




## Pointing the Finger at Contaminated Food



Bill Keene  
Oregon Public Health Division





**Peanut Corporation of America**  
Processors of the World's Finest Peanut Products

**Peanut Corporation of America Media Page**

**Media Inquiries: 1.612.336.7705**

Peanut Corporation of America will update this page as facts dictate.

STATEMENT BY PEANUT CORPORATION OF AMERICA - SATURDAY, JANUARY 31, 2009

STATEMENT BY PEANUT CORPORATION OF AMERICA - WEDNESDAY, JANUARY 28, 2009

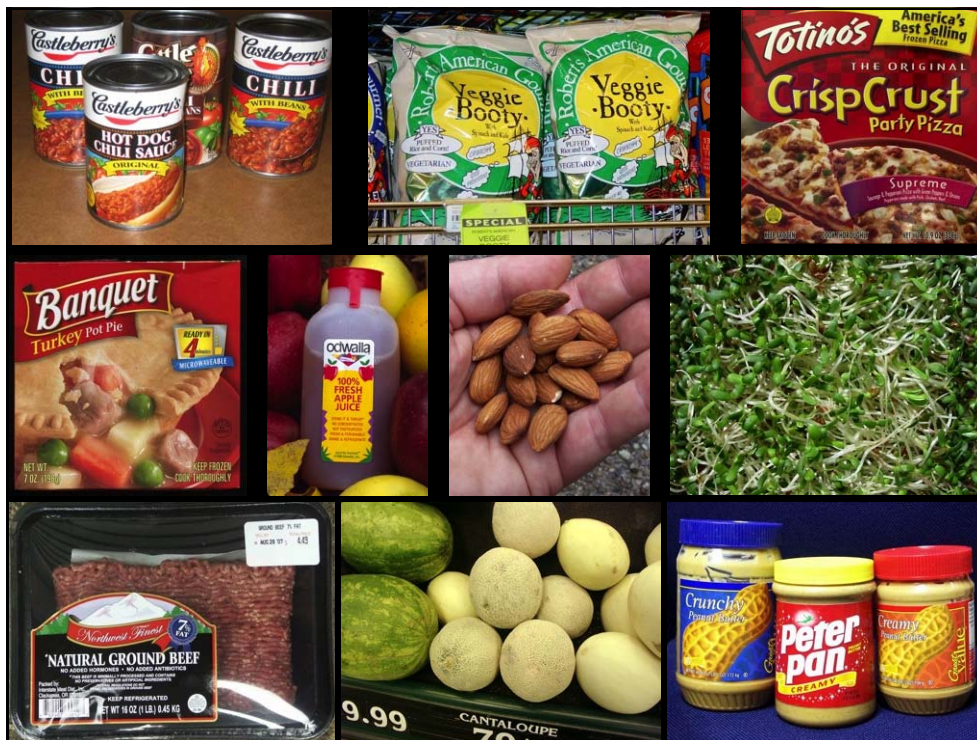
PRESS RELEASE: WEDNESDAY, JANUARY 28, 2009 - RECALL EXPANDED TO INCLUDE ADDITIONAL PRODUCTS made after January, 2007.

PRESS RELEASE: SUNDAY, JANUARY 18, 2009 - RECALL EXPANDED TO INCLUDE ADDITIONAL LOT NUMBERS and production dates.

PRESS RELEASE: TUESDAY, JANUARY 13, 2009 - RECALL NOTICE ISSUED. Peanut Corporation of America announces voluntary NATIONWIDE RECALL of peanut butter. None of the recalled peanut butter was sold in retail stores.

**Helpful Links:**  
 Food and Drug Administration  
 Centers for Disease Control and Prevention  
 American Peanut Council  
 Peanut and Tree-Nut Processors Association  
 Food Marketing Institute  
 International Dairy Foods Association  
 National Restaurant Association  
 Grocery Manufacturers Association

**Registered agent for service of process: Ct Corporation System**  
1201 Peachtree St Ne # 1240, Atlanta, GA 30361




## Range of Foodborne Illnesses

■ gastroenteritis .....	many
■ birth defects .....	toxoplasmosis
■ abortion/stillbirth .....	listeriosis
■ septicemia .....	<i>V. vulnificus</i>
■ respiratory failure .....	botulism
■ kidney failure .....	<i>E. coli</i> O157
■ amnesia .....	domoic acid
■ paralysis .....	campylobacteriosis
■ seizures .....	taeniasis
■ dementia .....	nvCJD/TSE


## Routine Disease Surveillance

### PUBLIC HEALTH REPORTING FOR CLINICIANS


Oregon Public Health Division




**Biological in nature**



**Not reportable once clinically**



**Medical history not included unless**



**Public Health**


**By law,** Oregon clinicians must report diagnoses of the specified infections, diseases, and conditions listed below and clinically suspect cases as requested. The parallel system of lab reporting also notifies the clinician of lab results to report. Some conditions (e.g., Lyme disease) are not reportable unless they are clinically significant. For more information on reporting, visit [www.oregon.gov/oha/ohph/communicable-disease-and-infectious-disease/communicable-disease-reporting](http://www.oregon.gov/oha/ohph/communicable-disease-and-infectious-disease/communicable-disease-reporting).

**Reports should be made to the patient's local health department\* and should include at least the patient's name, home address, phone number, date of birth, sex, the diagnosis, and the date of symptom onset. Most reports should be made within one working day of the diagnosis, but there are several important exceptions.**


**Disease reporting enables public health follow-up for your patients, helps identify outbreaks, provides a better understanding of notifiable patterns, and may even save lives. Remember that it does not punish you from reporting protected health information to public health authorities for the purpose of preventing or controlling disease, and aiding public health surveillance and investigations; see 45 CFR 164.512(d)(1)(ii).**

**CONTACT YOUR LOCAL HEALTH DEPARTMENT** for a list of local health department phone numbers go to: [www.oregon.gov/oha/ohph/communicable-disease-reporting/account.es.shtml](http://www.oregon.gov/oha/ohph/communicable-disease-reporting/account.es.shtml)


**DHS**  
Oregon Department of Health Services  
Office of Disease Prevention and Epidemiology  
971-673-1111 (phone) • 971-673-1100 (fax)  
[www.ohdnet.org](http://www.ohdnet.org)




**Reportable (Public Health Laboratory files)**



**Not reportable**



**Reportable (Public Health Laboratory files)**



**Reportable (Public Health Laboratory files)**

**IMMEDIATELY**

- Anthrax
- Botulism
- Diphtheria
- Marine toxications†
- Ebola
- SARS-coronavirus
- Any outbreak of disease
- Any uncommon illness of potential public health significance

**WITHIN 24 HOURS**

- Influenza-like illness
- Measles (rubella)
- Meningococcal disease
- Pesticide poisoning
- Plague
- Rabies
- Rubella
- Vibrio infection

**WITHIN ONE WORKING DAY**

- Animal bites
- Any arthropod-borne infection†
- Brucellosis
- Campylobacteriosis
- Chlamydia
- Chlamydia infection\*
- Cryptosporidiosis
- Cytophaga infection
- Enterohemorrhagic *E. coli* (EHEC-toxicogenic)
- Giardiasis
- Gonorrhea
- Hantavirus infection
- Hepatitis A
- Hepatitis B
- Hepatitis C
- Hepatitis D (delta)
- HIV infection and AIDS
- Human cytomegalovirus (CMV)
- Legionellosis
- Listeriosis
- Lymphogranuloma venereum (LGV)
- Malaria
- Mumps
- Poliovirus (infectious disease - exclude non-gonorrheal)
- Pertussis
- Parvovirus
- Q fever
- Rhly. Meningitis (meningitis)
- Salmonellosis (including typhoid)
- Shigellosis
- Syphilis
- Tetanus (adult infection)
- Typhoid
- Trichinosis
- Tularemia
- West Nile virus
- Yersiniosis

**WITHIN ONE WEEK**

- Lead poisoning
- Rheumatic fever (non-*<18 years old†*)

