FOOD DEFENSE PREPAREDNESS IN SMALL AND VERY SMALL MEAT AND POULTRY ESTABLISHMENTS

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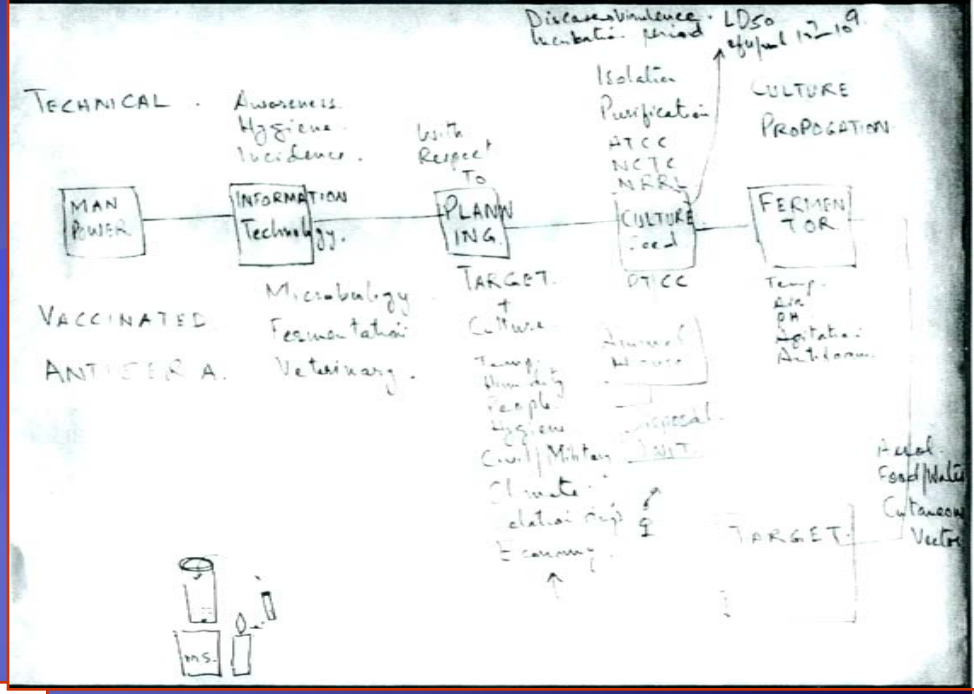
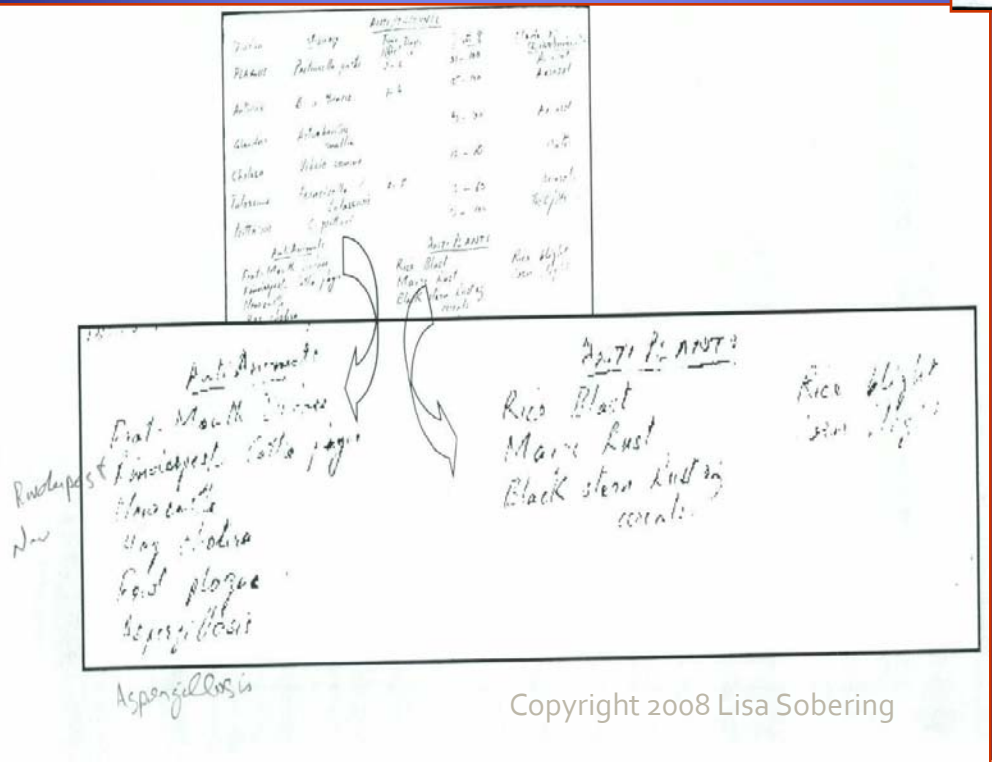
2008

