

IFT Global Food Safety & Quality Conference

Challenges to Implementing Product Traceability

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Hilton
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Under Magnifying Glass



In the end it was ...



Or was it both?



Recent Food Safety Problems

- 2006 Produce Safety was the top news story
 - Spinach
- 2007 Product safety was the top news stories
 - Peanut Butter
 - Pet Food
 - Canned Chili
 - Ground Beef
- 2008
 - Ground Beef
 - Tomatoes and Peppers
- 2009
 - Peanut Butter
 - Pistachios
 - Alfalfa Sprouts
 - ???????

Product Recalls Are Becoming More Massive

- 25 million pounds
- 22 million pounds
- 1.8 million pounds
- 143 million pounds
- Over a year's production of peanut butter
- All production codes of chili sauces
- Multiple brands by multiple manufacture's of pet food
- Over 600 different food products recalled in Europe
 - all related to one adulterated minor ingredient
- Over 400 different food items recalled in US
 - all related to one supplier

Product Recalls Are Costly

- Preliminary recall costs reported by firms of recent recalls:
 - \$56,000,000
 - \$35,000,000
 - \$60,000,000
 - \$30,000,000
 - \$37,000,000
 - \$103,000,000
 - Some firms ceased business
- These costs do not include litigation costs
- Nor does it include the cost in lost sales
- Nor the cost of re-establishing the business
- Nor does it include the swings in stock market



Why the Change?

- Concentration of food production
- Increased batch size
- Product changes
- Changes in food distribution
- The Consumer has changed
- Science has changed
- **Epidemiology has changed**

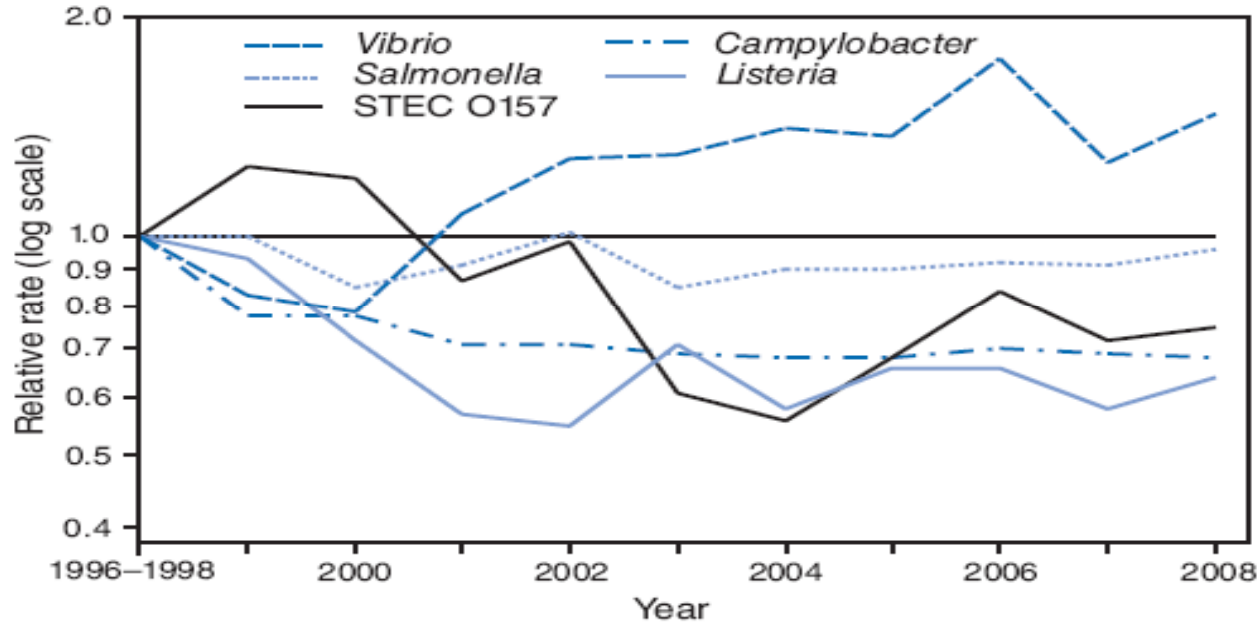
Food Net Sentinel Sites



Represents about 15% of US population

CDC Food Net Trends 1996 -2008

FIGURE 2. Relative rates of laboratory-confirmed infections with *Vibrio*, *Salmonella*, STEC* O157, *Campylobacter*, and *Listeria* compared with 1996–1998 rates, by year — Foodborne Diseases Active Surveillance Network, United States, 1996–2008†



