

# Food Safety Research Consortium

A MULTI-DISCIPLINARY COLLABORATION TO IMPROVE PUBLIC HEALTH

## ***Background***

### **The Food Safety Research Consortium**

#### *What is the Food Safety Research Consortium?*

The Food Safety Research Consortium (FSRC) is a vehicle for collaboration among researchers from diverse institutions and disciplines to improve how the U.S. food safety system works to reduce the burden of foodborne illness. The members of the FSRC are:

- The Center for Food Safety at the University of Georgia;
- The Department of Epidemiology and Preventive Medicine, University of Maryland School of Medicine;
- The Food Marketing Policy Center at the University of Massachusetts;
- The Institute for Food Safety and Security at Iowa State University;
- The National Food Safety and Toxicology Center at Michigan State University;
- Resources for the Future (RFF), a Washington-based think tank; and
- The Western Institute for Food Safety and Security at University of California, Davis.

#### *What problem is the FSRC addressing?*

For over 20 years, scientists and public health regulators have worked to apply the science of risk assessment to food safety decision making. As a result, the

U.S. food safety regulatory system has a well-deserved reputation for making careful, science-based decisions about specific hazards, and has high credibility with consumers as being among the best in the world.

Food safety remains, however, a difficult and dynamic problem. New food safety challenges flow from changed eating patterns, the aging of the population, increased reliance on food imports, new food production and processing technologies, and the emergence of new pathogens. The Centers for Disease Control and Prevention estimate that there are 76 million foodborne illnesses each year, with an associated 325,000 hospitalizations, and 5,000 deaths. These challenges have led to calls for a food safety system that is more science- and risk-based in the sense that it allocates its resources more in accordance with the distribution of risks and the opportunities to reduce risk across the food supply.

The FSRC focuses on improving the allocation and effectiveness of the government's food safety resources and efforts, but it recognizes that government is only one part of the food safety equation. All those involved in the production, processing, distribution and sale of food have a primary role and responsibility for food safety, as do

consumers. Indeed, these private participants in the food system have the most direct role and interest in ensuring food is safe, with government affecting food safety primarily through its interactions with them. Government's role is critical, however, because of society's reliance on it to set and enforce food safety standards, conduct productive research and education, and collaborate effectively with the private sector. The continued success of the government program is necessary both to reduce the risk of foodborne illness and to maintain public confidence in the food supply.

#### *What will the FSRC do?*

The vision of a science- and risk-based approach to food safety calls for ranking the public health impact of significant foodborne risks and then prioritizing opportunities to reduce those risks. This task requires the right analytical and decision tools – organized ways of collecting and using relevant information to devise effective research, regulatory, and educational interventions and make resource allocation decisions. FSRC will develop these tools.

The FSRC plans to develop three categories of decision tools.

The first is a **risk ranking model** that ranks the public health impact of significant foodborne hazards including microbial pathogens, chemical contaminants, and intentional threats, such as bioterrorism. The model will take into account:

- The incidence and severity of adverse health outcomes resulting from specific hazards;
- The economic impact of such health outcomes in terms of cost of illness and lost productivity; and

- Social values and other factors relevant to judging the significance of a potential hazard for public health, such as pain and suffering, impact on children, and reversibility of impacts.

Development of the risk ranking model involves multiple disciplines and public health perspectives, and is being undertaken collaboratively by a diverse group of experts.

The second category of decision tools includes **models to prioritize opportunities to reduce risk**, taking into account the feasibility, effectiveness, and cost of possible interventions. Such models require:

- Understanding the relative contributions of specific foods and pathogen-food combinations to the risk of illness, as revealed by the risk ranking model;
- Knowing how and where in the food system significant public health risks arise and can be controlled, including their amenability to reduction through government intervention;
- Understanding how the current food safety system, including both public- and private-sector efforts, contributes to reducing potential risks;
- Evaluating the feasibility and effectiveness of possible interventions, including research, regulation, and education; and
- Comparing the cost to the government and society of various interventions in relation to the degree of risk reduction likely to be achieved.

By integrating these factors, it will be possible to identify the opportunities for government intervention, including collaborations with the private sector, that are likely to achieve the greatest

reductions in the burden of foodborne illness.

The third category of decision tools consists of **resource allocation models** that begin with the risk ranking and prioritization of opportunities to reduce risk, but also take into account legislative mandates, other public health and public policy priorities, and necessary contingencies for unplanned and unpredictable events. Government policymaking cannot be reduced to a formula, but greater analytical rigor in planning food safety programs can help ensure they achieve their critical public health objectives.

*How does the FSRC conduct its work?*

The work of the FSRC is inherently interdisciplinary and requires the efforts of experts in both the natural and social sciences and from many institutions. The FSRC seeks the widest possible collaboration on specific projects with individual researchers and research institutions and welcomes additional institutions as project participants and as members of the consortium. Because the FSRC intends its work to be of practical value to government policymakers and risk managers, it seeks and values dialogue and collaboration with government officials and experts.

The FSRC provides a flexible vehicle for identifying research needs and opportunities, and for planning projects. Specific projects may be carried out by the consortium as a whole, by two or more of the participating institutions, or by FSRC participants working on an *ad hoc* basis with other individuals and institutions. In addition, FSRC participants will continue to pursue their

own food safety projects and activities independent of the consortium.

A key component of every FSRC research or tool development project is a process (consisting of meetings, workshops, consensus conferences, or other vehicles) to solicit input on the project from interested experts and stakeholders, and to disseminate the results of the project. The FSRC will also convene, upon request, forums to disseminate and solicit comment on the work of others.

The results of FSRC projects will be published in both the scholarly literature and in forms accessible to non-technical audiences.

*How is the FSRC funded?*

The Milbank Memorial Fund supported the formation of the FSRC. The FSRC's initial risk ranking project was funded by The Robert Wood Johnson Foundation, with follow up funding from USDA's National Integrated Food Safety Initiative, administered by the Cooperative State Research, Education, and Extension Service (CSREES). The CSREES' NRI grant program is also currently funding two FSRC projects that will further develop the FSRC's risk ranking model and create a framework for prioritizing opportunities to reduce risk.

The USDA's Economic Research Service and Office of Risk Assessment and Cost-Benefit Analysis, FDA's Center for Food Safety and Applied Nutrition, and the Joint Institute for Food Safety and Applied Nutrition have also supported FSRC programs.

*How is the FSRC governed?*

The activities of the FSRC are overseen by a Steering Committee consisting of one representative from each of the seven member institutions. The members of the Steering Committee are Dr. Julie Caswell, University of Massachusetts; Dr. Michael Doyle, University of Georgia; Dr. Jerry Gillespie, University of California at Davis; Dr. J. Glenn Morris, University of Maryland; Mr. Michael R. Taylor, RFF (Chair); Dr. Ewen Todd, Michigan State University; and Dr. Catherine Woteki, Iowa State University.

The FSRC has a Program Manager, RFF Research Associate Jody Tick, who provides day-to-day coordination of FSRC activities and organizational support for specific research projects.

*FSRC Contacts*

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