Source:

http://911research.wtc7.net

Scan of documents taken from Afghanistan caves after September 11, 2001. (Jaax 2008)





Public health impacts

- Annual
- 2,500 outbreaks of foodborne illness
  - 76 million illnesses
  - 325,000 hospitalizations
  - 5,000 deaths

  Intentional could be greater

Incidental contamination events

- In 1981, over 800 people died and 20,000 were injured in Spain because of a chemical contaminant in cooking oil.
- In 1985, approximately 170,000 people were sickened in the U. S. from pasteurized milk contaminated with *Salmonella enterica* Typhimurium.
- In 1988, nearly 300,000 people in China sickened by clams tainted with hepatitis A.
- In 1993, approximately 500 people were sickened and 4 died in the U.S. from consuming undercooked hamburger contaminated with *E. coli* O157:H7.
- In 1994, approximately 224,000 people affected in the U.S by ice cream pre-mix contaminated with *Salmonella enteritidis*.
- In 2006, approximately 200 people affected (2 adults and 1 child with HUS died) in the U.S. by fresh spinach products contaminated with *E. coli* O157:H7.

Food safety/food defense

- Food Safety: preventing incidental contamination of food.
  - Good Manufacturing Practices
  - Hazard Analysis and Critical Control Points (HACCP) programs.
  - Programs are mandatory
- Food Defense: preventing intentional contamination of food.
  - Programs are voluntary

Intentional food contamination

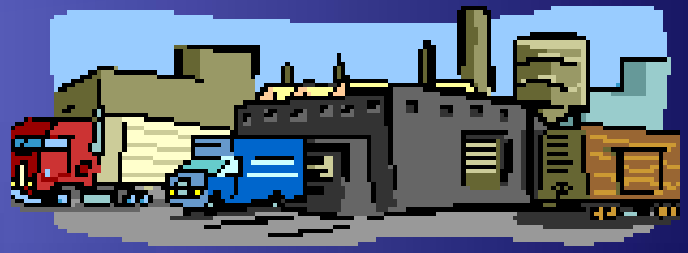
- Who
  - Disgruntled employees, criminals, activists, subversives and terrorists
- Why
  - Greed
  - Revenge
  - Political or ideological causes
  - Sabotage
- How
  - Biological or chemical agents

Intentional food contamination events

- In 1970, 4 students in Canada consumed embryonated *Ascaris suum* eggs placed in their food by a disgruntled postdoctoral student.
- In 1984, 751 people sickened in The Dalles, Oregon after eating at local salad bars that had been contaminated by The Rajneeshee cult with *Salmonella* Typhimurium.
- In 1996, 12 hospital employees were sickened in Texas after eating intentionally contaminating pastries with *Shigella dysenteriae* by coworker.
- In 2001, approximately 300 people became ill and at least 38 people-many schoolchildren-died, in China, after eating food contaminated with a powerful rat poison by a competitor.
- In 2003, 15 people were sickened and 1 died in Maine from arsenic-laced coffee served at a church by a disgruntled parishioner.
- In a 2003, 100 people were sickened by 200 pounds of meat at a Michigan grocery store contaminated with an insecticide by a disgruntled employee.
- In 2008, four babies died and over 53,000 babies have been sickened, including 158 with acute renal failure in China after being fed milk formula fraudulently contaminated with melamine .

Economic impacts

- Food processor
  - Recalls
- Allied Industries
  - Chemical, Equipment
- Transportation
- Warehouse operators
- Retail outlets
- Restaurant chains



Loss of confidence in food supply and government

- 2007- Melamine in pet foods
  - hundreds of cats and dogs
- 2008-Melamine in dried milk products (infant formulas)
  - 53,000 illnesses (100 of them serious)
  - 13,000 hospitalizations
  - 4 deaths

Policy approaches

- Department of Homeland Security
  - Homeland Security Presidential Directives
- Food and Drug Administration
  - Public Health Security and Bioterrorism Preparedness and Response Act of 2002
  - *Food Security Preventive Measures Guidance*
  - **CARVER+Shock**
- Department of Agriculture-Food Safety Inspection Service
  - *Security Guidelines for Food Processors*
  - *Industry Self-Assessment Checklist for Food Security*
  - *Guide to Food Defense in Slaughter and Processing Facilities*

FSIS survey results
(Establishments with a food defense plan)

August 2006 (Baseline data)	November 2007	August 2008
N=5121	N=5097	N=5012
27%	31%	41%
		Change = +14%

Research objective

- The survey was designed to gain insight into the opinions and perceptions from various sized establishments across the nation about areas of food defense.