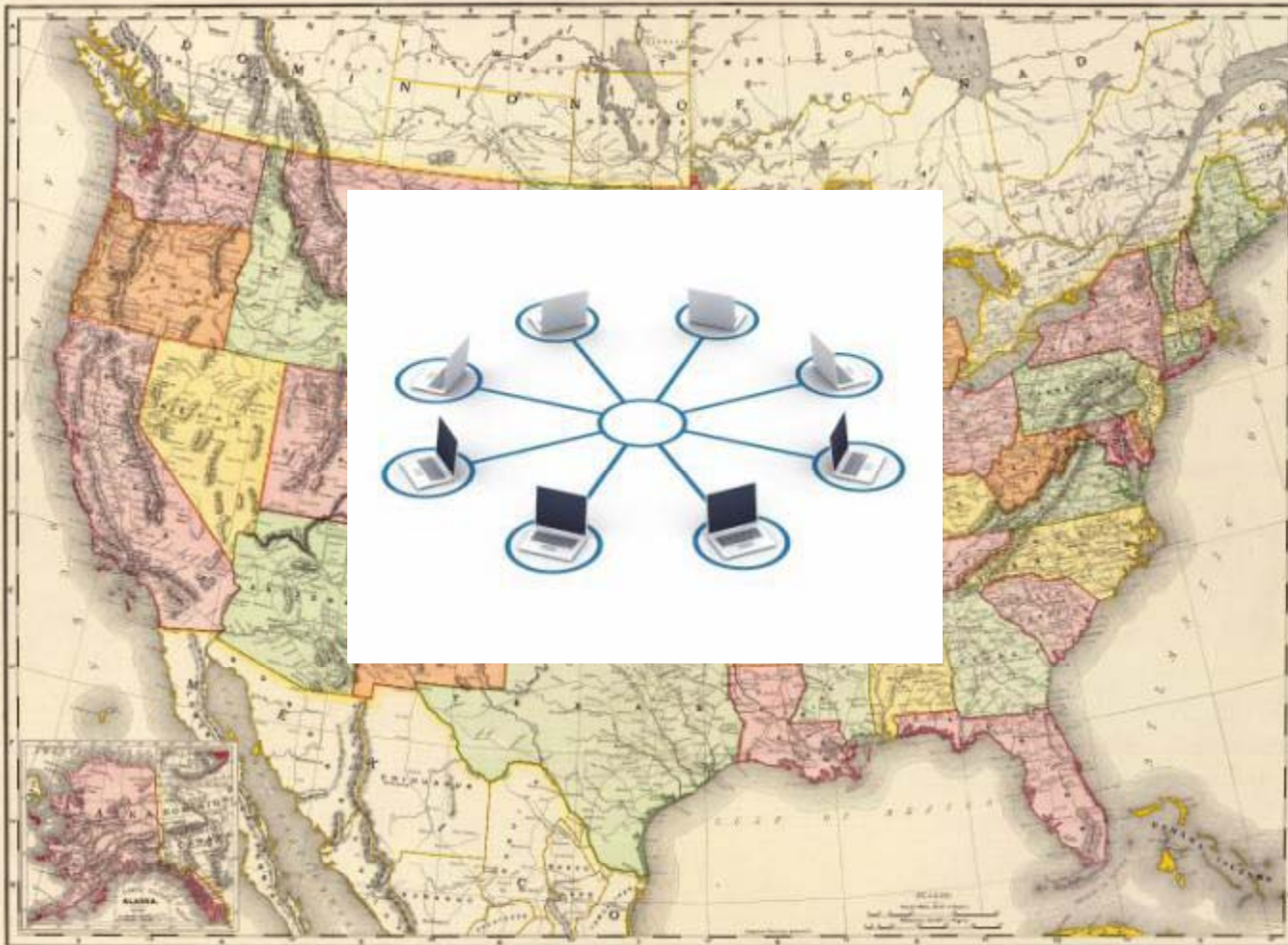
* Shiga toxin-producing *Escherichia coli*.

† The position of each line indicates the relative change in the incidence of that pathogen compared with 1996–1998. The actual incidences of these infections can differ. Data for 2008 are preliminary.

Center of Disease Control Pulse Net



Electronic Communications



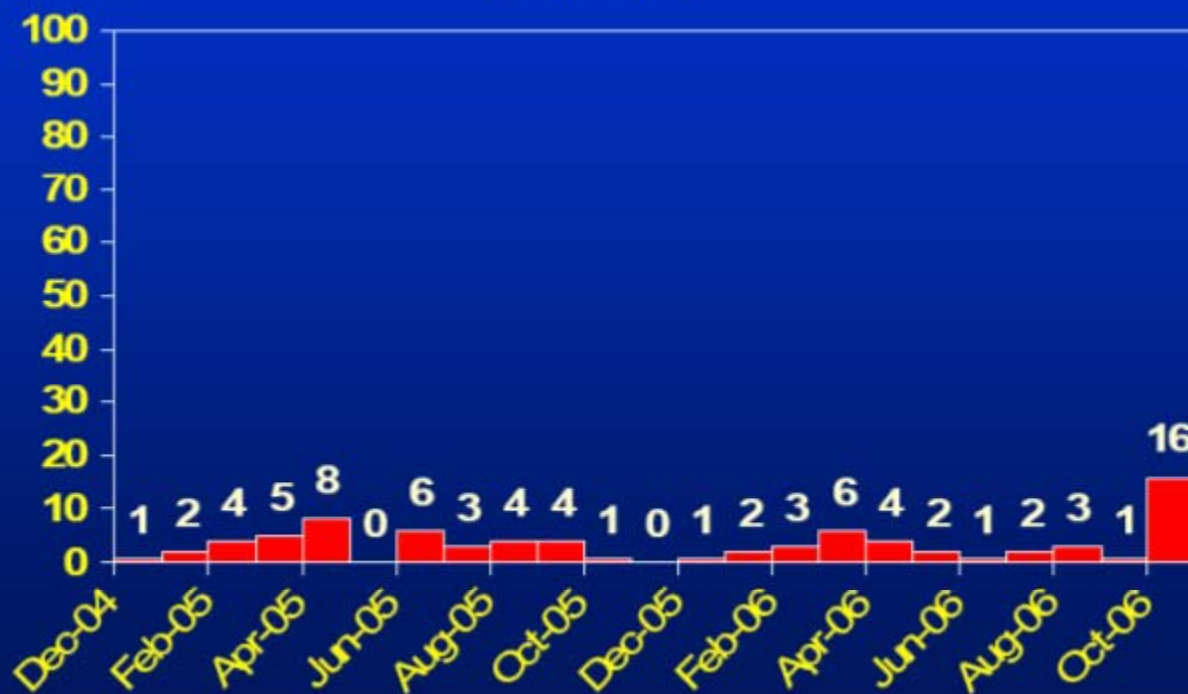
CDC Outbreak Response and Surveillance Team (ORST)



