

## Workshop Agenda

### Exploration of the Implications of Whole Genome Sequencing on the Conduct and Application of Risk Assessment in Food Safety Decision-Making

September 27, 2017

This workshop<sup>1</sup> provides a forum for federal partners to explore the practical application of whole genome sequencing (WGS) data to advance how federal agencies assess microbiological food safety risks for purposes of guiding risk management decisions. It is the culmination of multi-disciplinary, cross-agency discussions on how WGS may provide improved data, including enhanced epidemiological linkage of clinical cases of illness to food source, insights to new intervention options to reduce contamination and prevent foodborne illnesses, and an enhanced understanding of consumer exposure to specific strains of a foodborne pathogen that result in illness.

WGS provides maximum resolution for DNA-based characterization of pathogens. While data interpretation remains a challenge (e.g., translation into physiological behavior), the rapidly decreasing costs, timely generation of more robust and discriminate subtyping information has led to increased use of WGS in foodborne disease surveillance and use in federal testing of foods and the environment. As these advancements in subtyping revolutionize outbreak surveillance, pathogen source tracking, and characterization of these hazards, including tracking drug resistance across the farm-to-table continuum, the challenge is how best to leverage this type of emerging data to support risk-based decision-making. Specifically, we will further explore:

- *Primary food safety decision contexts (e.g., recalls, major policies, etc.);*
- *How this new data might lead to changes or inform traditional components of food safety risk assessments and/or transform the approaches used to assess food safety risks altogether;*
- *Opportunities and challenges in applying WGS information to food safety risk assessment; and*
- *Utility of the risk analysis framework to guide the collection and interpretation of WGS and related meta data*

This workshop will utilize these identified key considerations to further advance the future utilization of WGS within the context of assessing food safety risks, including the conduct of quantitative microbial risk assessment (QMRA), through exploration of case studies. The expected outcome of the workshop will be an action plan to further advance the future utilization of WGS within the risk assessment framework.

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<sup>1</sup> The FY 2017 IRAC workshop, *Implications of Whole Genome Sequencing on the Conduct and Application of Risk Assessment in Food Safety Decision-Making*, was developed based on input from the IRAC Working Group and federal participation in interagency discussions, literature review, and information provided by international and national experts on risk assessment, epidemiology, and WGS [For more information, see: 2017 IRAC WGS/Risk Assessment Project Plan].

**AGENDA**

**U.S. Food and Drug Administration**

Room 1A-002, Wiley Building

5001 Campus Drive, College Park, MD 20740 (College Park Metro stop)

**September 27, 2017**

9:00 am	Registration	
9:30 am	Welcome	Sherri Dennis
9:45 am	Opening Remarks	Steve Musser David Goldman
<b>Session I.</b>	<b>Process for Evaluating the Implications of Whole Genome Sequence Data in the Conduct and Application of Food Safety Risk Assessments</b>	
10:15 am	IRAC Work Group Process & Findings	Max Teplitski
<b>Session II.</b>	<b>Case Studies: Food Safety Context, Risk Assessment, and WGS Considerations</b>	
10:45 am	<i>Listeria monocytogenes</i> in Ready-to-Eat Foods	Jane Van Doren
11:00 am	Current and Future Use of Whole Genome Sequencing by FSIS ( <i>Salmonella</i> in poultry as an example)	Danah Vetter Mike Williams
11:15 am	Q&A	All Participants
11:30 am	<b>Lunch (On your own)</b>	
<b>Session III:</b>	<b>Brainstorming Exercise: Application of WGS to Food Safety Risk Assessment</b>	
12:30 pm	Purpose and Process for Group Exercise	Uday Dessai
12:45 pm	Brainstorming Exercise: Application of WGS to Assess Risks	All Participants
2:30 pm	Teams Report Out & Discussion	Team Representative
3:15 pm	Closing Remarks: Interagency Action Plan	Janell Kause
3:30 pm	Meeting Ends	