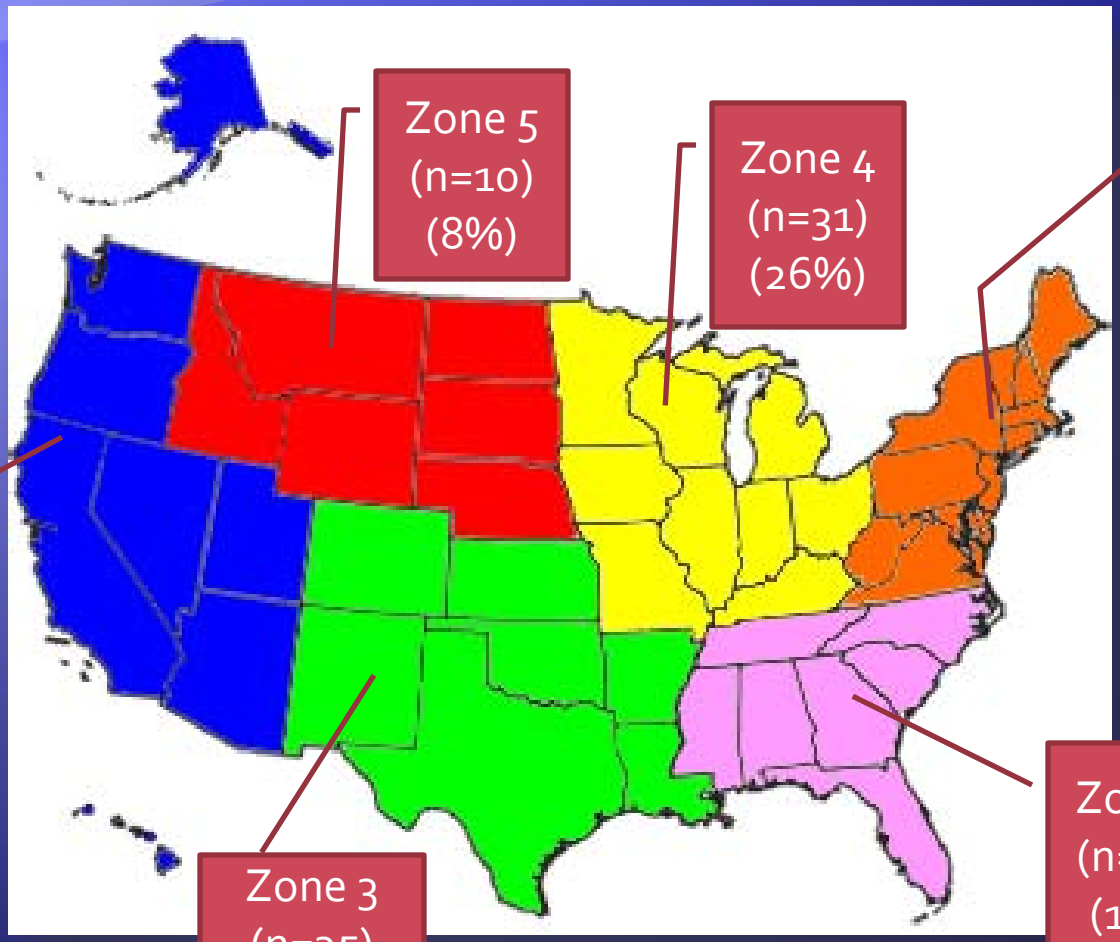
Survey methodology

- A web-based survey through KSU Axio survey system
  - 27 questions
- The population of interest: meat and poultry establishments
- Survey distributed:
  - 3 National trade organizations

Definition of establishment sizes

- Very small: up to 10 employees and annual sales less than $2.5 million
- Small: 10-499 employees
- Large: 500+ employees