**FOOTNOTES**

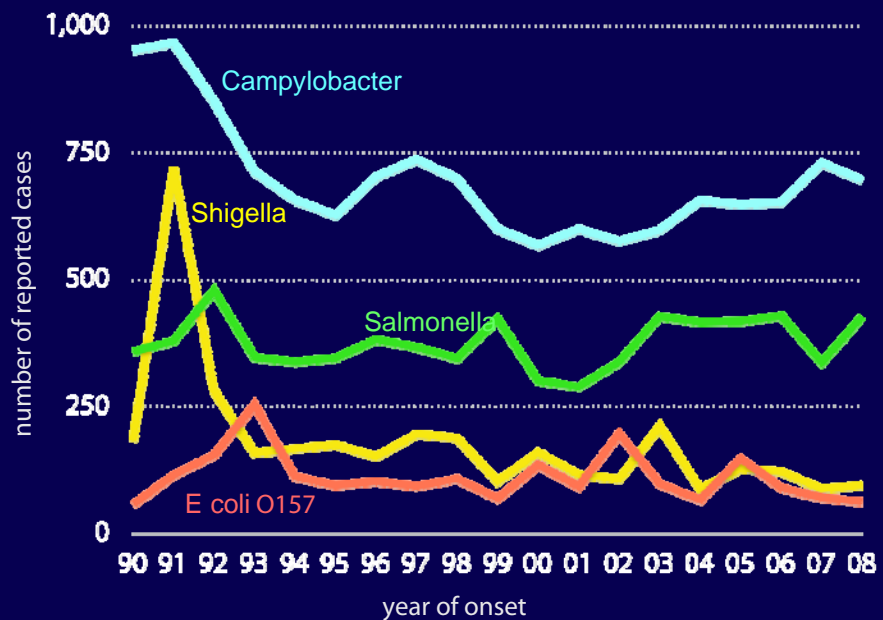
- \* *STREPTOCOCCUS* spp. 1-3-5-6-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000
- † For all diseases, unless noted to the contrary, forms available at [www.oregon.gov/oha/ohph/communicable-disease-reporting](http://www.oregon.gov/oha/ohph/communicable-disease-reporting).

Oregon's Notifiable Diseases Poster, 2008

## Disease Reporting

- Rules are state-specific
- Specific diseases, outbreaks, and “unusual diseases” are reportable
- (Some) isolates go to PHL for subtyping
- Generally, no identifiers go to feds

## Reported Bacterial Diarrhea in Oregon



## Sporadic Case Investigation Questions

- Basic demographics
- Basis of diagnosis
- Hot-button exposure(s)
- Identify others at risk
- Health education and individual control measures (e.g., child care, school, food handler restrictions)

The image shows a detailed case report form for Escherichia coli O157 (and other STEC). The form is organized into several sections:

- Case Identification:** Includes fields for Name, Address, and Telephone.
- Demographics:** Includes fields for Sex, Race, Date of Birth, and Occupation.
- History of Illness:** Includes checkboxes for symptoms like Nausea, Vomiting, Diarrhea, and Abdominal Pain, along with dates of onset and duration.
- Laboratory Data:** Includes checkboxes for specimen type (Stool, Urine, Blood, etc.) and results.
- Spreadsheet:** A section for recording exposure details, including food and activities during the illness period.

## O157: Possible Food Exposures

- Undercooked/raw meat
- ANY ground beef
- food at restaurants
- food at other gatherings (potlucks, events)
- dried meat (salami, jerky, etc.)
- unpasteurized milk and cheese
- venison or other game
- sprouts (alfalfa, clover, bean, ...)
- unpasteurized juice or cider

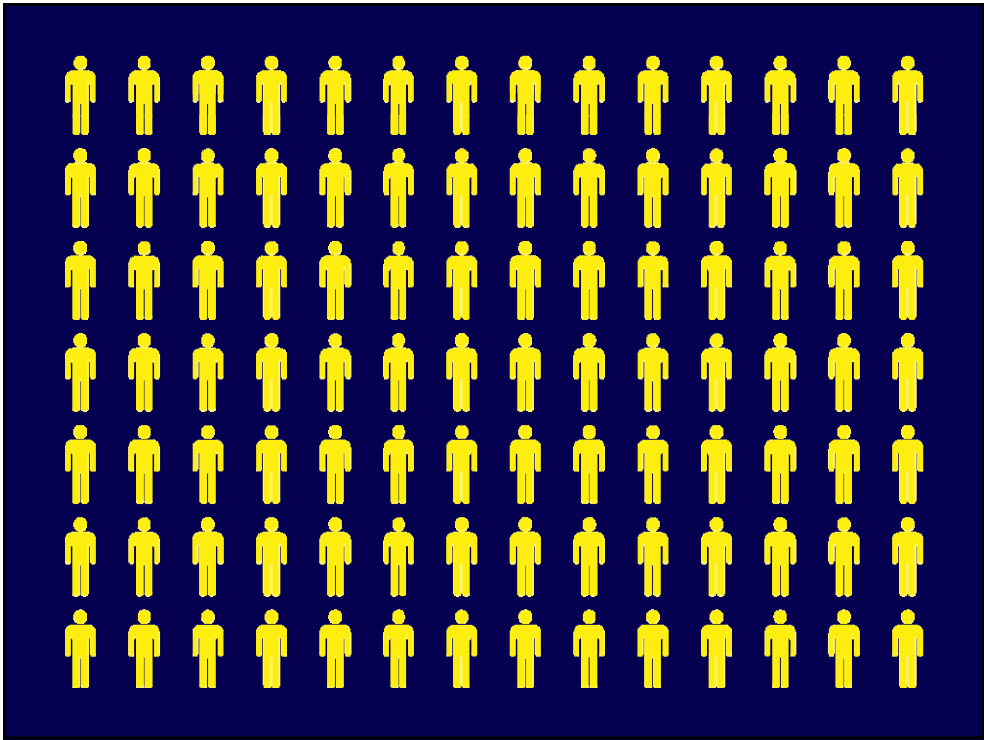
## O157: Other Potential Exposures

- work exposure to human/animal excreta
- contact with diapered children
- water recreation
- hunting; contact with deer, elk, etc.
- livestock or farm exposure
- petting zoos
- travel



## Ongoing Review of Data

- Comparisons with other time periods, other locations
- Assessment of demographic and basic risk factor information
- Integration with lab subtyping data
- Detection of anomalies (e.g., outbreaks)

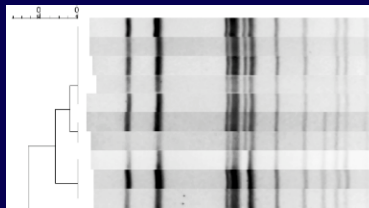






## What Starts Outbreak Investigations?

- Citizen reports
- Physician reports
- Space/time concentration of case reports
- Isolate subtyping



## Lab Characterization of Enteric Bugs

- Bacteria
  - speciation
  - serotyping (e.g., Salmonella Heidelberg, S. Agona)
  - serogrouping (e.g., Escherichia coli O157:H7)
  - PFGE
  - MLVA
- Viruses
  - Norovirus testing
  - sequencing for hepatitis A, norovirus

# Pulsed Field Gel Electrophoresis (PFGE)



# “Epilinks” of Oregon Cases, 1999–2008



## Why Investigate Outbreaks?

- Stop ongoing transmission (in short term)
- Facilitate diagnosis and proper treatment or prophylaxis
- Identify risk factors
- Stimulate research
- Develop sensible prevention strategies

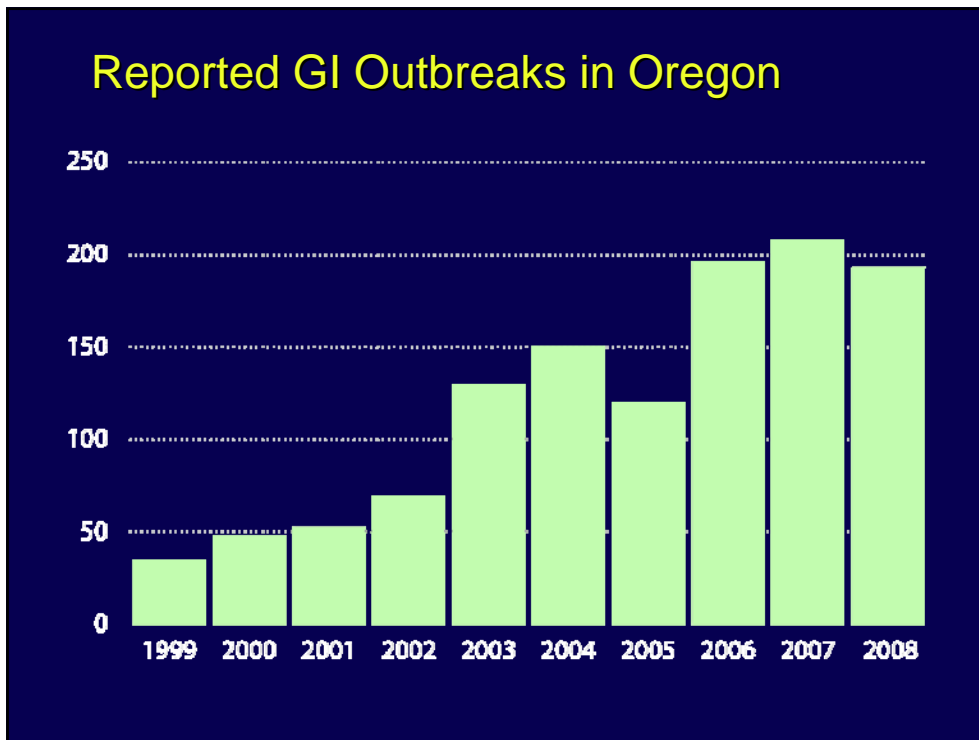
Brand X ice cream linked to  
1994 salmonellosis  
outbreak—~250,000 cases  
nationwide