October 2006*

Cases of *Salmonella* Tennessee (outbreak type)
by month, USA 2004 - 2006

* Preliminary data



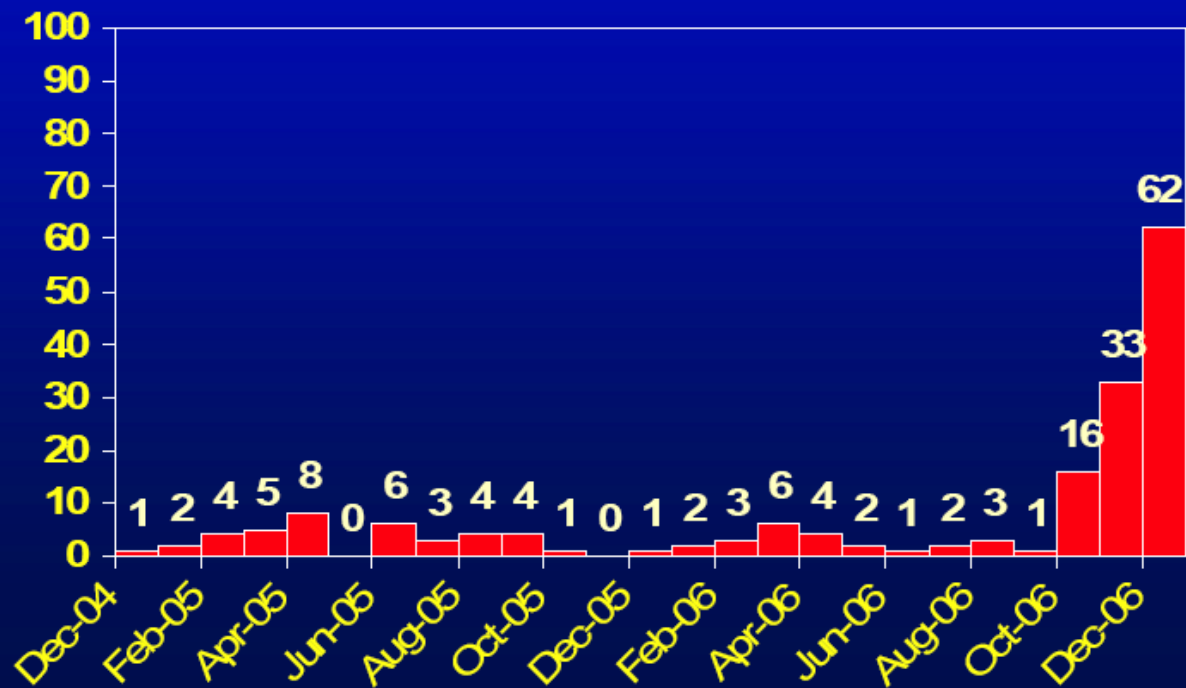
Slide Compliments of Dr. Art Liang Center of Disease Control and Prevention