Responses by zone



Demographics

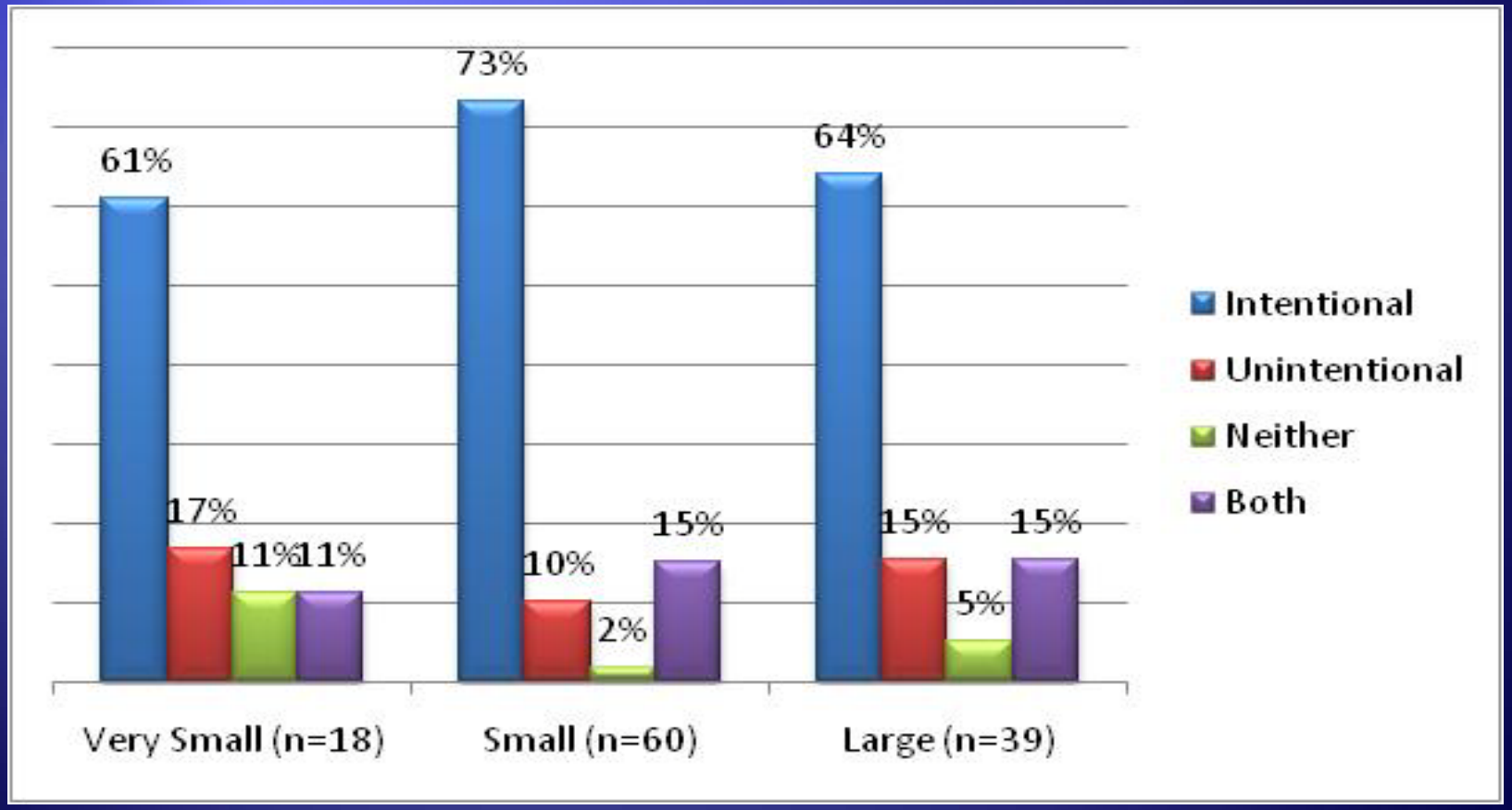
Percent of respondents by establishment size (n=119)

Establishment Size	Percent of Respondents
Very Small	15
Small	52
Large	33

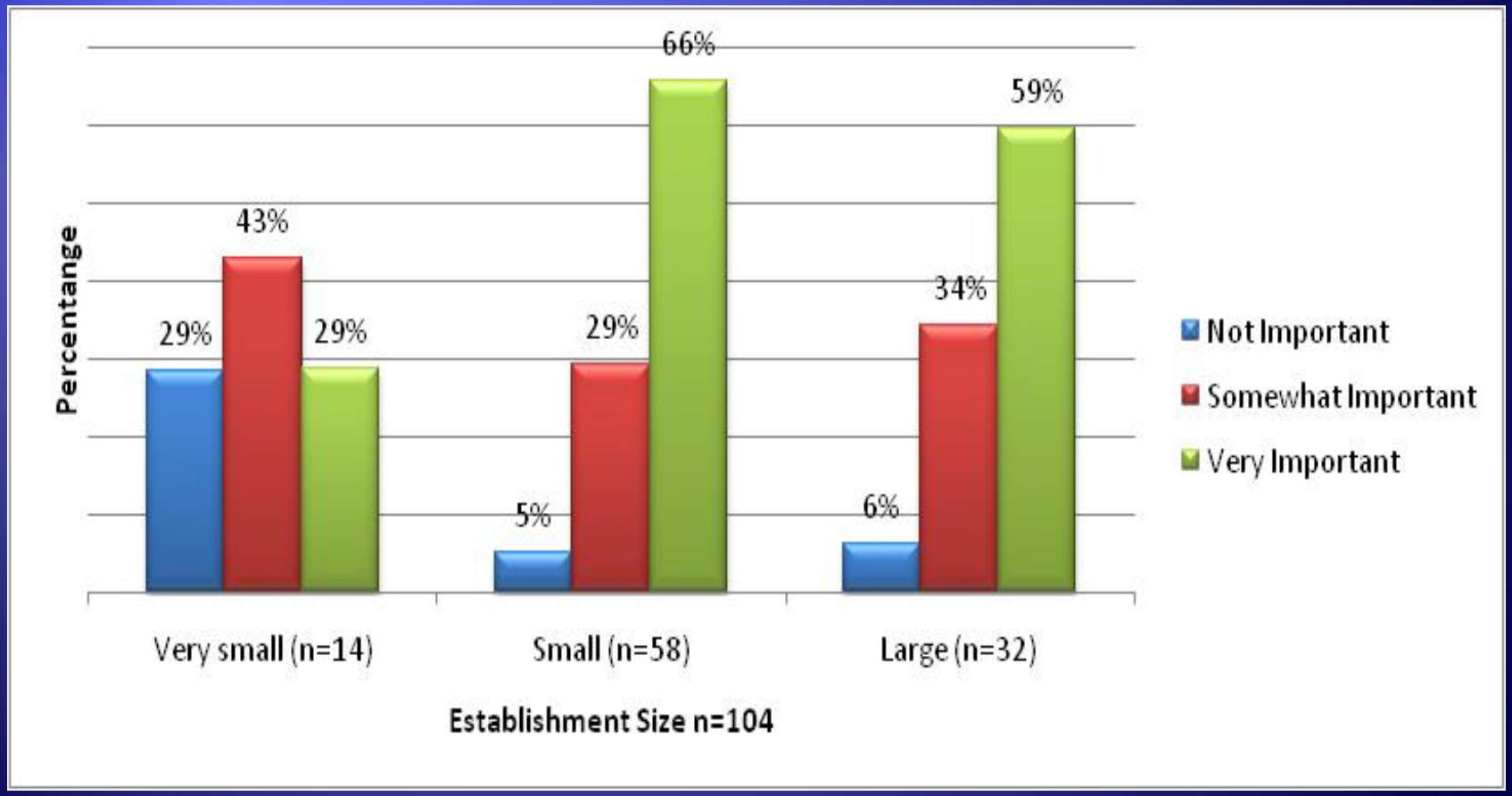
Percent of respondents by type of inspection (n=121)