## Outbreak Investigations are Disproportionately Important

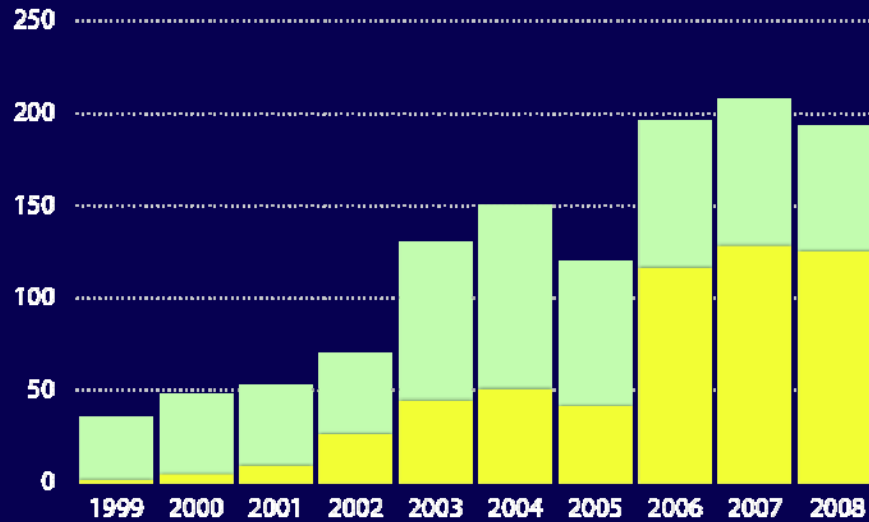
- Specific sources can be identified
- Risk factors can be confirmed
- Media interest provides opportunities for public health communication
- Tort damages, loss of sales, and damage to brand names get industry's attention
- Political interest is stimulated



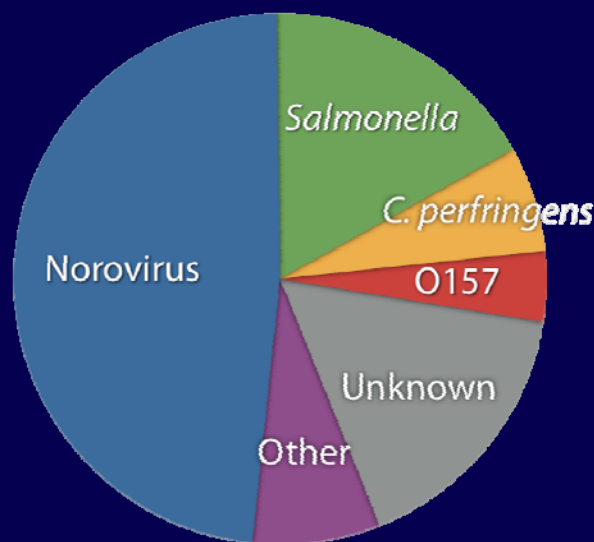


## Reported GI Outbreaks in Oregon

Showing proportion in nursing home/ALC locations



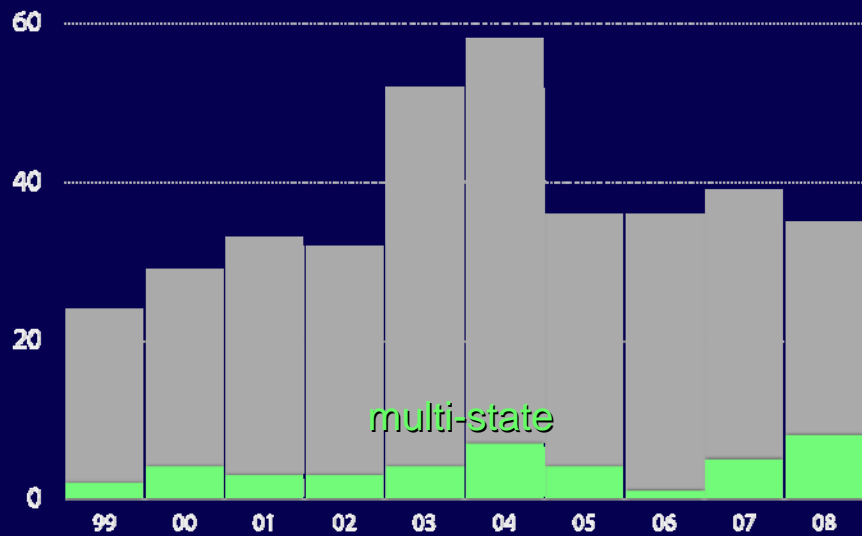
## Etiology of Foodborne Outbreaks, Oregon, 1999–2008



N = 374

## Oregon Foodborne Outbreaks, 1999–2008

41 of 374 (11%) were multi-state



## Recent Multi-State Outbreaks

year	pathogen	vehicle	Oregon cases
2008	S. Typhimurium	peanut stuff	12
2008	S. Agona	unknown	6
2008	S. Poona	unknown	1
2008	E. coli O157:H7	spinach	6
2008	S. Saintpaul	jalapeños, serranos	11
2008	S. Typhimurium	spouts	7
2008	S. Litchfield	cantaloupe	5
2007	S. 14,[5],12:i-	pot pies	10
2007	E. coli O157:H7	ground beef	2
2007	S. Wandsworth	Veggie Booty	4
2007	S. Montevideo	sprouts	1
2007	S. Tennessee	peanut butter	3
2006	E. coli O157:H7	spinach	5
2006	S. Ohio	baby chicks	4



## How do investigations work?



## Outbreak Investigation Processes

- Recognition of the cluster
- Hypothesis generation
- Identification of source (hypothesis testing)
- Traceback/trace forward
- Short-term interventions
- Identification of "cause"
- Long-term interventions



## Review of Basic Data

No obvious connections or “hot-button” exposures reported

Age	Sex	Onset	County
27	F	8/25/06	Marion
37	M	8/25/06	Cowlitz (WA)
17	F	8/30/06	Benton
62	F	8/31/06	Linn

## Shotgun Interviews

[12]Y	?	N	FRESH VEGETABLES 2
A	<input type="checkbox"/>	<input type="checkbox"/>	white or yellow onions
B	<input type="checkbox"/>	<input type="checkbox"/>	green onions (scallions)
C	<input type="checkbox"/>	<input type="checkbox"/>	leeks
D	<input type="checkbox"/>	<input type="checkbox"/>	eggplant
E	<input type="checkbox"/>	<input type="checkbox"/>	commercially made guacamole
F	<input type="checkbox"/>	<input type="checkbox"/>	other avocado
G	<input type="checkbox"/>	<input type="checkbox"/>	cabbage
H	<input type="checkbox"/>	<input type="checkbox"/>	bean sprouts
I	<input type="checkbox"/>	<input type="checkbox"/>	any stir-fry that might have included bean sprouts
J	<input type="checkbox"/>	<input type="checkbox"/>	alfalfa sprouts
K	<input type="checkbox"/>	<input type="checkbox"/>	any other sprouts (clover, mixed, broccoli, daikon radish, ...)
L	<input type="checkbox"/>	<input type="checkbox"/>	Did you handle any sprouts, even if you didn't eat them?
M	<input type="checkbox"/>	<input type="checkbox"/>	any bagged, pre-washed lettuce or salad mix
N	<input type="checkbox"/>	<input type="checkbox"/>	any other iceberg lettuce
O	<input type="checkbox"/>	<input type="checkbox"/>	any romaine lettuce
P	<input type="checkbox"/>	<input type="checkbox"/>	any other leafy lettuce (red, green, butter, radicchio ...)
Q	<input type="checkbox"/>	<input type="checkbox"/>	any mesclun, "spring mix", or "baby" salad items
R	<input type="checkbox"/>	<input type="checkbox"/>	any lettuce on sandwiches or burgers
S	<input type="checkbox"/>	<input type="checkbox"/>	any tomatoes on sandwiches or burgers
T	<input checked="" type="checkbox"/>	<input type="checkbox"/>	bagged, pre-washed spinach or spinach mix
U	<input type="checkbox"/>	<input type="checkbox"/>	fresh spinach ("loose": not frozen)
V	<input type="checkbox"/>	<input type="checkbox"/>	arugula, endive, chard, watercress, other salad greens
W	<input type="checkbox"/>	<input type="checkbox"/>	other greens (kale, collard, mustard, etc)
X	<input type="checkbox"/>	<input type="checkbox"/>	fresh basil or pesto (at home or away)
Y	<input type="checkbox"/>	<input type="checkbox"/>	fresh parsley (regular or Italian)
Z	<input type="checkbox"/>	<input type="checkbox"/>	fresh cilantro

