

FY2017 Report

Introduction

The Interagency Risk Assessment Consortium (IRAC) is a collaborative network of federal agencies with responsibilities and interests in the conduct and use of food-safety risk assessment. It was established in response to Presidential Executive Order 13100, in 1998, to enhance cross-agency coordination of food-safety risk-assessment activities and to provide support for the emerging field of quantitative microbiological risk assessment and application in guiding federal food-safety policies. In 2011, in response to a recommendation from the President's Food Safety Working Group, the IRAC was re-chartered¹ to further enhance coordination and information-sharing among federal agencies.

The consortium aims to improve risk-assessment research, enhance the development and use of risk-assessment tools, and serve as a forum for communication about risk assessment and related research issues. IRAC accomplishes many of its goals through the work of its Policy Council and Technical Committee, both of which include representatives from 22 Federal agencies and offices that constitute the consortium's current membership.

Over the past 19 years, IRAC has explored a range of issues related to the conduct and use of federal food safety (microbial and chemical) risk assessment. Research topics addressed by IRAC include data quality, peer review, nutrients, susceptible sub-populations, nanotechnology, microbiomes, genomics, and, more recently, consideration of the impact of nutrition and food safety. IRAC also has continued to explore evolving approaches to assessing food-safety risks, application of risk assessment in decision-making (including integration with economic analyses), and enhanced stakeholder engagement in the development of risk assessments.

IRAC Signatory Agencies:

■ Department of Agriculture

- ❖ Agricultural Marketing Service
- ❖ Agricultural Research Service
- ❖ Animal and Plant Health Inspection Service
- ❖ Economic Research Service
- ❖ Food and Nutrition Service
- ❖ Food Safety and Inspection Service
- ❖ National Agricultural Statistics Service
- ❖ National Institute of Food and Agriculture
- ❖ Office of the Chief Scientist
- ❖ Office of Pest Management Policy
- ❖ Office of Risk Assessment and Cost Benefit Analysis

■ Department of Commerce

- ❖ National Oceanic and Atmospheric Administration

■ Department of Health and Human Services

- ❖ Centers for Disease Control and Prevention
 - National Center for Emerging and Zoonotic Infectious Diseases
 - National Institute for Occupational Safety and Health
- ❖ Food and Drug Administration
 - Center for Biologics Evaluation and Research
 - Center for Food Safety and Applied Nutrition
 - Center for Veterinary Medicine
 - Office of Foods and Veterinary Medicine
- ❖ National Institutes of Health
 - National Institute of Allergy and Infectious Diseases

■ Environmental Protection Agency

- ❖ Office of Pesticide Programs
- ❖ Office of Water

■ U.S. Agency for International Development

¹ 2011 IRAC Charter available at: <http://foodrisk.org/irac/charter>

More recently, IRAC has encouraged members to make risk-assessment tools more easily available to the public, on the consortium's host website, at Foodrisk.org .

IRAC FY17 Objectives

IRAC successfully advanced the three key overarching objectives identified in the FY17 Annual Plan:

- *Enhanced Governance and Operation of the IRAC*
- *Strengthen Outreach and Engagement of Federal Partners*
- *Facilitate Interagency Coordination and Information-Sharing*

Selected achievements toward these objectives are detailed below.

Enhanced Governance and Operation of the IRAC. The IRAC created and broadly shared the FY2017 Annual Plan by posting it on the IRAC website and sharing it with signatory Agencies in December 2016. To streamline operation, the IRAC established the annual quarterly meeting schedule and issued a memorandum to clarify the roles of technical representatives to enhance information-sharing among signatory agencies. This memorandum was presented and discussed at the June quarterly meeting.

Strengthen Outreach and Engagement of Federal Partners. IRAC members worked with the Joint Institute for Food Safety and Applied Nutrition/University of Maryland IT staff to design an updated IRAC website. The draft website is under review before formal launch in FY18. To recognize new IRAC signatory member agencies, a portion of each quarterly meeting included a forum for new member agencies to present on their work that is relevant to the mission of the IRAC. Examples include presentations by new member agencies -- Food and Drug Administration (FDA) Office of Foods and Veterinary Medicine (OFVM) and FDA's Center for Biologics Evaluation and Research (CBER). In addition, the U.S. Department of Agriculture's Economic Research Service (USDA/ERS) and USDA's Office of Pest Management Policy were recognized for their service as the Technical Committee Chair and Executive Secretary, respectively. Engagement of existing IRAC member agencies resulted in the USDA's Animal and Plant Health Inspection Service (APHIS) volunteering to serve as the new Executive Secretary, with USDA's Office of Pest Management Policy providing leadership for the IRAC Technical Committee.