Type of Inspection	
Federal	93
State	7

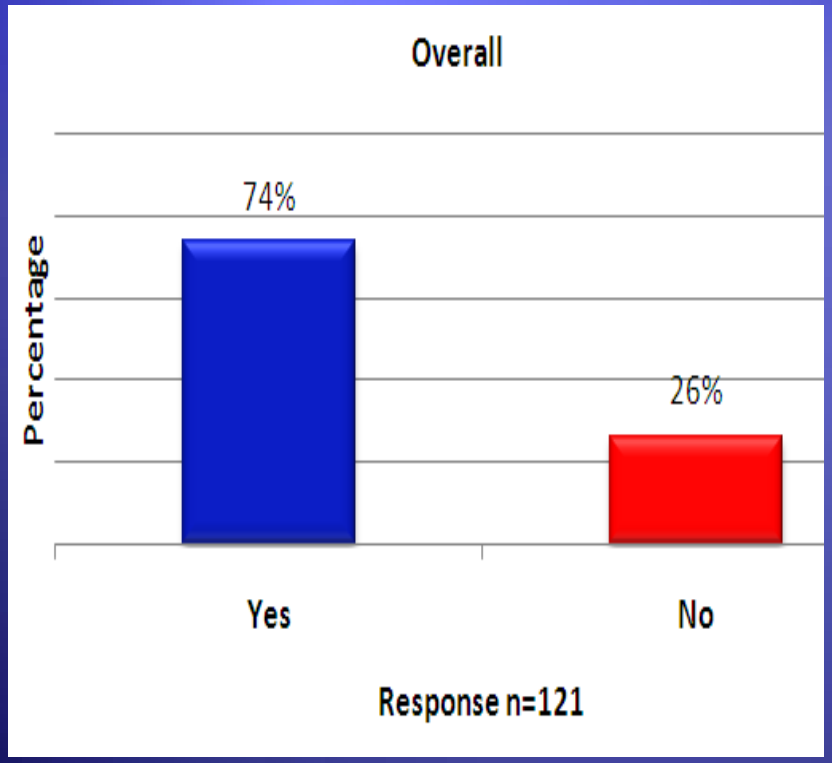
How respondents perceive the definition of food defense within a given size