## Results of Shotgun Interviews

Age	Sex	Onset	Bagged Spinach
27	F	8/25/06	Y
37	M	8/25/06	Y
17	F	8/30/06	Y
62	F	8/31/06	N
8	F	8/31/06	Y
49	F	9/2/06	Y



Probability of getting at least 7 tails = 0.38

Probability of getting at least 11 tails = 0.0032

## Assessing Exposure Histories

- How likely are we to find x or more out of n people eating a given product?

$$\sum_{y=x}^n \left( \frac{n!}{y!(n-y)!} \right) p^y (1-p)^{n-y}$$

n = number of people

x = number of people who ate it

p = background consumption rate

## Binomial Calculations

- 5 of first 6 cases ate bagged spinach
- Spinach consumption rate was ~17%

Background	Probability
10%	0.00006
15%	0.0004
17%	0.0007
20%	0.002
25%	0.005

## Multi-State Outbreaks Evolve over Time

- States work collaboratively on ad hoc basis
- Often there is a de facto leader (or 2) but no one is really “in charge”
- Methods evolve collectively, depending on distribution of cases, who’s on first, etc.
- May be successive waves of questionnaires
- CDC’s role is variable

## Sub-Cluster Analyses

- In large outbreaks, there may be sub-clusters of epi-linked cases  
e.g., multiple cases at a restaurant, nursing homes, or school
- Look for common suppliers and food items
- Specific analytic studies in these settings

King Nut Peanut Butter only sold by Sysco and other commercial suppliers



## Saintpaul Outbreak: Restaurant Clusters

State	Style	Jalapeños	Serranos
MA	bagels	Y	N
OH	Indian	Y	N
TX	Mexican	Y	N
TX	Mexican	Y	N
TX	Mexican	Y	N
MO	Mexican	Y	N
NC	Mexican	Y	Y
NY	Mexican	Y	Y
TX	Mexican	N	Y
AR	Mexican	Y	N
IL	Mexican	Y	Y
IL	Mexican	Y	Y
IL	Mexican	Y	N
IL	Mexican	N	N
IL	Mexican	N	Y
IL	Mexican	Y	N
IL	Mexican	?	?

## Saintpaul Outbreak: More Restaurants

State	Style	Jalapeños	Serranos
DC	Mexican	Y	Y
VA	Mexican	Y	N
MD	Mexican	Y	N
GA	Mexican	Y	N
GA	Mexican	Y	N
NY	Mexican	Y	Y
NY	Mexican	Y	N
NY	Mexican	Y	Y
NY	Mexican	Y	Y
MA	Mexican	Y	N
CO	Mexican	Y	?
PA	Mexican	?	?
MI	Mexican	Y	N
AL	Mexican	Y	N
MI	Mexican	?	?
AL	Mexican	Y	N
MN	Organic	Y	N

## Epi Data are Dirty

- Not all exposed people get sick (i.e., some well people were exposed)
- Some people get sick without being exposed
- Not all “exposed people” are really exposed
- Not all sick people are really sick
- Most people have imperfect memories of ephemeral exposures



## “Controls”: Where do they come from?

- Meal companions
- Neighboring households
- Same phone-prefix households
- Credit card names
- Other reported cases with similar illnesses
- Population surveys
- “Virtual” controls

## Analytic Studies



## Analytic Studies: Guilt by Association

- Comparison of exposure histories between ill and well persons (“cases” and “controls”)
- Statistical testing to assess “significance”

	sick	well	total
ate tomatoes	8	5	13
didn't eat them	2	15	17
total	10	20	30

“Odds ratio” (O.R.) = 12      P = 0.007

## Statistical “Power”

- Same proportions; smaller sample size
- Same odds ratio; not significant

	sick	well	total
ate tomatoes	4	2	6
didn't eat them	1	6	7
total	5	8	13

O.R. = 12      P = 0.1

## Analytic Study Problems

- Background rate of consumption is high (e.g., eggs, tomatoes)
- Risk is diffuse (e.g., dozens of peanut butter-flavored products)
- Food is “cryptic” or eaten as an ingredient (e.g., spices, tomatoes)
- Not enough interviews completed
- Interviewer variability
- Confounding

## Epidemiological Evidence: More than 2x2 Tables

- Descriptive (demographics, timing, clinical hx)
- Case series information
- Analytic study associations
- Dose-response
- Product testing
- Traceback and traceforward information
- Past history and general knowledge

# Salmonella Saintpaul Outbreak, 2008

Tomato Salmonella Lawyer | Tomato Salmonella Outbreak Attorney

http://www.tomatosalmonellalawyer.com/

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**TOMATO SALMONELLA LAWYERS**

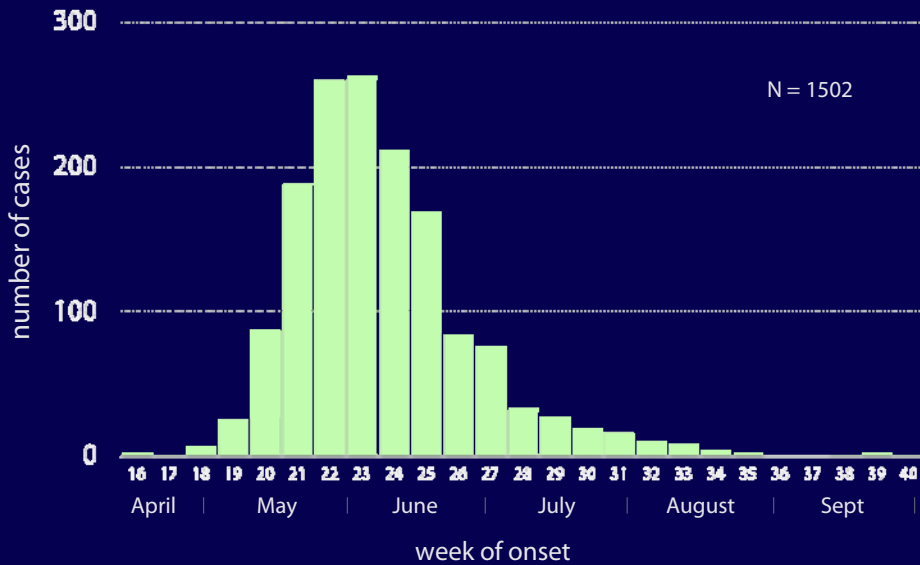
**Simon & Luke, L.L.P.**

Ron Simon and Simon & Luke, L.L.P. have represented thousands of victims of defective products, including over 2000 victims of contaminated food throughout the United States. We have recovered more than \$300,000,000 on behalf of our clients over the past 10 years.

We are currently representing over 750 persons who have become ill as a result of

Have you been infected with Salmonella Saintpaul?

## S. Saintpaul Epi Curve, 2008





# THE WALL STREET JOURNAL.

TUESDAY, JULY 1, 2008 - VOL. CCLII NO. 1 ★★★★ \$1.50

▲ 3.50 ▲ 0.03% NASDAQ 2292.98 ▲ 1.0% NIKKEI 13481.38 ▼ 0.5% DJ STOXX 50 2906.42 ▲ 1.1% 10-YR TREAS ▲ 4/32, yield 3.979% OIL \$140.00 ▼ \$0.21 GOLD \$926.20 ▼ \$3.10 EURO \$1.5744 YEN 106.18

## That's News—

**Finance**

Justice Department...  
 Iraq plans to hasten oil and natural-gas development...  
 African leaders pushed Mugabe to open talks with the Zimbabwean opposition...  
 Obama defended his patriotism and lauded McCain's military service, rejecting comments of retired Gen. Wesley Clark, a supporter...  
 Bill Clinton told Obama he would help in the campaign after the Illinois senator called him to seek his support.