Facilitate Interagency Coordination and Information-Sharing. A major effort was made working with IRAC members to share food safety risk assessment models and related tools developed by federal agencies on Foodrisk.org. The revised website (described above), which is now being finalized, includes over 16 new databases, tools, and models for conducting food safety risk assessment have been made available on this new site. A few examples of these tools include: USDA's Foodcode Selector tool used to support dietary consumption analysis and an updated U.S. Department of Agriculture, Food Safety and Inspection Service (USDA/FSIS) risk assessment for evaluating processing interventions for *Listeria monocytogenes* in ready-to-eat foods. The quarterly meetings and IRAC workgroups are another key way that IRAC facilitates interagency coordination and information sharing. Details about these activities are provided below.

Quarterly Meetings

The Technical Committee met in December 2016 and March, June, and September 2017. Members gave agency updates, our new signatory agencies provided an overview of their organization and their roles in food safety, and both members and invited guests gave presentations (described below). The Policy Council met during the spring quarterly meeting to review the Charter and develop an annual plan for FY2018.

IRAC members exchanged information about risk assessments and related activities that their agencies were reviewing, conducting, updating, or revising, including:

- Modeling Approaches Utilized by the Interagency Food Safety Analytics Collaboration (IFSAC) presented by Joanna Zablotzky-Kufel (USDA/FSIS) at December 2016 meeting
 - Spotlight on IFSAC Project: Comparing Characteristics of Sporadic and Outbreak-Associated Foodborne Illnesses, United States, 2004–2011. (Publication: Ebel, et al. 2016. [Emerging Infectious Disease](#))
- Public Disclosure of Tests for *Salmonella*: The Effects on Food Safety Performance in Chicken Slaughter Establishments presented by Mike Ollinger (USDA/ERS) at the March 2017 meeting
- Frank Hearl of the Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health briefed IRAC on the Working Group on Chemical Toxicity Assessment of the Toxics and Risk Subcommittee (Committee on Environment, Natural Resources, and Sustainability of the National Science and Technology Council)
- Effects of Extreme Weather on *Salmonella* Positives in Young Chicken Slaughter Establishment (Young Chicken Carcasses) by John Linville (USDA/FSIS) at the June 2017 meeting
- Wildlife as Sources of Foodborne Pathogens by Alan Franklin (USDA/APHIS) at the September 2017 meeting

New IRAC signatories presented overviews of their organizations' risk assessment activities:

- Barry Hooberman presented for the FDA, Office of Foods and Veterinary Medicine (OFVM) at the December 2016 meeting;
- Richard Forshee presented for the FDA, Center for Biologics Evaluation and Research (CBER) at the June 2017 meeting

Work Group Projects

IRAC work groups are a means for IRAC member agencies to collaborate and share technical expertise regarding specific topics or issues. Members review and synthesize data and information and convene workshops featuring experts. The work groups' products can be used by member agencies to fill data and information gaps in risk assessment projects. The products are posted on the IRAC website at www.FoodRisk.org and sometimes are published as papers in scientific journals, to benefit the larger risk assessment community. Accomplishments resulting from these projects are described below.

■ **Characterization and Evaluation of Dietary Exposure Assessment Approaches and Needs**

This work group, chaired by Judith Spungen (FDA-CFSAN), includes participants from USDA-FSIS, USDA Agricultural Research Service, FDA, and the Environmental Protection Agency. A goal of the workgroup was to provide a systematic comparison of data sources and analytical tools used by various U.S. federal agencies for dietary exposure assessments. IRAC representatives met regularly throughout FY2017 to discuss and present information on the approaches and procedures their agencies used for conducting dietary exposure assessment and shared how this information is used with their decision-making context. The work group also discussed potential uses of currently existing dietary assessment data sources and software packages and identified future needs. A roundtable discussion to further share information is planned for FY18.

■ **Implication of Whole Genome Sequencing (WGS) and Quantitative Microbial Food Safety Risk Assessment**

This workgroup, chaired by Janell Kause, USDA-FSIS, and Sherri Dennis, FDA-CFSAN, was established to evaluate the implications of WGS on the conduct and application of microbial risk assessments and food safety decision-making. This workgroup was proposed in December 2016, and formed in January 2017. The workgroup conducted a literature review, identifying 33 relevant scientific papers. A total of 12 in-depth and round-robin discussions were held with the workgroup members, representing 10 federal agencies. Educational webinars were sponsored including a presentation titled "Whole Genome Sequencing "101" – What Risk Assessors Need to Know" by Eric Brown and Marc Allard (FDA/CFSAN) on March 16, 2017 and another, "Whole Genome Sequencing: The Transformation of Surveillance and Outbreak Investigation for Foodborne and Enteric Pathogens," by CDC's Dr. Ian Williams on April 13, 2017. IRAC also engaged national and international experts exploring the application of WGS to food safety risk assessment at the 2017 International Association for Food Protection. On September 27, 2017, IRAC hosted the resulting workshop, providing a forum for Federal Agencies to explore the practical application of WGS data to inform assessment of public health risks from foodborne pathogens. The expected outcome of the workshop is an action plan (to be finalized in FY18) to further advance the future utilization of WGS within the risk assessment framework.