug Administration (FDA) developed the *Food Code*, a set of guidelines for regulating the retail and food service industry (U.S. Department of Health and Human Services, 2017).

The economic and financial burdens of foodborne illness have been thoroughly evidenced. The annual economic burden of foodborne illness in the U.S. is estimated to be $36 billion (Minor et al., 2015). Estimation of this burden includes costs such as medical care, hospitalized care, chronic illness, and death (Hoffman, Maculloch, & Batz, 2015). Outbreaks can cost retail food establishments up to $2.6 million (Bartsch, Asti, Nyathi, Spiker, & Lee, 2018). In 2015, a major chain restaurant had several foodborne illness outbreaks related to *E. coli*, *Salmonella*, and norovirus that gained significant media attention. These outbreaks resulted in sales dropping by 14.6% and revenue decreasing by 6.8% (Bartsch et al., 2018).

The National Environmental Health Association (NEHA) believes that complete adoption of the current *Food Code* in retail food establishments will likely reduce the incidence of foodborne illnesses. NEHA recognizes that wide jurisdictional variability exists in the adoption and implementation of the current FDA *Food Code*.

NEHA recommends the complete adoption and implementation of the current *Food Code* by all federal, state, local, tribal, and territorial governmental agencies to promote the most current knowledge on food safety.

NEHA recommends the following for federal, state, local, tribal, and territorial governmental agencies:

- Ensure that jurisdictions have the appropriate funding, resources, and guidance needed to implement the most current FDA *Food Code* and understand the cross-cutting benefits for consumers, industry, and regulatory agencies from adoption.

- Ensure that food safety jurisdictions at all levels of government and territorial government agencies are considered in decision-making conversations around the adoption and implementation of the most current FDA *Food Code*.

- Enroll in the Voluntary National Retail Food Regulatory Program Standards and comply with Standard 1 (Regulatory Foundation), which is an important component of a comprehensive strategic approach to help ensure the safety and security of the food supply at the retail level.

- Encourage use of the inspection form in the most current version of the FDA *Food Code* Annex 7 to ensure consistent violation language across all jurisdictions in the U.S.

- Participate in the Conference for Food Protection to provide perspective and insight into the challenges faced by jurisdictions when updating to the most current FDA *Food Code*.

Analysis

FDA's *Food Code* is a model code for safeguarding public health and represents FDA's best advice for a uniform system of provisions that address the safety and protection of food offered at retail food and food service industries (FDA, 2019). Historically, model codes were developed to assist state and local governments initiate and maintain effective programs for the prevention of foodborne illness. Today, FDA's purpose in maintaining an updated model *Food Code* is to assist food control jurisdictions at all levels of government by providing them with a scientifically sound, technical, and legal basis for regulating the retail segment of the food industry (FDA, 2017a). There are more than 3,000 state, local, tribal, and territorial government agencies that have the primary responsibility of regulating retail food and food service industries in the U.S. (FDA, 2019).

The *Food Code* is not law or a mandated regulation. It is a model code and a useful reference document that provides uniform guidance on food safety and sanitation for federal, state, local, tribal, and territorial agencies. These agencies regulate food service operations in institutions such as restaurants, retail food stores, food vendors, schools, hospitals, assisted-living facilities, nursing homes, and childcare centers (Marcason, 2014). Industry and government officials have long recognized the advantages of a well written, scientifically sound, and up-to-date model code (FDA, 2017a). Conformance with acceptable procedures and practices is far more likely when regulatory officials "speak with one voice" about what is required to reduce foodborne illness and protect the public health, why it is important, and what compliance alternatives might be acceptable (FDA, 2017a).

As the retail food industry evolves, the *Food Code* is updated with evidence-based methods for combatting risk factors related to foodborne illness. From 1997–2019, seven editions of the *Food Code* have been released. FDA issues a new edition of the *Food Code* every 4 years and supplementals are released in the intervening 2 years to reflect the most current research (Marcason, 2014). Local and tribal organizations might not be required to use the same version as their surrounding state

jurisdictions and are able to create unique regulations. Therefore, there is a wide variety of editions and unique regulations in place across the country.

Depending on which version of the *Food Code* is adopted, agencies will have differing requirements for restaurants and other food establishments. For example, there are variations in provisions addressing proper staff training, restaurant inspection reporting, and recommended temperatures for safe food consumption. Varying versions and application differences in the *Food Code* can cause confusion in requirements and lapses in national food safety standards and the prevention of foodborne illness.