**World-Wide**

The Iraqi government sued dozens of companies for more than \$10 billion for alleged oil-for-food kickbacks...  
 The U.S. readied a U.N. draft resolution calling for sanctions, but it faced resistance...  
 West floods won't size of the U.S. ...  
 SIDA report says...  
 A3...  
 A1

## Anger Rises Over Salmonella Probe

### Tomato Investigation Stymies FDA, as Farmers, Distributors Face Mounting Losses

BY JANE ZHANG, JULIE JARGON AND A.J. MIRANDA

More than 11 weeks into a salmonella outbreak that has sickened hundreds across the U.S., government regulators still have little idea where the outbreak originated. That is causing rising anger among the farmer's, distributors and others slammed by slumping sales of tomatoes, the outbreak's prime suspect.

As consumers abstain from tomatoes or find alternatives, one growers association called over the weekend for Congress to investigate the Food and Drug Administration, the lead agency on the case. The National Restaurant Association, the industry's main trade group, says the outbreak has cost the food industry at least \$100 million. And as some crops rot on the vine, the problem is threatening to reignite a long-simmering trade dispute between tomato growers in Florida and Mexico.

Investigators from the FDA have fanned out across farms in Mexico and Florida, two top growing regions, and into irrigation, packing, washing and storage facilities in search of the virulent salmonella Saintpaul strain responsible for the outbreaks. All 1,700 samples they collected were negative, the FDA said in a joint conference call on Friday with the federal Centers for Disease Control and Prevention.

The regulators said they can't pinpoint a region, or even a country, where the outbreak might have started. It might even be possible, they said, that tomatoes aren't to blame. Many victims ate tomatoes combined in dishes such as salsa and guacamole. "We continue to keep an open mind about the possible source of this outbreak," Patricia Griffin, the branch chief of enteric diseases epidemiology at the CDC, said on the Friday conference call.

Dr. Griffin added: "It's very frustrating to all of us to be so far along in an investigation and to not have an answer."

The outbreak's size—it is the largest produce-linked salmonella outbreak in the U.S., according to the CDC—and its duration have prompted a sometimes-reluctant shift in consumer behavior. In Austin, Texas, restaurateur Tony Villegas says he has experimented with pico de gallo, a traditional Mexican condiment made with onions, peppers, cilantro and fresh tomatoes, only without the tomatoes. "It was just green and white," said Mr. Villegas. "It tasted really bad, unless you really like onions."

The mystery, and the resulting economic hardship, stems from the sprawling nature of the U.S. food chain, especially the system of distributing fresh produce. In recent years, fruits and vegetables have been responsible for larger-scale outbreaks on average than meat, poultry or fish.

*Please turn to page A14*

### Coast-to-Coast Mystery

Number of people infected with the outbreak strain of Salmonella Saintpaul, as of June 26

Source: Food and Drug Administration

**HURRICANE WATCH**

The Chins Are Down

**Feds Press**

## Who Does the Epidemiology Work?

- State/local health departments conduct >95% of all enteric disease investigations
- CDC participates in a small proportion of total
- CDC is primary agency on a tiny proportion
- States do not work for the feds
- Different agencies may work at different speeds
- 1 or 2 states often set the pace on multi-state investigations

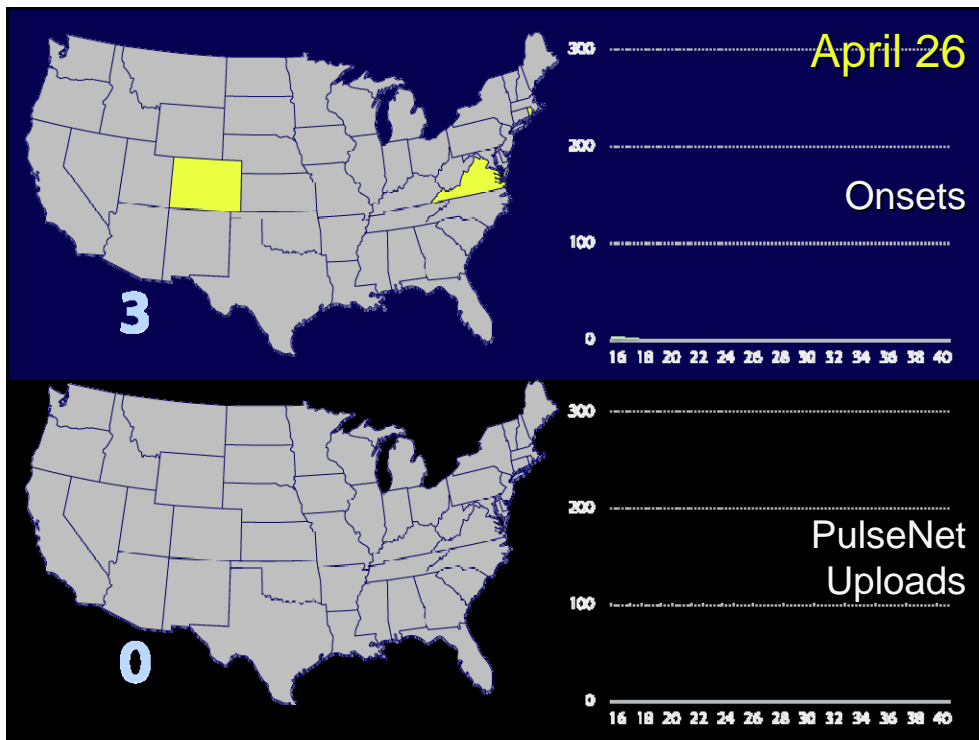
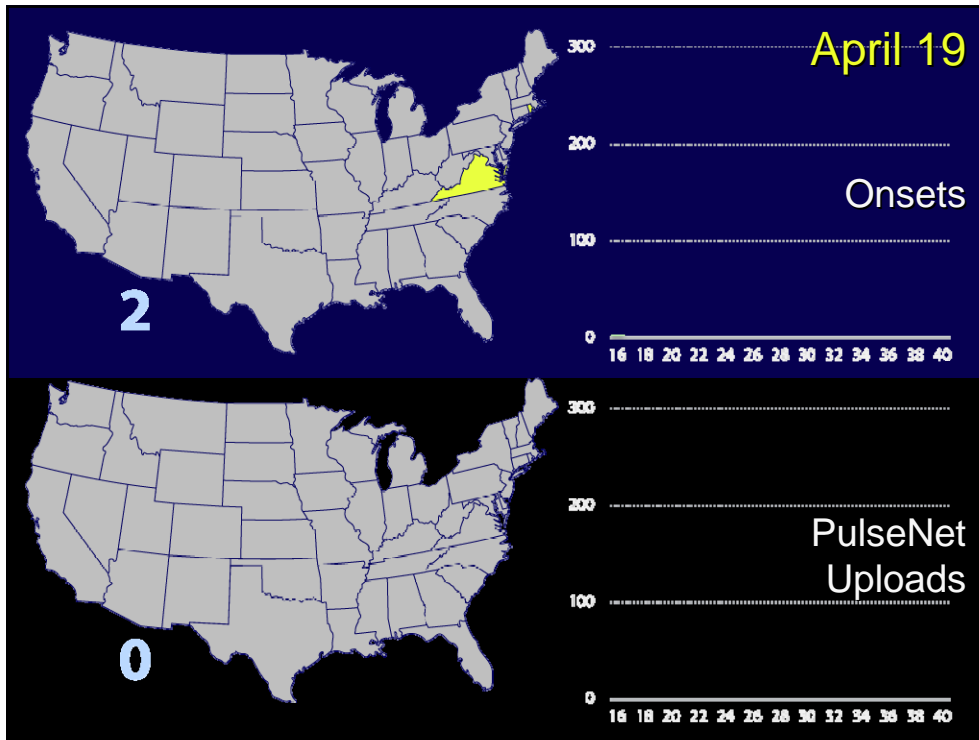
## Taking Public Health Action

- After weeks of little progress, investigations can suddenly move quickly
- Businesses usually gets little warning that is unlikely to change...
- Epidemiologists tend to go public quickly about potentially ongoing problems
- "Mandatory recall" authority is rarely an issue
- Different agencies take a different approach
- Most investigations are never publicized