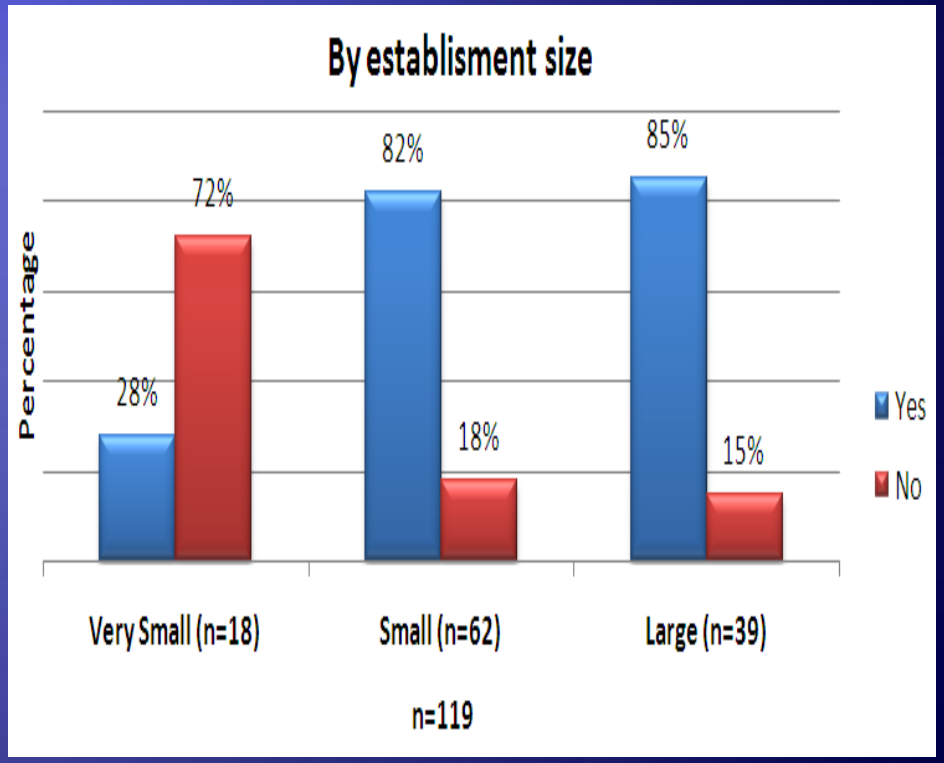


How respondents perceive the importance of food defense

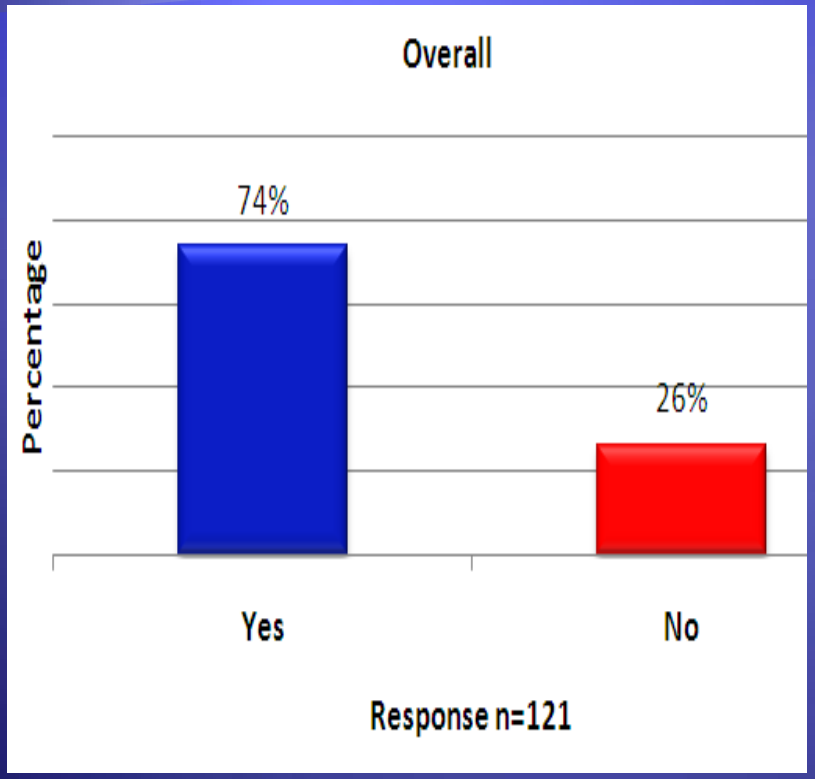


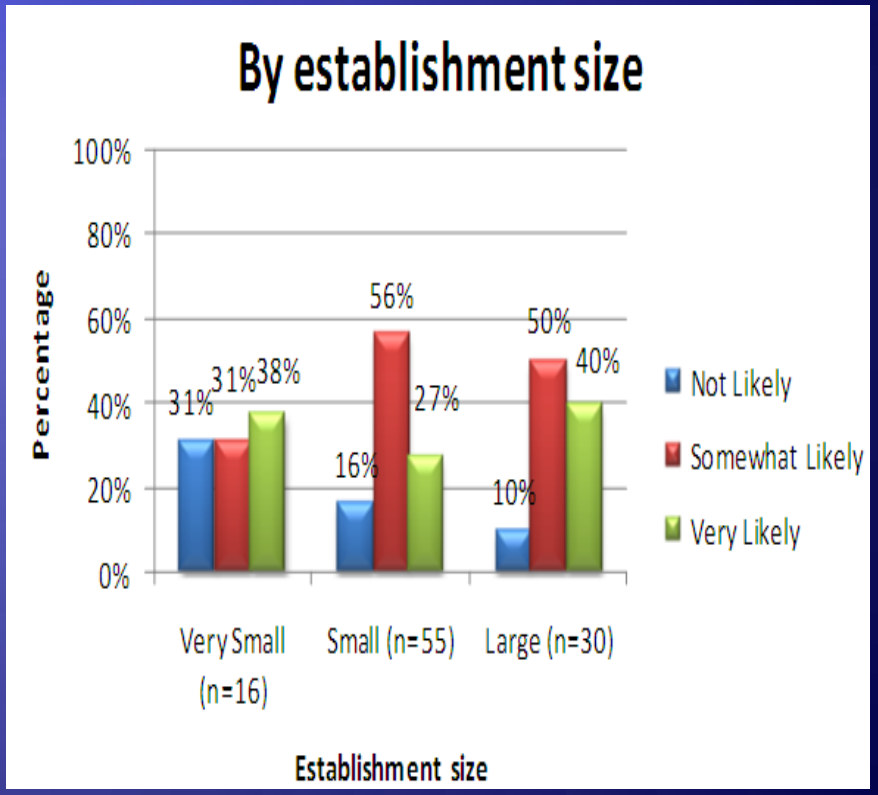
How many establishments have a food defense plan



