

# Food Safety Research Consortium

A MULTI-DISCIPLINARY COLLABORATION TO IMPROVE PUBLIC HEALTH

## ***Background***

### **A Model for Ranking the Public Health Impact of Foodborne Hazards**

*What is the purpose of the risk ranking model?*

The goal of the Food Safety Research Consortium (FSRC) is to improve how the U.S. food safety system works to reduce the threat of foodborne illness. To achieve this goal, the FSRC is developing decision tools that policy makers need to better identify and prioritize opportunities to reduce food safety risks and allocate government resources accordingly.

As a first step, the FSRC will develop a risk-ranking model that will enable policy-makers, risk managers, and risk analysts to compare and rank the relative public health impact of specific foodborne hazards, including appropriate measures of the economic impact of illness. The model initially will focus on the ranking of microbiological hazards and later will be expanded to include chemical contaminants and intentional threats, such as bioterrorism.

*Why is a risk-ranking model needed?*

There is broad interest among experts and policy-makers in moving toward a food safety system that is more science- and risk-based. Such a system would allocate resources more in accordance with the distribution of risks and the opportunities to reduce risk across the food supply. Little work has been done, however, to develop the decision tools policy-makers need to

achieve this goal. The ability to compare and rank the relative public health impact of foodborne hazards is an essential first step in prioritizing risk-reduction opportunities and allocating resources accordingly. The FSRC risk-ranking model will provide a practical tool for making such comparisons and rankings.

*How will the model be developed?*

The model will be developed by a multi-disciplinary team from Resources for the Future (RFF), the University of Maryland School of Medicine, and Iowa State University.

The model will incorporate data on foodborne illness surveillance; food-pathogen combinations; medical symptoms, complications, and outcomes; economic impact; and social values relevant to judging the significance of a potential hazard to population health. It will be a flexible, Internet-based, model that can be updated readily as new and more complete data become available. It also will be constructed to maximize transparency, so that users can identify data gaps and easily understand the assumptions that went into developing the model and the resulting risk profiles. The Internet-based format also will permit users to test alternative assumptions and use different parameters to conduct risk rankings. The goal is to develop a tool that

will be widely accepted and used, transparent and objective. To accomplish this, the project team will:

- Develop a model structure for ranking the relative public health impacts of various foodborne pathogens and pathogen/food combinations;
- Conduct a ranking exercise based on currently available data;
- Identify gaps in the data required to complete such a ranking;
- Seek input on the model from the FSRC Expert Panel and other public- and private-sector experts;
- Convene a consensus conference to review and amplify the work of the project team; and
- Make the resulting model available through print and electronic formats.

*When will the model be completed?*

We anticipate having a basic model structure in place and to complete the consensus-building and dissemination elements of the project by the end of 2003. While additional refinement and expansion of the model is anticipated, along with optimization of data inputs, this “Phase 1” model will provide a powerful tool with which to address key policy issues related to reducing foodborne illness.

*How is the risk-ranking model project funded?*

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