December 2006*

Cases of *Salmonella* Tennessee (outbreak profile)
by month, USA 2004 - 2006

* Preliminary data



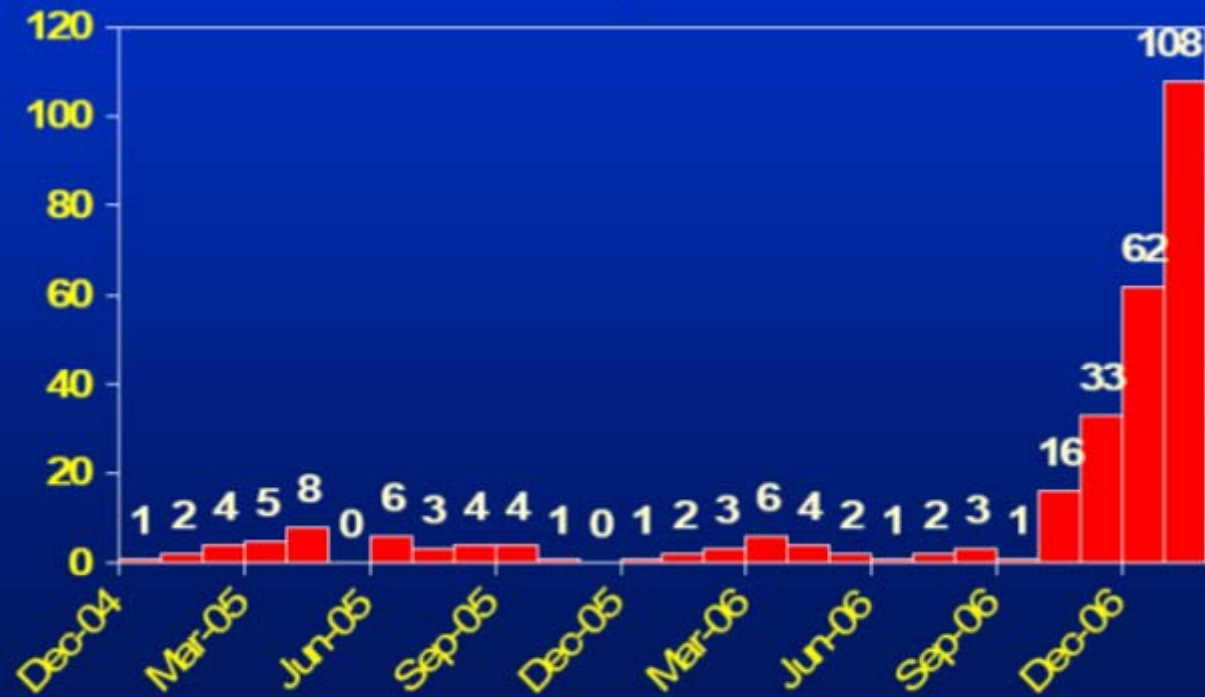
Slide Compliments of Dr. Art Liang Center of Disease Control and Prevention



January 2007*

Cases of *Salmonella* Tennessee (outbreak profile)
by month, USA 2004 - 2006

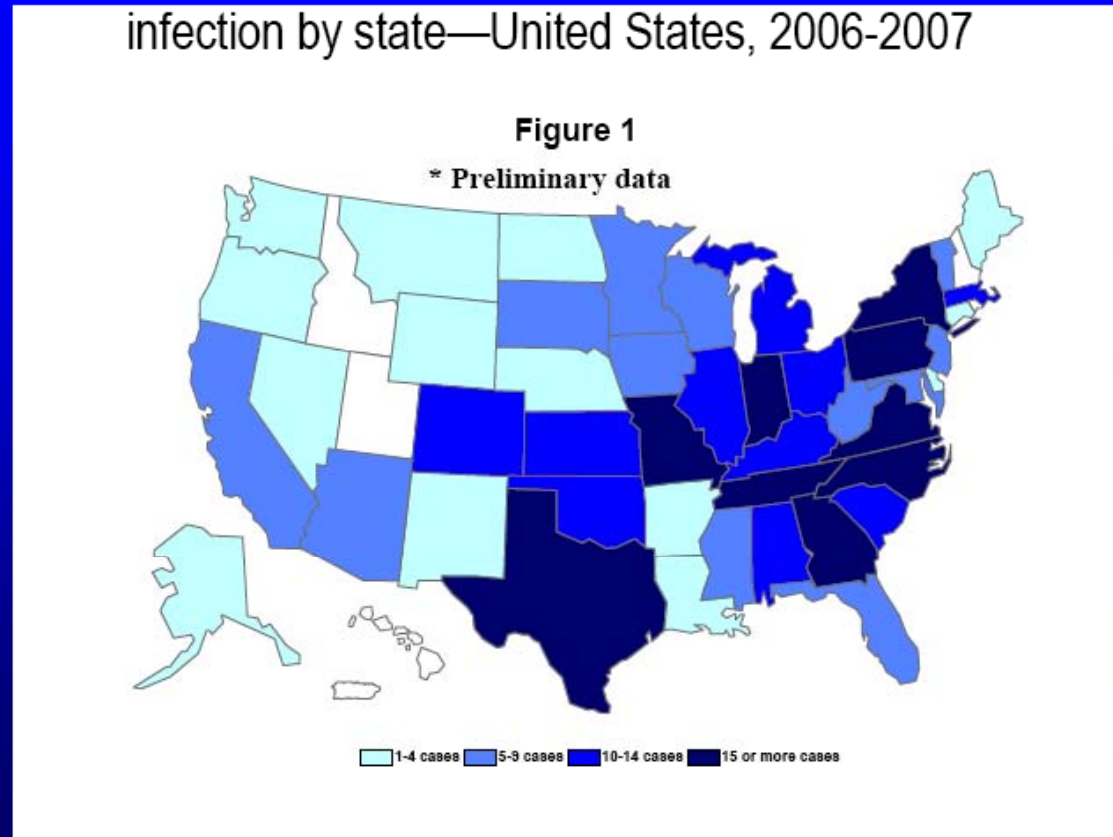
* Preliminary data



Slide Compliments of Dr. Art Liang Center of Disease Control and Prevention



Confirmed cases (N=453)* of *Salmonella* Tennessee infection by state—United States, 2006-2007



*Confirmed cases with date of illness onset reported as of 1:00 p.m. EDT on March 14, 2007.