Besides the public health costs, there is substantial evidence that the economic and financial costs of foodborne illness can be astronomical. The U.S. Department of Agriculture's (USDA) Economic Research Service (ERS) has estimated the cost of foodborne illnesses from 15 major pathogens that are responsible for more than 95% of illnesses and deaths from foodborne illnesses. ERS's mean estimate of the total annual cost of foodborne illness from noroviruses in 2013 was over $2.2 billion (U.S. Department of Agriculture [USDA], 2017). Overall, the economic impact for foodborne illness associated with the 15 pathogens studied was calculated to be $14.1–$15.2 billion annually (USDA, 2017). The uniform adoption of the *Food Code*, due to the inclusion of provisions for reducing foodborne illness outbreaks, will likely reduce costs for restaurants, states, consumers, and the country.

Justification

Collectively and individually, FDA, USDA's Food Safety and Inspection Service, and CDC work with federal, state, local, tribal, and territorial agencies to ensure that consumers are protected from foodborne illness. Each agency seeks to address the control of foodborne illness risk factors through various studies and initiatives, many of which stem from public health provisions within the *Food Code*.

FDA's Voluntary National Retail Food Regulatory Program Standards define what constitutes a highly effective and responsive program for the regulation of food service and retail food establishments. The standards provide a foundation and system upon which all regulatory programs can build by promoting continuous improvement of food safety inspection programs. These standards promote the adoption of evidence-based rules and regulations, such as the *Food Code*, for retail food regulatory programs to follow. Enrollment in the program increases communication between FDA and federal, state, local, tribal, and territorial governments. It also encourages national uniform adoption of the most current *Food Code*.

CDC has identified five risk factors associated with foodborne illness in the retail food industry: poor personal hygiene, improper food holding temperatures, contaminated equipment, inadequate cooking temperatures, and food obtained from unsafe sources (CDC, 1996). More than one half of foodborne illness outbreaks are connected to restaurants or other commercial food outlets (Angelo, Nisler, Hall, Brown, & Gould, 2017).

To avoid these risk factors and improve the safety of commercial kitchens, Shaw (2017) recommended training workers in food management courses and food handling programs, conducting self-inspections, conducting third-party inspections, and using temperature logs. These risk-reducing actions are associated with lower levels of foodborne illness (Shaw, 2017). Implementation of the current version of the *Food Code* ensures that new evidence-based knowledge is being applied to address these risk factors and that the most current food safety management systems and protocols are being followed in commercial kitchens.

Food safety management systems are a set of actions (e.g., procedures, training, and monitoring) intended to promote food safety and decrease foodborne illness within retail food establishments. The U.S. has multiple food safety management systems with varying degrees of implementation and requirements throughout the country (FDA, 2018). One way to provide physical, written evidence that a retail food establishment is following the *Food Code* is the development and implementation of standard operating procedures. Standard operating procedures for a retail food establishment improve areas such as food safety, staff training tools, references for staff, consistency in processes, and reduction of mistakes (Truitt, 2018).

Trained and certified food employees are instrumental in developing and maintaining a successful food safety management system. Having a certified food protection manager on staff is associated with many benefits, including better inspection scores, fewer foodborne illness outbreaks, safer food preparation practices, and cost-effectiveness (Lipcsei & Kambhampati, 2016). The *Food Code* provides guidelines for the assignment of responsibility, demonstration of knowledge, and certification of food protection managers, which strengthen food safety management systems (FDA, 2017b). Uniform adoption of the current version of the *Food Code* would create a level regulatory landscape as a foundation to a nationwide food safety management system that promotes food safety and likely decreases foodborne illness.

In 2016, CDC released a report focused on determining whether food establishments were meeting four provisions from the 2013 *Food Code*: 1) preventing ill staff from working for at least 24 hours after symptoms ceased, 2) preventing bare hand contact with ready-to-eat foods, 3) requiring food service staff to wash their hands, and 4) requiring at least one staff member to become a certified food protection manager. The report found only 17 states had adopted all four of these provisions (Lipcsei & Kambhampati, 2016). Lack of compliance with these items is associated with food safety issues, including norovirus outbreaks from contaminated food (CDC, 2014). Additionally, poor hand hygiene has been shown to be a significant cause of food contamination and only one third of employees wash their hands when they should (Lipcsei & Kambhampati, 2016). Uniform adoption of the current version of the *Food Code* ensures these food safety protective measures are in place for a retail food establishment to achieve compliance.

Although use of the *Food Code* is not legally mandated, NEHA recommends complete adoption and implementation of the most current version. Benefits associated with complete adoption of the current *Food Code* include ensuring better retail food service compliance, reliance on up-to-date scientific knowledge, and improved public health performance of restaurants. In addition, adoption of the current version is associated with improved consumer knowledge and reduced costs to society (FDA, 2017a). Provisions in the *Food Code* also support many of the objectives of Healthy People 2020, a set of national public health promotion goals established by the U.S. Department of Health and Human Services. Nationwide uniform implementation of the most current version of the *Food Code* ensures that evidence-based research used to promote food safety will reduce the incidence of foodborne illness and the economic burden associated with foodborne illness for industry, health agencies, and the public.

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