

The Future of Food Safety: Understanding the True Burden

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April 23, 2019



Food Safety is a Global Public Good

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- **Critical to food security, nutrition.**
 - **Serious public health issue.**
 - 600 million illnesses/year
 - Children bear most of burden
 - Associated with long-term health outcomes
 - **Significant economic impact.**
 - Medical costs, lost productivity
 - Loss of consumer confidence
 - Reduced market access
 - Increased food loss and waste

A Complex Food System

The Well-Traveled Salad. Do You Know Where Your Food Has Been?

As consumers, many of us fail to recognize that even our domestic and local food supplies are part of a global network. The daily activity of consuming food directly links our health as humans to the health of crops and produce, food animals, and the environments in which they are produced.

LETTUCE

Canada, Chile, Dominican Republic, Mexico, Peru, USA



CUCUMBERS

Canada, Honduras, India, Mexico, Spain, USA



FETA CHEESE

Canada, Denmark, Egypt, Germany, Greece, Israel, Italy, Turkey, UK, USA



VINAIGRETTE

Argentina, Brazil, Canada, Chile, China, France, Germany, Greece, India, Indonesia, Italy, Mexico, Morocco, Peru, Portugal, Spain, Thailand, Tunisia, Turkey, USA, Vietnam



OLIVES

Greece, Israel, Mexico, Spain, USA



SPROUTS

Argentina, Australia, Bangladesh, Canada, China, Egypt, France, India, Morocco, Nepal, Pakistan, South Africa, Spain, Turkey, USA



CROUTONS

Argentina, Australia, Brazil, Canada, China, France, India, Mexico, Netherlands, Poland, Russia, Switzerland, Uruguay, USA, Vietnam



TOMATOES

Canada, Dominican Republic, Holland, Israel, Italy, Mexico, USA



ONIONS

Canada, China, Germany, India, USA



MANDARIN ORANGES

Israel, Mexico, Morocco, South Africa, Spain



A Risk-Based Approach

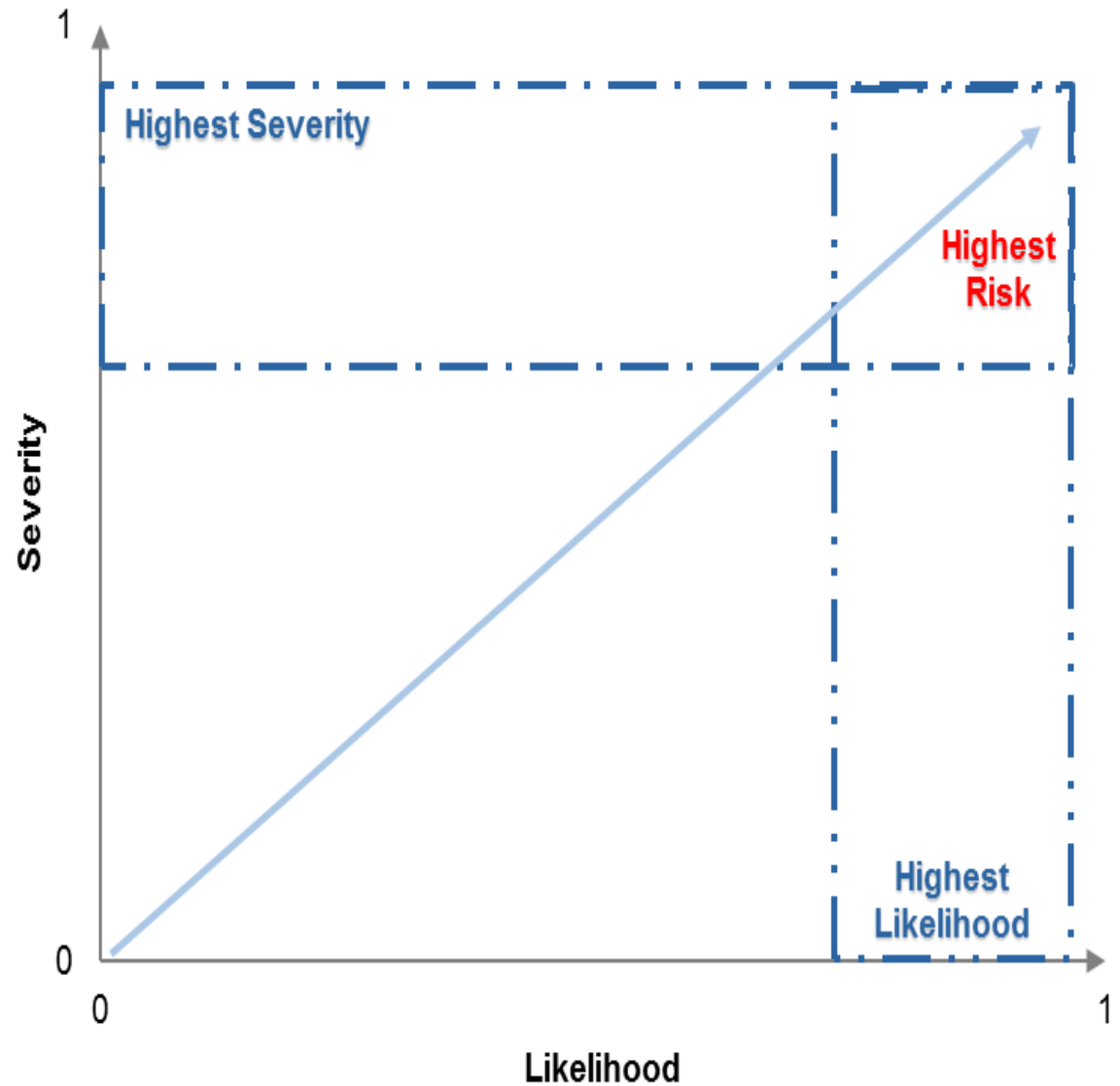
- Proactive and data-driven
- Grounded in risk analysis
- Systematic and transparent
- Ranks risks based on public health impact
- Prioritizes allocation of resources to manage risk most effectively
- Considers other factors in decision-making (i.e. perception, cost, environmental/market impacts)
- Evaluates efficacy of risk management on continuous basis
- Involves all stakeholders