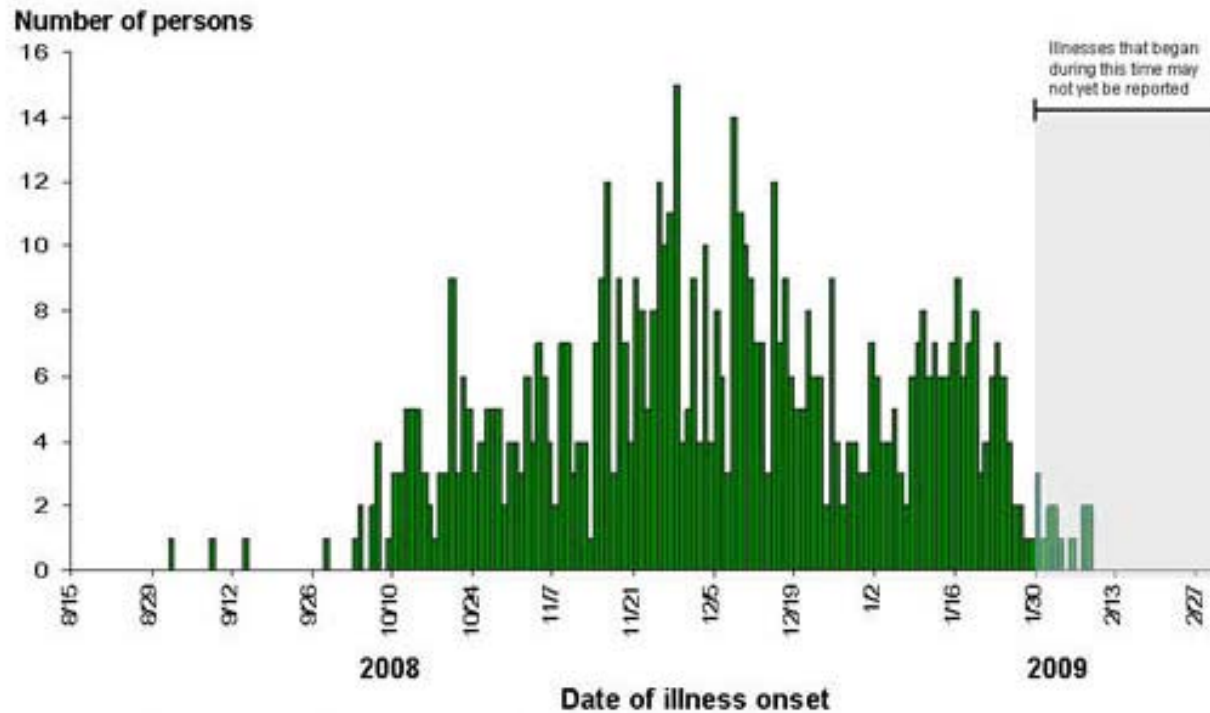
Slide Compliments of Dr. Art Liang Center of Disease Control and Prevention



Peanut Butter 2009

Infections with the outbreak strain of *Salmonella* Typhimurium, by date of illness onset*

(n=662 for whom information was reported as of March 1, 9pm EDT)