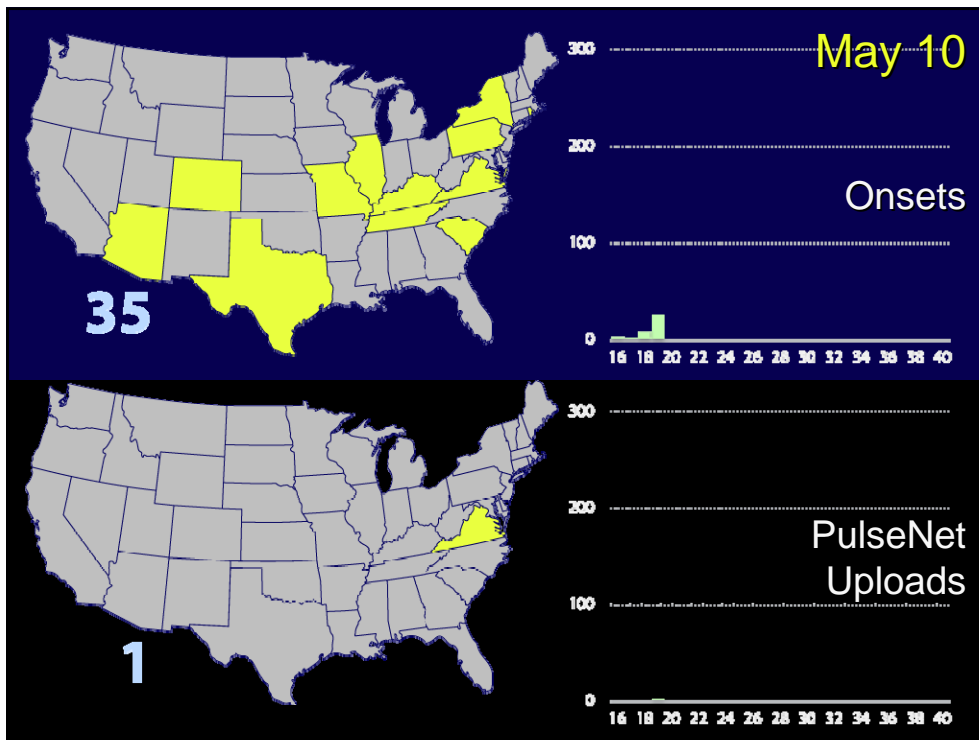
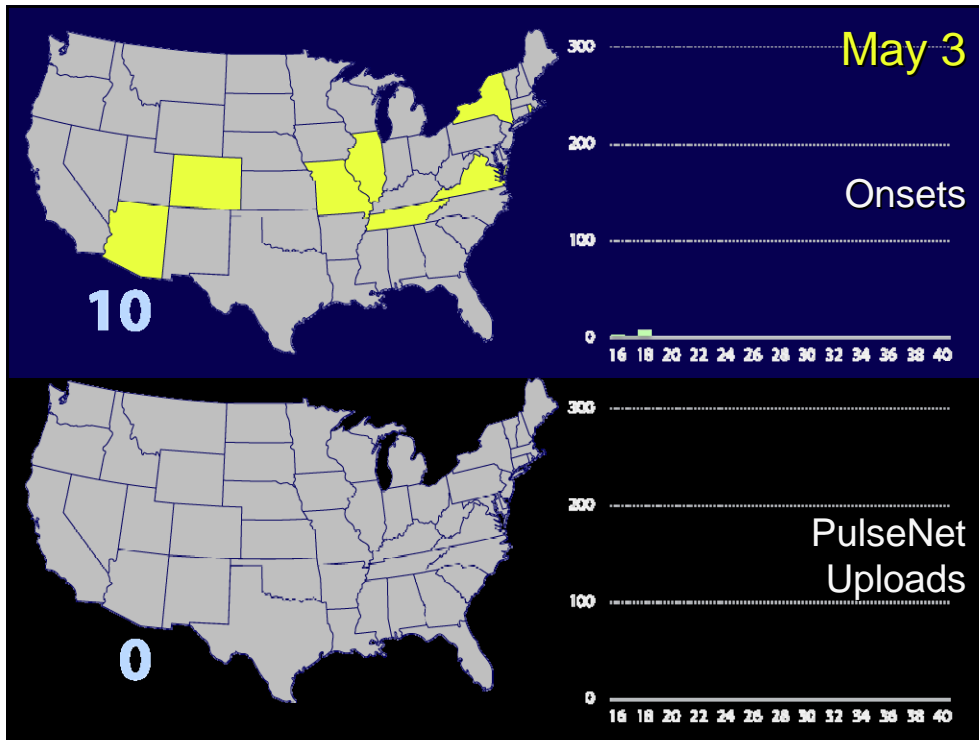


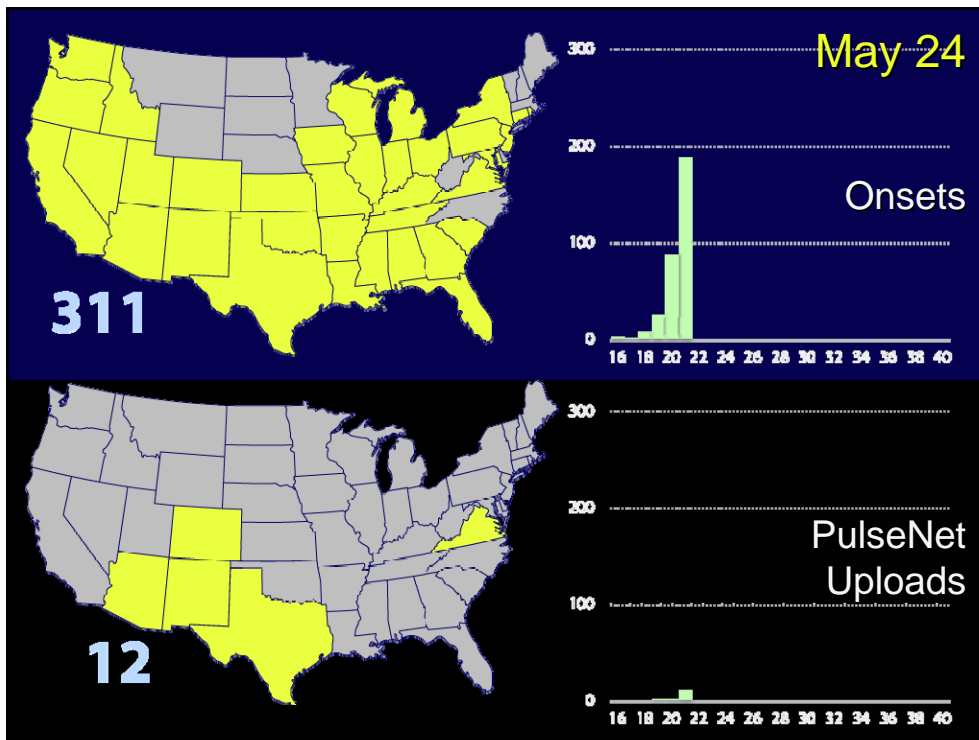
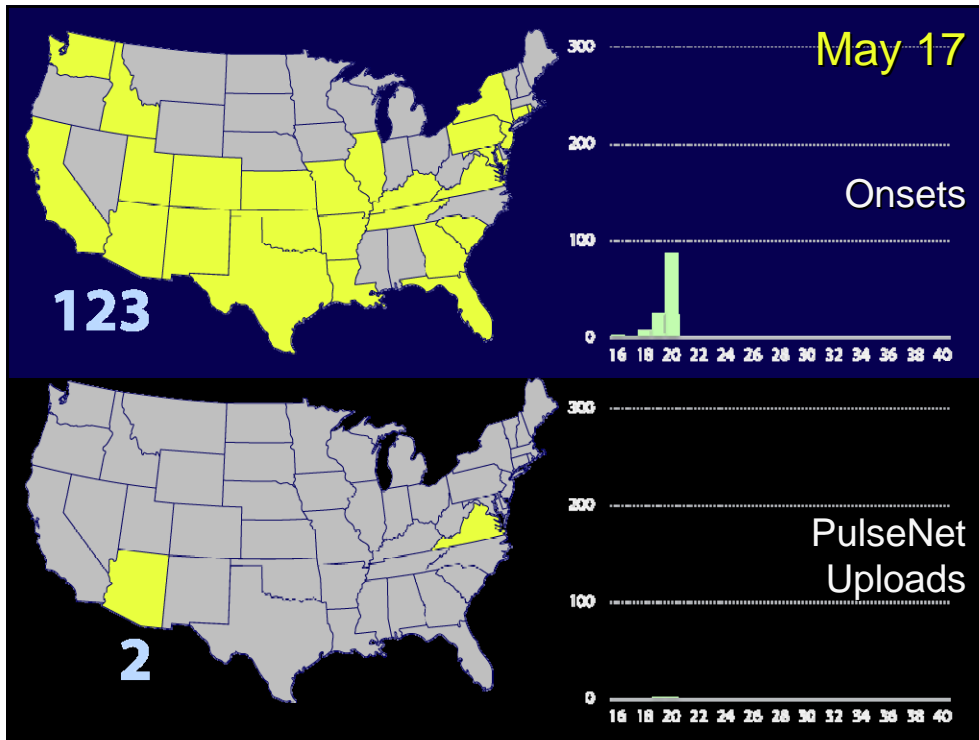
## Why do investigations take so long?

