One Health for Food Safety

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Annual Deaths from Foodborne Illness

World-wide – 2 Million
United States – 3,000

Unsafe food is linked to the deaths of an estimated 2 million people annually – including many children. Food containing harmful bacteria, viruses, parasites or chemical substances is responsible for more than 200 diseases, ranging from diarrhea to cancers. (WHO)

• 128,000 people hospitalized in the U.S. each year
• Annual economic cost in U.S. = $77 Billion

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Once Zoonotic...

HIV/AIDS

SARS

Ebolavirus

E. coli 0157:H7

...now transmissible among humans

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Acute Foodborne Disease

Clinical Symptoms

- Diarrhea
- Vomiting and cramps
- Fever with some weakness
- Hemolytic Uremic Syndrome (HUS)

Pathogens

- Campylobacter
- Cryptosporidia
- Salmonella
- E. Coli
- Listeria

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Chronic Foodborne Disease

Clinical Symptoms
- General Malaise
- Flu-like Symptoms
- Recurrent Fever
- Osteoarthritis
- Malabsorption Syndrome
- Chronic Renal Disease
- Guillain-Barre Syndrome
- Depression

Pathogens
- Brucella
- Coxiella
- Mycobacteria
- Trichinosis

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Food Bill Aims to Improve Safety

Recent FDA food safety initiatives have focused on improving food safety and reducing the risk of foodborne illnesses. The new food safety bill, when signed into law, will strengthen the FDA's ability to inspect food facilities, reduce the risk of foodborne illness, and improve public health.

The bill will provide the FDA with additional resources to conduct inspections of high-risk food facilities, enhance the agency's ability to track the movement of food products, and strengthen the enforcement of food safety standards.

The bill also includes provisions to improve the safety of the nation's food supply by requiring food manufacturers to implement best practices for food safety, ensuring that food is produced in a way that minimizes the risk of contamination.

In addition, the bill will require the FDA to work with other federal agencies to develop a national strategy for food safety, coordinating efforts to prevent foodborne illnesses and to enhance the safety and security of the nation's food supply.

The Food Safety Modernization Act is a comprehensive approach to improving food safety and reducing the risk of foodborne illness. It is a critical step in ensuring that the food we eat is safe and nutritious.
Global View of Food Safety

https://www.youtube.com/watch?v=8saaEsV0Th4&feature=youtu.be
Multidisciplinary Faculty is Necessary

Virologist
Economist
Microbiologist
Hydrologist
Post-harvest Specialist
Crop Specialist
Veterinarian
Epidemiologist
Plant Pathologist
Animal Nutritionist
Toxicologist
Soil Scientists

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The Western Institute for Food Safety and Security (WIFSS) is a University of California, Davis program that is administered by the School of Veterinary Medicine and College of Agricultural and Environmental Sciences.
Blended Learning

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WIFSS – NAU Collaboration
One Health Center for Food Safety

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http://www.wifss.ucdavis.edu/
We work locally, nationally and globally...

...using a One Health approach

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