*Some illness onset dates have been estimated from other reported information

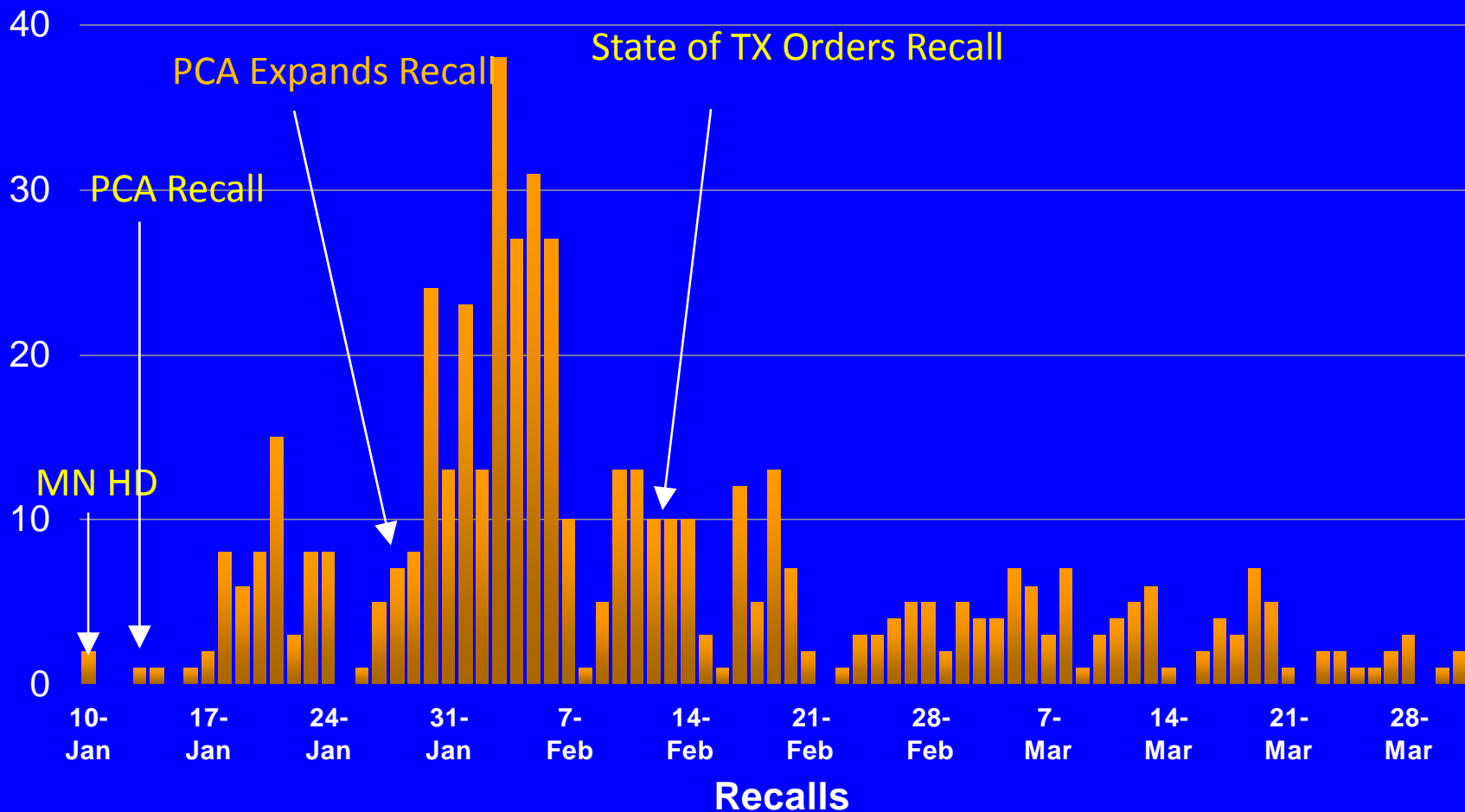
Source: CDC 030609



PCA Peanut Product Related Recalls

Jan 10 – Mar 31, 2009

Other Food Companies Recalls



~ 500 Recalls Involving > 3,900 Products as of 3/31, 9 Deaths

Source: CDC & FDA & News Releases

Protecting Your Brand and Bottomline

Preventive
Food Safety Programs



Protecting your brand and bottom-line

Food Safety Programs

Traceability



Bioterrorism Act of 2002

- Food Facility Registration
- Prior Notice on Food Imports
- **Maintenance of Records**
- Administrative Detention

2005 FDA Rules on Records Maintenance

- Trace product **one step back and one step forward**
- Included **lot codes** of food products and packaging at each step in distribution
- Included name of transporter and driver in each step of distribution

Definitions of products covered

- Food
 - Human and animal
 - Ingredients and processing aids
 - Packaging with food contact surfaces
 - Dietary supplements
 - Infant formula
 - Beverages including alcoholic beverages
 - Candy and gum
 - Live food animals

Records

- Does not require duplication of information in current existing records
- Does not require all the information to be in one set of records
- Record must be made at the time of action
 - At the shipping and receiving dock
 - During the processing and production steps
- Records must be available at point of activity

Food Manufacturers

- Identification of the source and lot code of each ingredient used to make every lot of finished product
 - Ingredients
 - Processing aids
 - Packages with food contact

Records access

- A single record is not required
- Information can come from multiple existing records
- Reproduction of a modified record at a later time is not allowed
- FDA has authority to review and copy certain records

Record access

- Must be made available to FDA within 24 hours of their request
- Authority to review and copy
- At any point in the system

Records access

- Records are only available under special circumstances
- Need for records must be approved by District Director or FDA Headquarters staff
- FDA inspectors do not routinely have access under routine inspections

Record access

- FDA information is subject to Freedom of Information requests thus public information
- Confidential business information may need to be separate from records which FDA is authorized to see and copy

Current Methods of Compliance

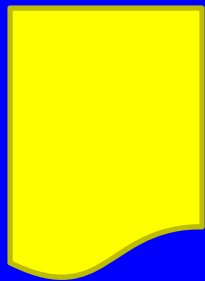
- Commercial Paper
 - Purchase orders
 - Invoices
 - Packing slips
 - Bills of Lading
 - Delivery tickets
- Internal documents
 - Quality control records
 - Production documents
 - Inventory control records

No one exact method currently used

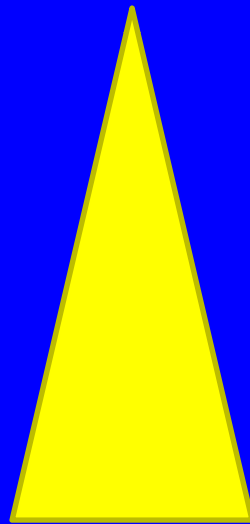
Vary by industry, by company, by size and
method of business

Method of exchanging information between
parties is the **essential element**.