Source:

<http://www.nationalacademies.org/hmd/Reports/2010/Enhancing-Food-Safety-The-Role-of-the-Food-and-Drug-Administration.aspx>

Assessing and Ranking the Risks



The Population Burden

Every year foodborne diseases cause:

almost
 **in 10**
people to fall ill

33 million
 healthy life years lost

Foodborne diseases can be deadly, especially in children <5


420 000
deaths



Children account for
almost **1/3**
of deaths from
foodborne diseases

For more information: www.who.int/foodsafety

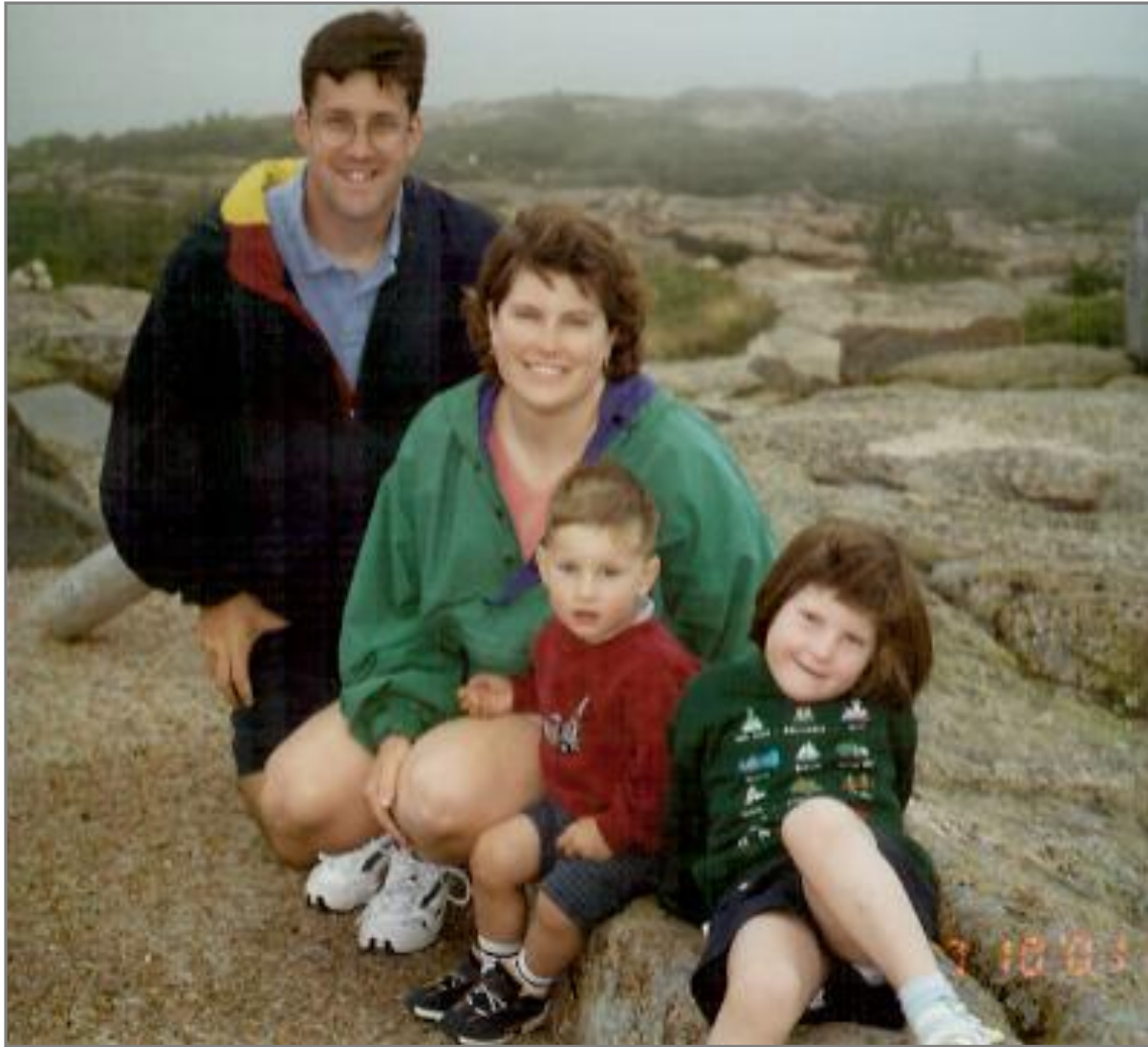
#SafeFood

Source: WHO Estimates of the Global Burden of Foodborne Diseases, 2015.



**World Health
Organization**

The Individual Burden – A Personal Story



Mike, Barb, Kevin and Megan – July 2001

The Impact of Foodborne Illness



**Kevin Michael Kowalczyk, age 2 1/2
12/10/98 - 8/11/01**

One of Many



Grayson, age 2
August 15, 2016

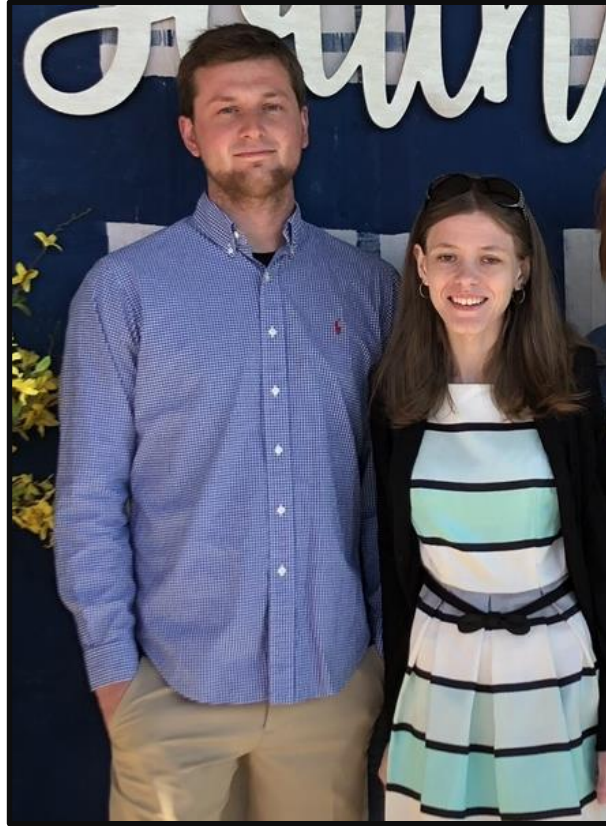


Reese, age 5
May 1, 2015

Long-term Health Outcomes



Ryan



Matthew & Mariah



Ashley

Food Safety is a Wicked Problem