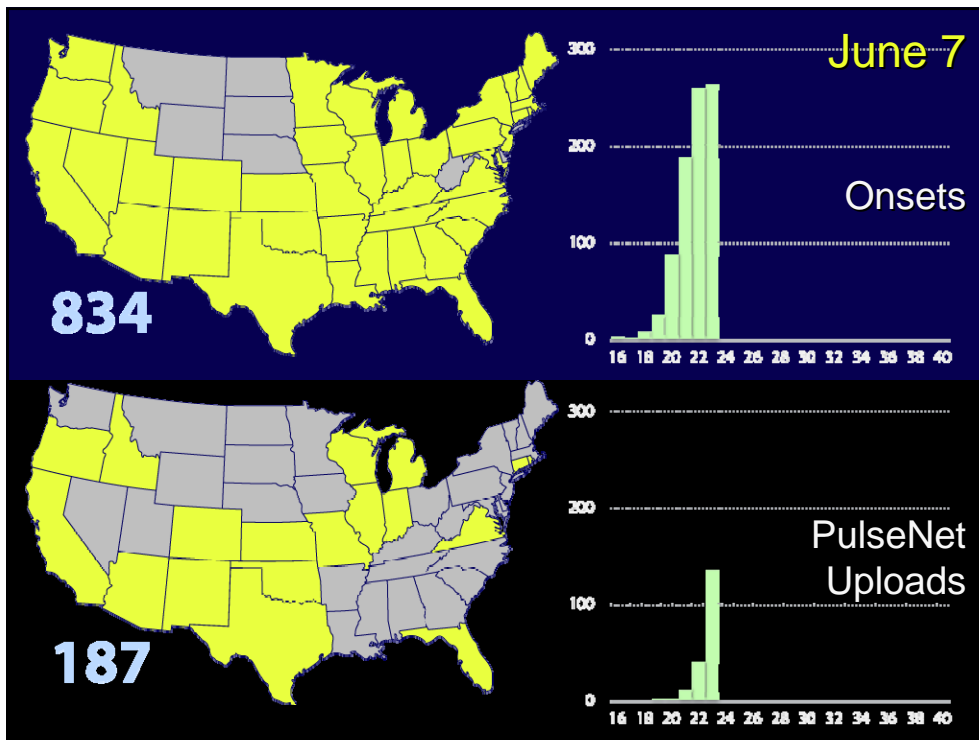
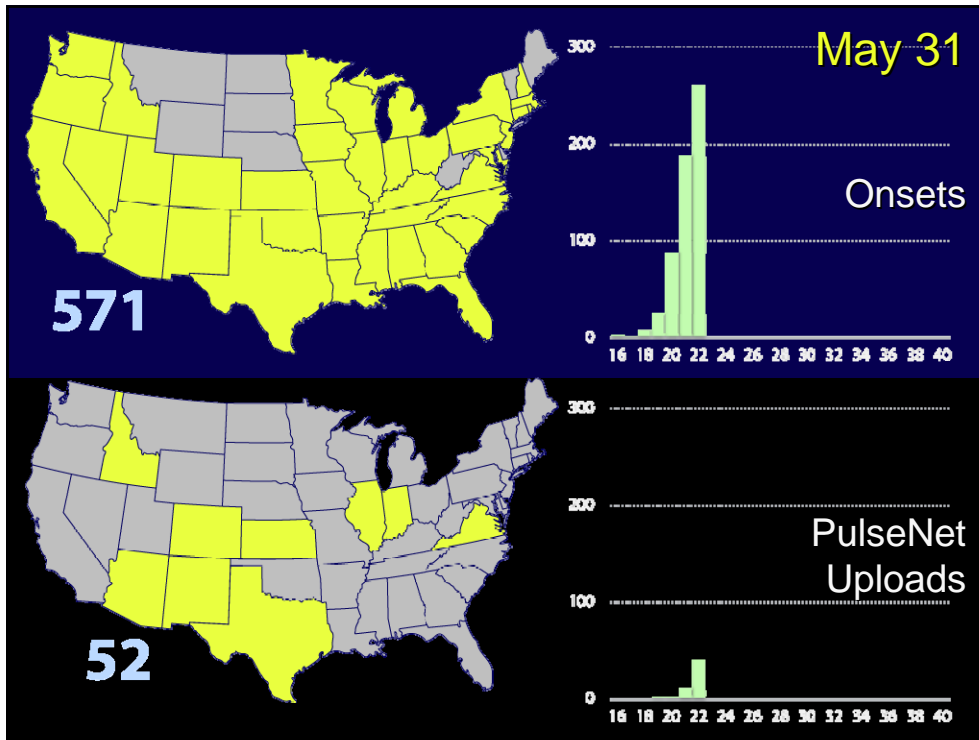
- Some delays are unavoidable
- Some delays are regrettable
- Some outbreaks are complicated
- Some investigations are difficult
- Some investigations are bungled

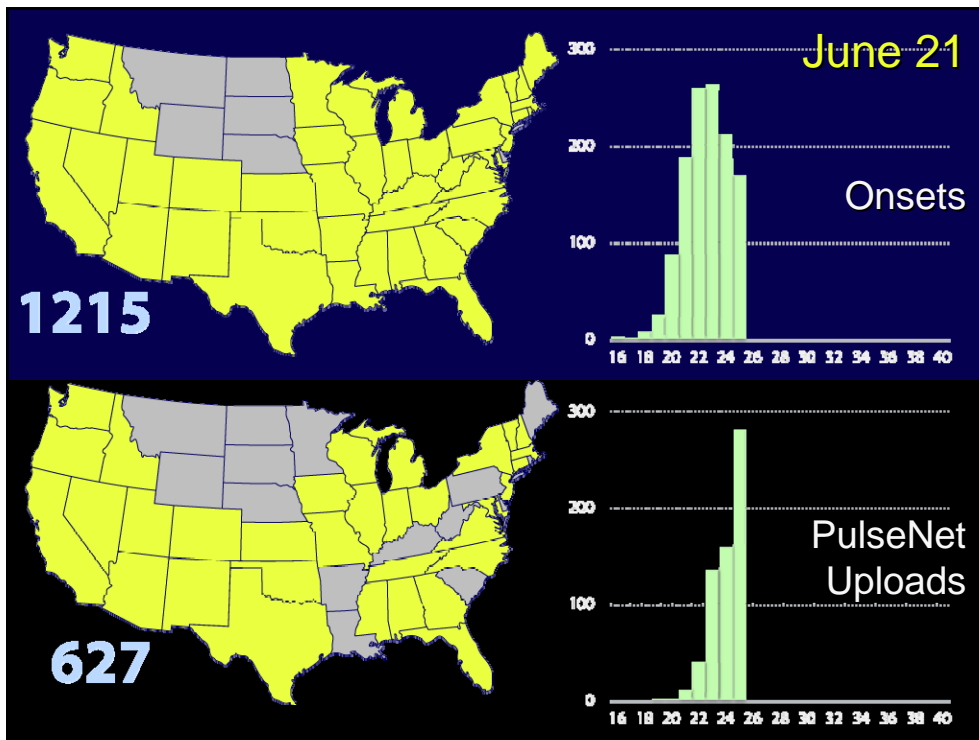
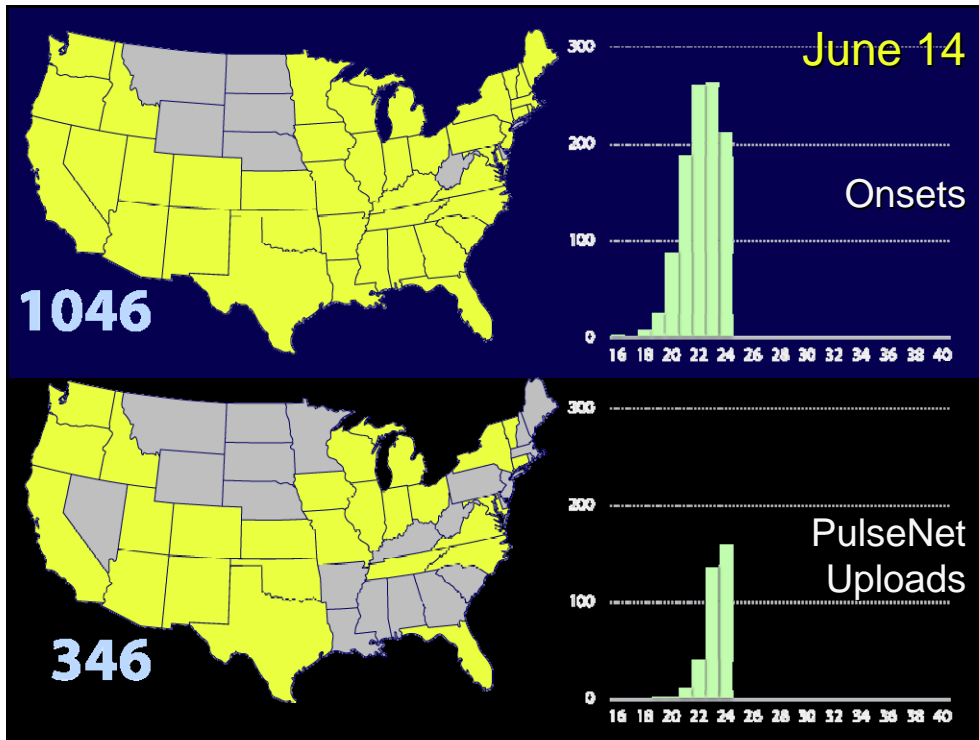