Traceability Information Silos



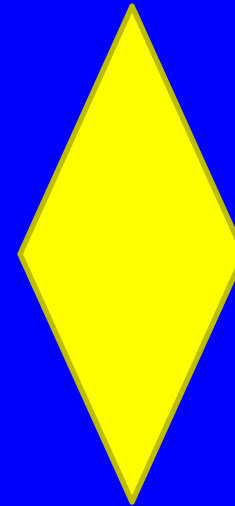
Farm



Processor

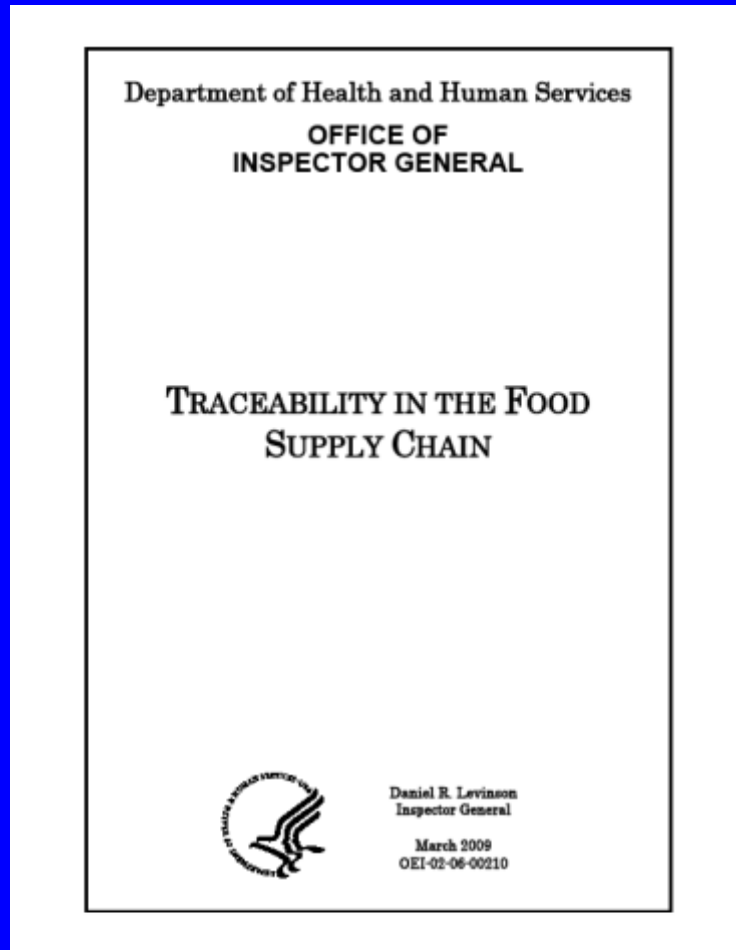


**Distribution
Centers**



Retail

Traceability Report



- Were able to trace 5 of 40 items
- Lack of lot code information
- Lack of records
- 25 % of facilities not aware of record keeping requirements

Current Traceback Problems

- Lack of records
- Paper work challenge
- Readability
- Does not provide a means to rapid response to a trace back
- Universal system does not exist to provide transfer of information to an electronic investigative tool



Current Proposed Legislation Traceability

- FDA Food Safety Modernization Act
SB-519 by Durbin of IL
- FDA Globalization Act of 2009
HR-759 by Dingell of MI
- Safe FEAST Act of 2009
HR-1332 by Costa of CA
- Establish a traceability system for food
SB 425 by Brown of OH

Do Consumers care about
traceability?

Do Consumers Really Care?

- Pet Food Recall triggered questions on source of foods and ingredients used in human foods...

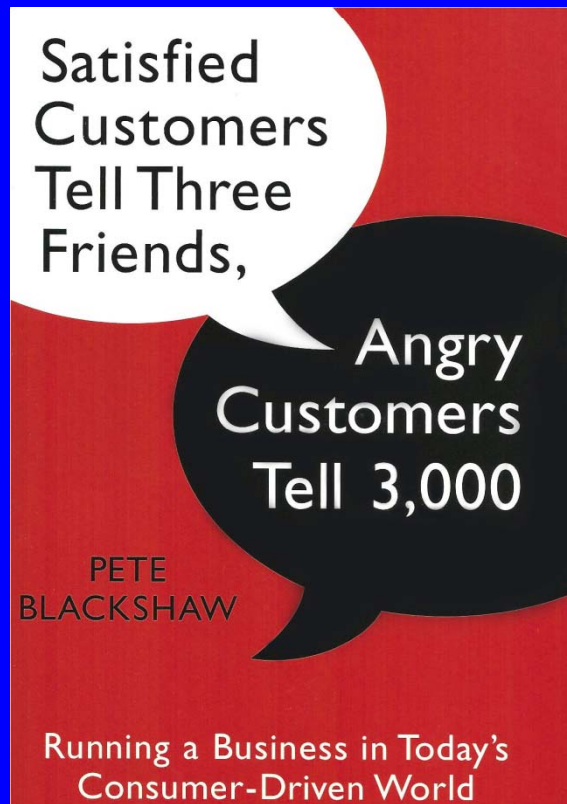


Consumer are more vocal



More rapid communications when products are not satisfactory. The 800# and www. on labels Provides the food manufacturer with information

Consumer Satisfaction Is very important in today



- Blogs
 - Consumer Generated Media
 - CGM

Consumer Reaction to Recalls

- Harris Interactive Research-April 2007
 - 79% aware of food recalls for past three years
 - 29% felt recalls were “serious concern”
 - **55%** would **switch brands temporarily**
 - **15%** said they would **never purchase** the recalled product
 - **21% avoid purchasing any brand made by the manufacturer of the recalled product**

Consumer Reaction to Recalls

- Impact of major food safety issues on consumer purchasing decisions
 - Consumer reported they would not purchase the recall product in the future...
 - **2005 - 6%**
 - **2006 - 38%**
 - **2008 - 15%**

USDA Country of Origin Labeling

- Requires traceability as to source
- Requires documentation as to source
 - Beef
 - Pork
 - Lamb
 - Chicken
 - Goat Meat
 - Wild and Farm Raised Fish and shellfish
 - Peanuts
 - Pecans
 - Ginseng
 - Macadamia nuts

Traceability

- Needs to be in a form so an exchange of data can be synchronized with global harmonization of traceability information
- Need a common platform to transfer information as needed

Basic Traceability Elements

- Firm identification
- Product identification
- Product coding and traceability
 - Code to ID plant where packaged
 - Production line
 - Date code
 - Time (Hour, Minutes, Seconds)
- Have you done an exercise to measure ability to trace product.
 - When
 - How effective is your system?

