

Situation

Foodborne illness has been estimated to cost the US economy an average of \$55.5 billion to \$93.2 billion (Scharff, 2015). The average cost per case of foodborne illness in Kansas was estimated to range from \$1,089 to \$1,841 (Scharff, 2015). This represents a total cost of \$475.8 million to \$804.6 to the Kansas economy, which are preventable expenses. Additionally, there have been a number of recent nationwide and local outbreaks recently which have received a large amount of press coverage. Therefore, public awareness of food safety continues to increase. The 2013 K-State Research and Extension Prioritization Survey ranked: "Handle, store, and preserve food safely," as a high priority. In the 2009 K-State Research and Extension Strategic Opportunities Survey of 564 county Program Development Committee members, 86% of respondents indicated that enhancing the safety of the food supply was important or somewhat important.

The U.S. Centers for Disease Control and Prevention (2011) estimate that in the U.S. roughly one in six Americans (or 48 million people) get sick, 128,000 are hospitalized and 3,000 die of foodborne illness each year. The most severe cases tend to occur in the very old, the very young, those who are immune-compromised, and in healthy people exposed to a very high dose of an organism. Most cases of foodborne illness can be prevented through proper hygiene practices, including hand washing and following proper food handling and preparation recommendations, from farm to plate. Education is essential to help improve food safety practices and therefore improve human health. In fact, it is estimated that community handwashing education can reduce the number of people who get sick with diarrhea by 31% (Ejemot et al, 2008; Aiello et al, 2008)

Expenditures for meals eaten away from home account for a major share of food spending. The increase in dollars being spent on foods prepared outside of the home increases the need for food safety education programs targeting foodservice operations (including restaurants, schools, hospitals, long-term care facilities, childcare centers and grocery stores).

Nationally and in Kansas, increased interest in locally-grown foods and preserving foods at home requires additional food safety education that is relevant to these practices. The USDA reports 8476 Farmers Markets across the US in 2015; an increase of almost 50% from 2006. In Kansas, farmers markets have grown from 26 to 1987 to more than 108 in 2016, and that number is expected to continue to climb. According to the National Gardening Association (2014), the number of US households participating in food gardening grew from 36 million households to 42 million households from 2008 to 2013. That's an overall increase in participation of 17% in 5 years and a compound annual growth rate of 3% a year. A survey released in June 2016 by Jarden Home Brands found that 77% of gardeners have canned, frozen or dehydrated foods to preserve them, 33% of whom are Millennials. The 2016 survey also found that nearly half (46%) of gardeners can foods because they want to eat foods at their seasonal peak freshness year round. A 2011 Jarden Home Brands survey found that the fastest-growing population of new home-canners are ages 40 years and younger and live in suburban areas.

Those who preserve food at home often get the foods from their own gardens or at local farmers markets.

Food safety education programs are necessary to help consumers, especially high-risk groups, and foodservice personnel become more aware of foodborne illness risks, to reduce risky food consumption and preparation behaviors, and to develop safe food handling practices to improve human health and strengthen the global food supply.

Public Value

When you support the K-State Research and Extension Kansas Consumer Food Safety Education Program, participants will help ensure an abundant and safe food supply for all through safe food preparation, safe home food preservation practices, improved hand washing, and safer farmers market vending practices which will lead to reduced incidence of foodborne illness in the home and from food service/long term care/child care facilities/farmers markets, and an improved quality of life. This will benefit community members by having a safe food supply at home and away-from-home, as well as reducing public cost

of health care and health insurance and increasing the number of productive contributing citizens. This will also help farmer's market vendors and other produce growers improve their long-term economic situation.

Outcomes

Short-Term (Knowledge)

- Program participants improve their attitudes toward, and awareness of, issues related to food safety.
- Participating Extension agents, Master Food Volunteers, foodservice professionals, farmers market vendors, produce growers, and foodservice volunteers increase their knowledge and skills of safe food handling from production to consumption.
- Public program participants increase their knowledge of and skills in safe food handling practices, food safety regulations, hand washing, and home food preservation techniques.

