



Americans spend more than \$1 trillion on food each year, nearly half of it in restaurants, schools, and other establishments outside the home.¹ Therefore, maintenance of a healthy and safe food pipeline is a strategic national imperative. To achieve that goal, federal agencies cooperate with state and local entities to develop systems, standards, and the workforce necessary to assure universal access to safe and nutritious food.

The Problem

The Government Accountability Office has identified as many as 15 federal agencies, including the Food and Drug Administration (FDA) and US Department of Agriculture (USDA), tasked with administering at least 30 food safety laws. Nonetheless, foodborne illness remains a problem in the US. According to CDC, every year one in six Americans becomes ill and 30,000 Americans die from ingesting contaminated food or beverages.² Foodborne illnesses cost the country more than \$15.6 billion annually.³ While all Americans are susceptible to foodborne illness, certain populations, including children, pregnant women, people with disabilities, the elderly, and individuals with compromised immune systems, are particularly vulnerable.⁴ Preventing foodborne illness remains one of public health's greatest challenges.

The laboratory-based network used to detect and help resolve foodborne disease outbreaks in the US is the PulseNet network established by CDC and the Association of Public Health Laboratories in 1996. According to a recent CDC report, PulseNet is not only effective, but cost-effective:⁵

PulseNet, the national laboratory network that detects foodborne disease outbreaks, prevents an estimated 270,000 illnesses every year from the three most common causes of foodborne illness: Salmonella, E. coli O157, and Listeria monocytogenes. As a result, an estimated \$507 million is saved every year in medical costs and lost productivity. A recent economic evaluation of PulseNet activities from 1994 to 2009 shows the exceptional cost-effectiveness of this network. PulseNet costs public health agencies \$7.3 million annually. But it provides an economic benefit about 70 times greater than its cost by quickly identifying

problems in the food supply that would not otherwise be recognized. This fast detection of problems leads to prompt actions to stop foodborne outbreaks, prevent additional people from getting sick, and save lives.

Despite this success, PulseNet's effectiveness may be compromised by clinical laboratories' increasing use of molecular diagnostic tests that do not require growing microbial isolates in culture. This deprives the network of cultured isolates for later public health analysis. Sufficient funding to facilitate an evolution of PulseNet can help assure its continued effectiveness.⁶

A Workforce That Protects Our Food

A qualified food safety workforce is essential to ensure the integrity of the food system. State and local food safety professionals comprise the principal governmental workforce that ensures safe food. Food safety professionals come from a diverse array of disciplines that include auditors, inspectors, regulators, epidemiologists, environmental health professionals, laboratorians, and other public health practitioners. These professionals benefit from standardized credentials and training to ensure integrated, science- and risk-based food safety practices across the entire food safety system.

Such a comprehensive system includes:

- **Work planning and inspections** to ensure coordinated approaches to plan and conduct industry oversight activities;
- **Compliance enforcement** to ensure coordinated and targeted food safety inspections;
- **Public health surveillance, response, and post-response activities** to ensure rapid detection and resolution of foodborne disease outbreaks;
- **Governmental food safety laboratories** to generate science-based data, detect outbreaks, and inform outbreak response activities;
- **Training and certification** (such as that provided by the National Environmental Health Association) to assure food safety professionals are well-qualified and appropriately credentialed; and
- **Information technology and data standards** to facilitate the sharing of electronic data among clinical and public health partners.

Access to Affordable and Nutritious Food

Universal access to affordable and nutritious foods is imperative for public health. Studies, however, have documented unequal access to retail food outlets in parts of the US. Supermarkets and other fresh food sources tend to be scarce in low-income, minority, and rural communities. Altogether, 6.5 million US children live in communities without access to fresh fruits and vegetables.⁷

Pesticides in Food

Pesticides used to protect crops from insects, rodents, mold, and other pests are regulated by EPA, and pesticide residues are measured by USDA.⁸ Still, every year a million children under age 6 are

involved in pesticide poisoning incidents.⁹ Pesticide exposure has particularly severe impacts on children, compared with adults, owing to their underdeveloped physiology and smaller size.

Opportunities for Action

- 1) Enhance workforce training and credentialing.
- 2) Facilitate timely and efficient communications among all food safety agencies.
- 3) Support implementation of the foodborne disease-related provisions of the 2013 FDA Food Code to reduce the spread of foodborne illnesses in retail food establishments:
 - Exclude ill food service staff from working until at least 24 hours after symptoms, such as vomiting and diarrhea, have ended.
 - Prohibit bare hand contact with ready-to-eat food.
 - Require at least one food service employee to be a certified food protection manager.
 - Require food service employees to wash their hands before beginning work or returning to work after breaks.
- 4) Adopt a “Health in All Policies” approach for food safety to assure a clear mandate for coordination and engagement with food safety-related stakeholders within and outside of government. (“Health in All Policies” is a guide for state and local governments developed by the American Public Health Association, the Public Health Institute, and the California Department of Public Health.)
- 5) Adopt integrated pest management practices to reduce children’s exposure to pesticides.

For more information, visit:

American Public Health Association

- *Health in All Policies: A Guide for State and Local Governments:*
https://www.apha.org/~media/files/pdf/factsheets/health_inall_policies_guide_169pages.ashx

Association of State and Territorial Health Officials

- Position statement on an integrated food safety system: <http://www.astho.org/Policy-and-Position-Statements/Position-Statement-on-Integrated-Food-Safety-System/>

Centers for Disease Control and Prevention

- Food safety website: <http://www.cdc.gov/foodsafety/>
- National Center for Environmental Health food safety resources, tools, and training: <http://www.cdc.gov/nceh/ehs/activities/food.html>

- National Center for Environmental Health’s Environmental Health Specialist Network: <http://www.cdc.gov/nceh/ehs/ehsnet/index.htm>
- National Center for Environmental Health [e-Learning on Environmental Assessment of Foodborne Illness Outbreaks](http://www.cdc.gov/nceh/ehs/elearn/ea_fio/index.htm) training course: http://www.cdc.gov/nceh/ehs/elearn/ea_fio/index.htm
- Prevention Status Report – Food Safety Practices: <http://www.cdc.gov/nceh/ehs/news/features/2016/food-safety-psr.html>
- Vital Signs – Making Food Safer to Eat: <http://www.cdc.gov/vitalsigns/FoodSafety/>

National Association of County and City Health Officials

- NACCHO Food Safety Program: <http://www.naccho.org/programs/environmental-health/hazards/food-safety>

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