Electronic Traceability

- Readable bar codes
- Identify company, product, plant, lot codes, etc
- Compatible with universal information exchange platform
- Compatible with current Universal Product Code (UPC #)

Electronic Tracing

An idea that was born in 1932 by a grocer Wallace Flint



UPC Bar Code
Identify company and product



First item to be scanned
on June 26, 1974

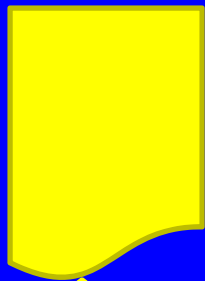
GS 1

- Uniform Code Council (UCC)
 - Managed UPC in USA
- Changed name to GS 1 US
 - 2005
- Consumer package bar code

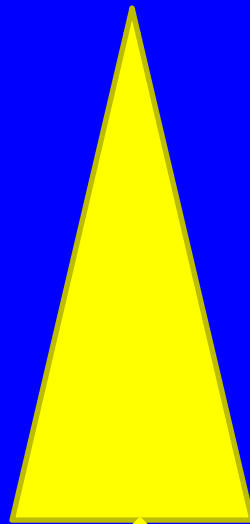
Traceability Information Silos

Download
Info as
needed

How do we link these electronically?



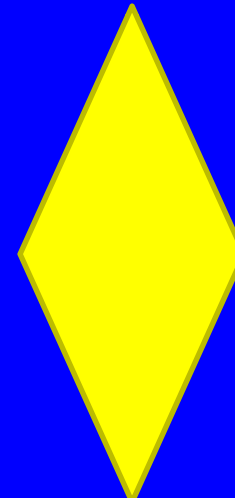
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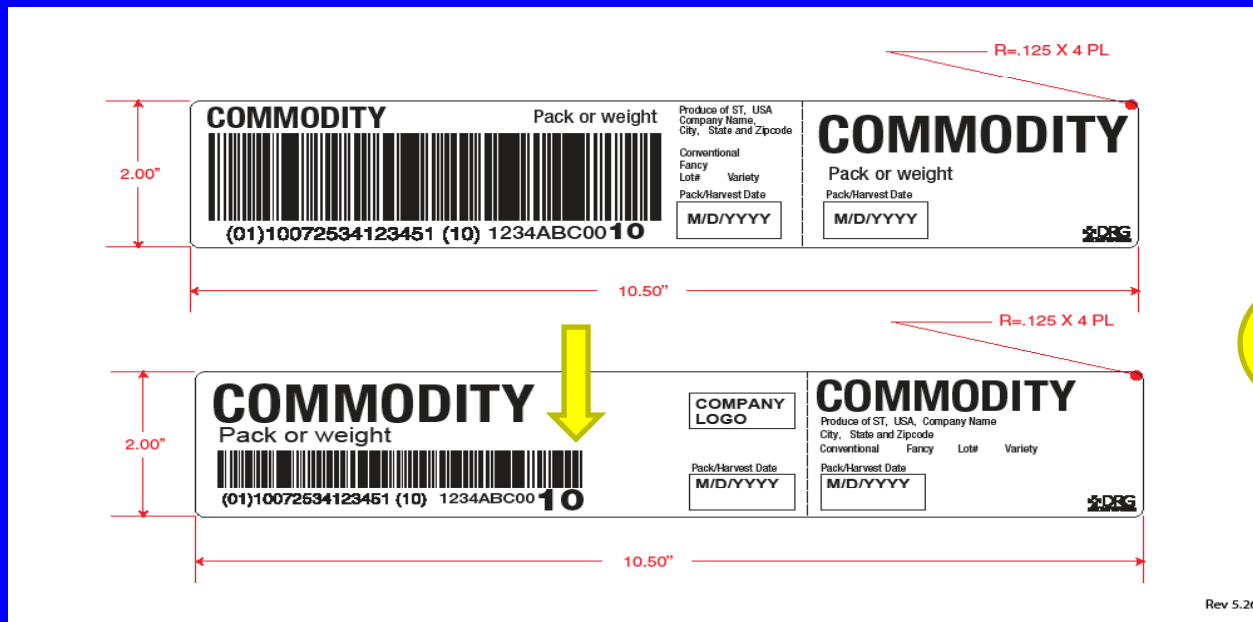
Distribution
Centers



Retail

Tracking lot code to retail

- Bolding a digit that shows a key change in lot code information allows a distribution center to track the lot code movement to retail store



“HOOK
Number”

Voice Pick



Electronic Traceability Will Not Happen Overnight!

But...

**In order to protect our brands
Traceability must be enhanced!**

Meeting Consumer Expectations



Thanks For Your Attention!



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