Indicators

- What awareness, knowledge, skills or change in attitudes did program participants gain regarding food safety and/or hand washing?
- What awareness, knowledge, skills or change in attitudes did program participants gain regarding home food preservation?

Medium-Term (Behavior)

- Participating Extension agents, Master Food Volunteers, foodservice professionals, farmer's market vendors, produce growers, and foodservice volunteers demonstrate increased safe food handling practices (including handwashing) from production to consumption.
- More venues serving food in Kansas have food-safety trained employees or volunteers.
- Program participants demonstrate increased use of safe food handling practices and home food preservation techniques.

Indicators

- Three to six months after a program, what changes do program participants report regarding safe food handling practices from production to consumption and in home food preservation?
- How many and what types of organizations and foodservice professionals or volunteers have completed food safety programs, the "food safety employee" level of a food safety course, and successfully completed the ServSafe exam?

Long-Term (Change in Condition)

- Fewer Kansans experience foodborne illness, resulting in reduced health care costs.
- Foodborne illnesses reported by the Kansas Department of Agriculture and KDHE Office of Epidemiology decrease.
- Kansas Department of Agriculture foodservice code violations in various kinds of food service operations decrease.
- Fewer incidences of foodborne illness from home food handling and preservation are reported.

Indicators

- Have foodborne illnesses reported by the Kansas Department of Agriculture and KDHE Office of Epidemiology decreased?
- Have Kansas Department of Agriculture foodservice code violations in various kinds of food service operations decreased?
- Has the reported incidence of foodborne illness from home food handling and preservation decreased?

Outputs

Participants:

- Extension agents
- Master Food/Gardener volunteers
- Foodservice professionals
- Foodservice volunteers
- General public: school-aged youth, adults living in Kansas
- Farmer's Market organizations and vendors

Activities:

- Nutrition, Food Safety, and Health Program Focus Team and other Extension Agent Updates
- Master Food/Master Gardener Volunteer Program Trainings
- Jr. Master Gardener Program Resources/Trainings
- ServSafe Certification Workshops- Manager and Food Handler level
- School foodservice Trainings
- In-services for food service professionals outside of Extension
- Food Safety education presentations/classes for consumers
- Handwashing trainings and demonstrations, including High-Speed Handwashing
- Food Preservation Workshops, videos, infographics, and publications for consumers (in English and Spanish)
- Food Safety & ServSafe Websites
- Fight Bac Goes to Child Care Resources-www.fightbac.org/campaigns/fight-bac-goes-to-childcare
- "Keeping Kids Safe"- food safety for childcare providers
- Announcements and news releases/TV/PSA/Web/social media announcements
- SNAP-ED/EFNEP Resources
- "You Asked It" Newsletter/"Preserve it Fresh, Preserve it Safe" and other Newsletters
- Updates for current food safety training resources
- Farmers Market vendor workshops
- Food Safety presentations in other workshops, such as BBQ101
- State and organization advisory committees
- Partner with Kansas Restaurant and Hospitality Association (KRHA), Kansas Department of Agriculture, Kansas Department of Aging and Disability Services, Kansas Department of Education Child Nutrition and Wellness, Kansas Department of Health and Environment (KDHE) and local health departments to identify and implement statewide food safety education needs
- Implement targeted training and educational opportunities using materials and resources from: USDA Fight Bac; KS Department of Agriculture "Focus on Food Safety"; Other state extension resources; "So Easy to Preserve" materials; National Center for Home Food Preservation - <http://www.uga.edu/nchfp/> , and other reputable sources
- Locating targeted groups and individuals and providing food safety information/education. These groups/individuals may include: for-profit and non-profit foodservice operators/owners/employees, schools, daycare homes/center providers, nursing homes, hospitals, county fair food vendors, families, parent groups and clubs, students, 4-H youth, other consumers.