Our Destination



An integrated, holistic, systems approach to food...

- **proactive, preventive and anticipatory;**
- **addresses human, animal and environmental health needs (One Health); and**
- **delivers sufficient, safe and nutritious food to all.**

The Purpose is the People



Abby

Died, Age 7

***E. coli* O157:H7**



Ruby

Died, Age 81

***E. coli* O157:H7**



Grayson

Died, Age 2

***E. coli* O157:H7**



Kevin

Died, Age 2

***E. coli* O157:H7**



Reese

Died, Age 5

***E. coli* O157:H7**



Joseph

Died, Age 8

***E. coli* O157:H7**



Kayla

Died, Age 14

***E. coli* O111**



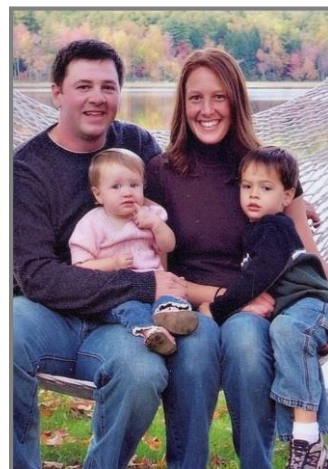
Ryan

Salmonella



Ashley

***E. coli* O157:H7**



Tammy

Salmonella



Matthew & Mariah

***E. coli* O157:H7**



Jake

Salmonella



Chris

***E. coli* O157:H7**

Questions?



**“As for the future,
your task is not to foresee it,
but to enable it.”**

- Antoine de Saint-Exupery
French Writer, 1900-1944

Thank You!
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- Guiseppe Arcimboldo