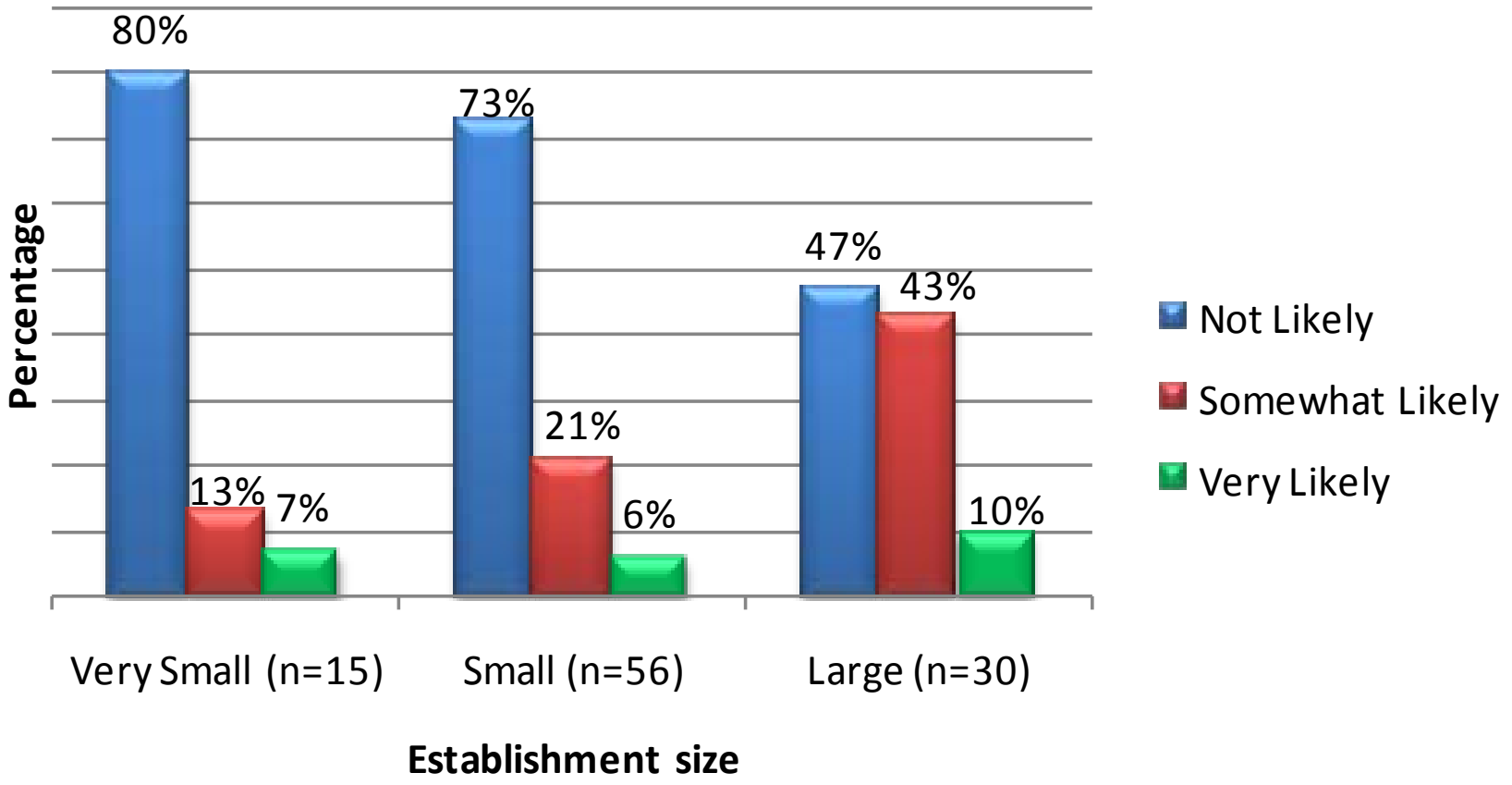


Perceptions about the likelihood of an intentional contamination event

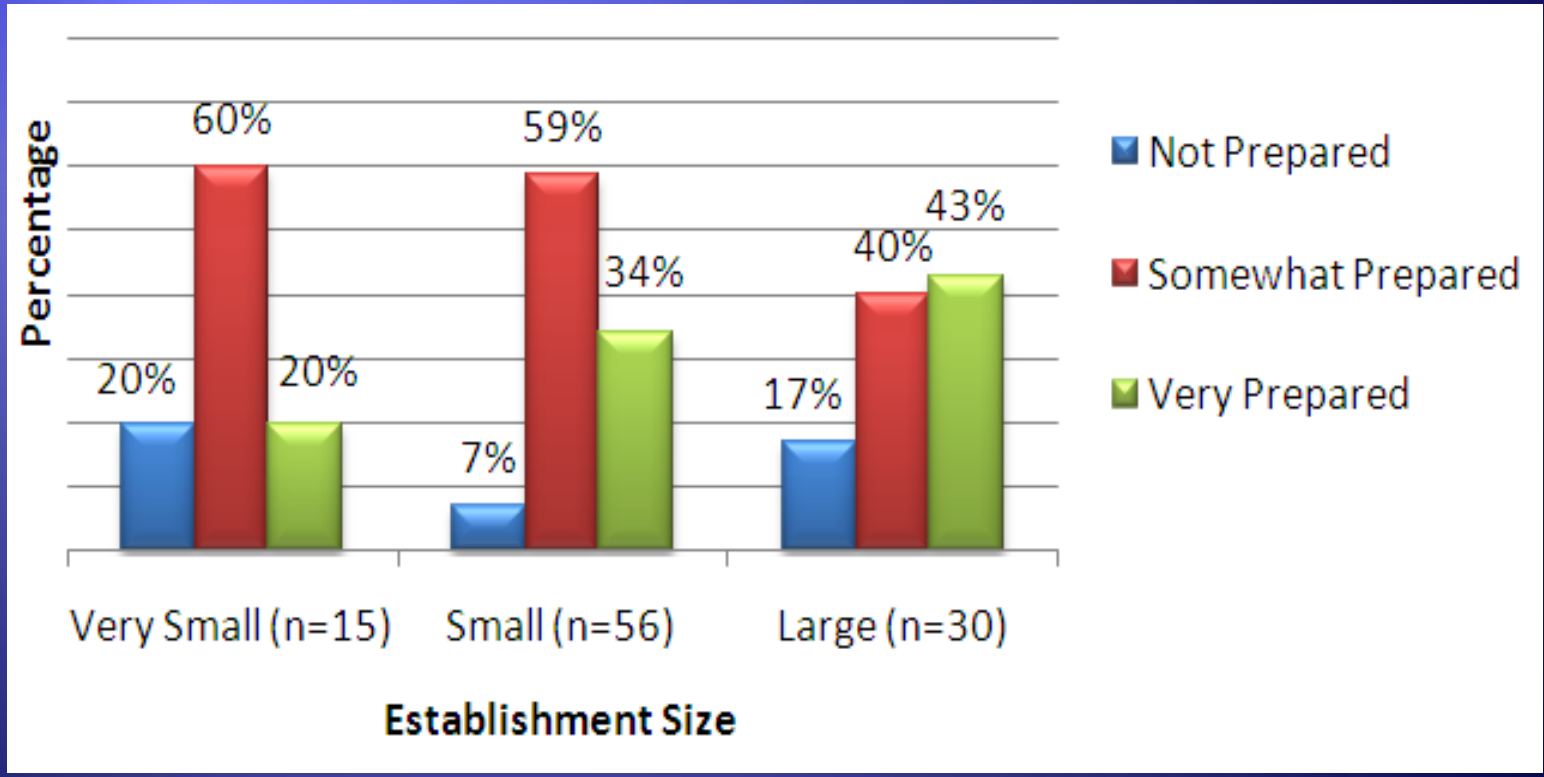




Perception of an intentional contamination event in the respondents establishment



Perceptions about the level of preparedness within each size



Conclusions

- Many establishments defined food defense as intentional contamination
  - small but important percentage of establishments that do not seem to understand the definition of food defense
- Many very small establishments do not have a food defense plan.
- Focus on these establishments to understand what assistance they may need to be prepared.

Questions?

It was on a short-cut through the hospital kitchens that Albert was first approached by a member of the Antibiotic Resistance.