What is Risk Assessment?

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Risk: What is it?

- Risk is the likelihood and amount of harm……

- A hazard is an agent or action that could cause harm

- Likelihood of illness from *Listeria monocytogenes* in RTE foods

What is Risk Assessment?

Risk Assessment

- What is the likelihood of harm?

- How much harm?

Risk Management

Risk Communication
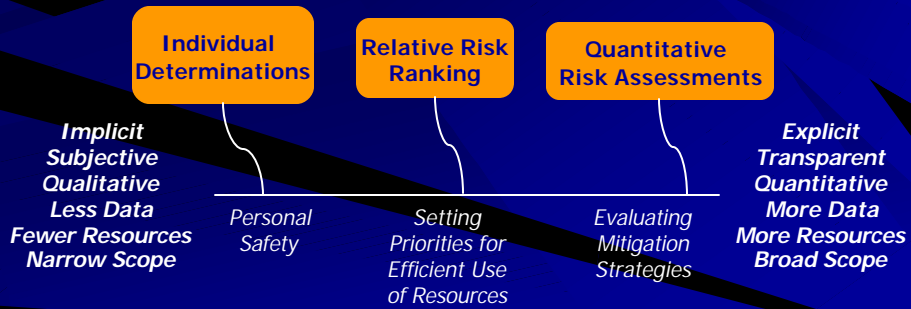
Why Use Risk Assessment?

Focus on hazards in meat and poultry that pose the greatest risk to public health………..

Evaluate the public health impact (e.g., reduced risk of illness) of various interventions……..

Design of Risk Assessments

- Address Specific Risk Management Questions

- Transparent/Objective

- Identify Interventions that are Effective in Reducing the Risk of Illness

- Inform Risk Management Decision-Making

Risk Assessment: Types, Scope, and Complexity

Individual Determinations	Relative Risk Ranking	Quantitative Risk Assessments

Implicit
Subjective
Qualitative
Less Data
Fewer Resources
Narrow Scope

Personal Safety

Setting Priorities for Efficient Use of Resources

Evaluating Mitigation Strategies

Explicit
Transparent
Quantitative
More Data
More Resources
Broad Scope

The **"best"** type of risk assessment is the one that most directly addresses the problem within resource and time constraints

Risk Assessments Vary in Scope

- **Farm-to-Table**
  - ✓ FSIS draft *E. coli O157:H7* risk assessment

- **Retail-to-Table**
  - ✓ 2001 draft FDA/FSIS risk ranking of RTE foods

- **Plant-to-Table**
  - ✓ 2003 draft FSIS *Listeria* risk assessment

Dr. Buchanan will discuss the FDA/FSIS risk ranking, which is an example of a retail-to-table risk assessment.

The FSIS *Listeria* risk assessment that will be discussed this afternoon is a plant-to-table risk assessment.

Risk Assessments Vary in Complexity

- **Qualitative**
  - ✓ high, medium, low

- **Semi-quantitative**
  - ✓ hazard ranking

- **Quantitative**
  - ✓ *Monte Carlo*
  - ✓ Uncertainty analysis
  - ✓ Sensitivity analysis

Risk Assessments Vary in Type

■ Point Estimate

■ Risk Ranking
  ✓ 2001 FDA/FSIS risk ranking of RTE foods

■ Process Risk Model
  ✓ Salmonella *Enteritidis in eggs and egg products*
  ✓ *E. coli* O157:H7 in ground beef

■ Combination
  ✓ FSIS *Listeria* risk assessment

Purpose of Risk Assessments

- Scientific basis for regulatory decision-making

- Evaluate various strategies to mange risks
  - ✓ Specific risk management questions