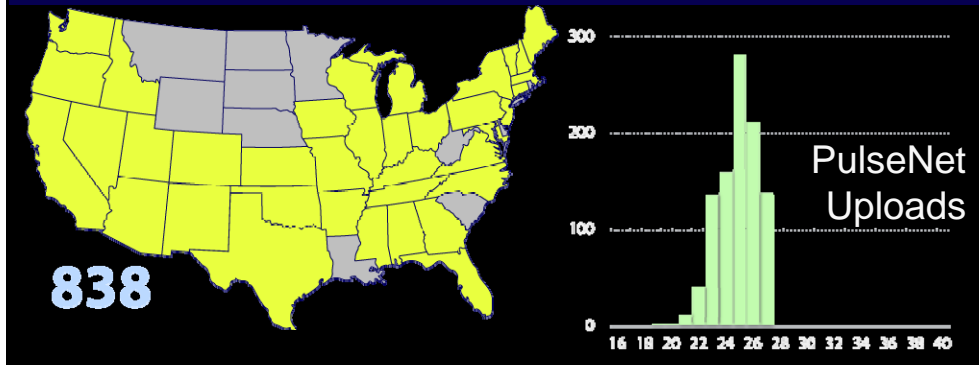
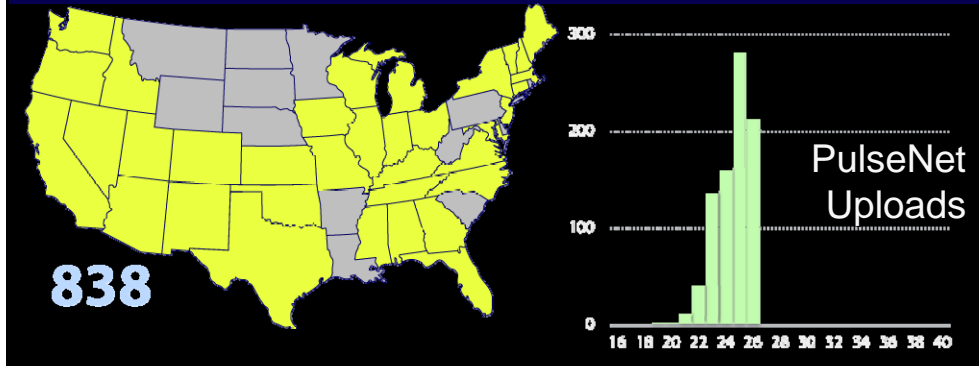
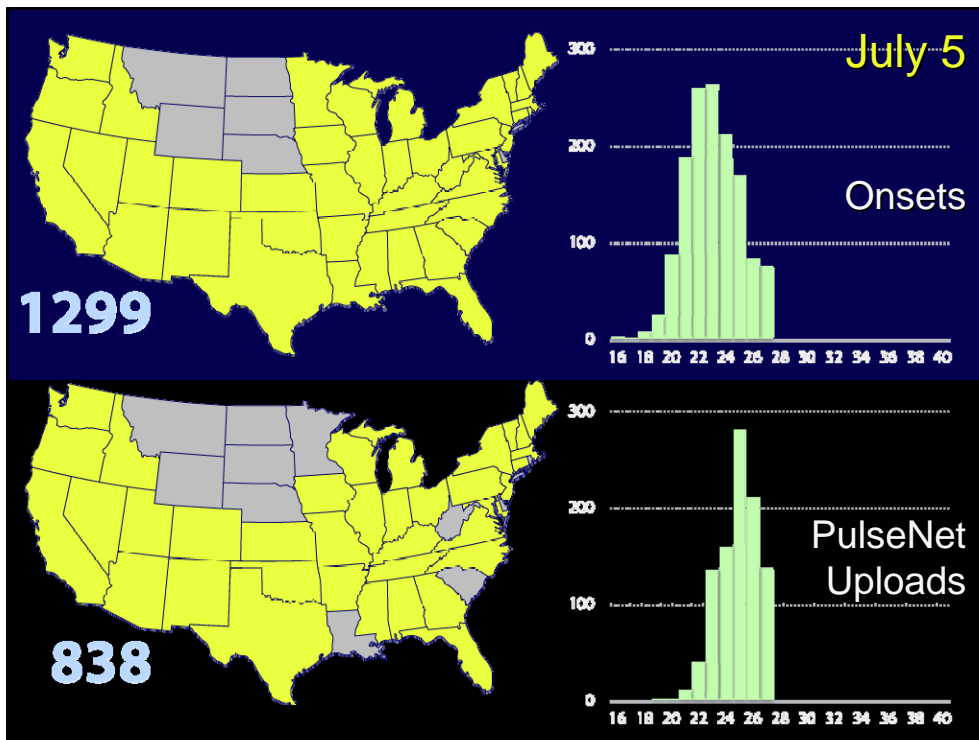
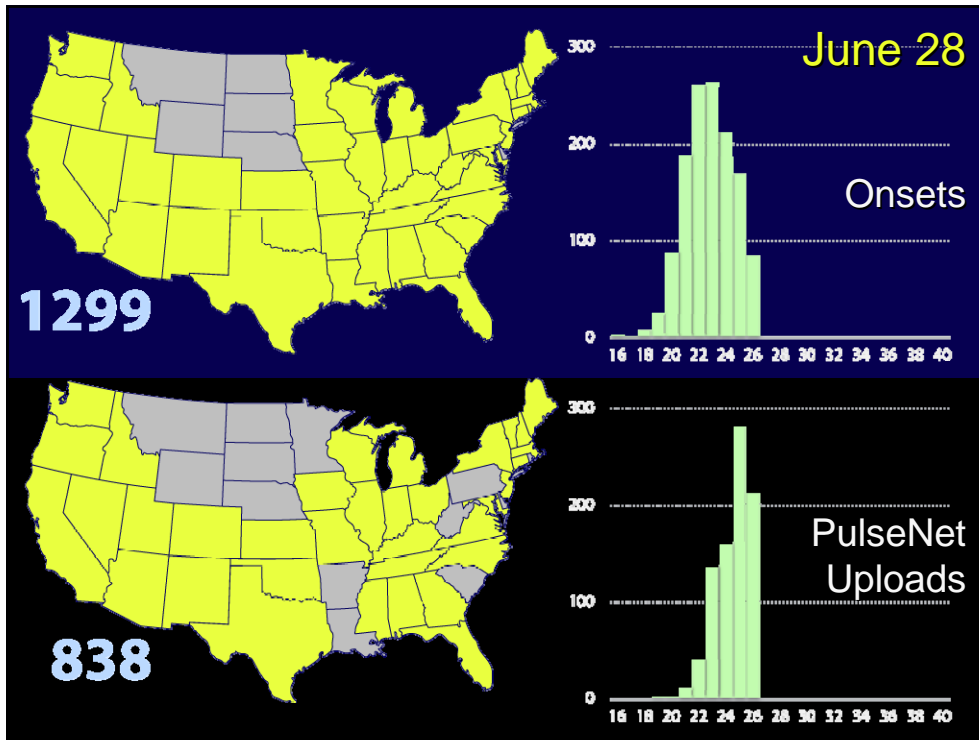


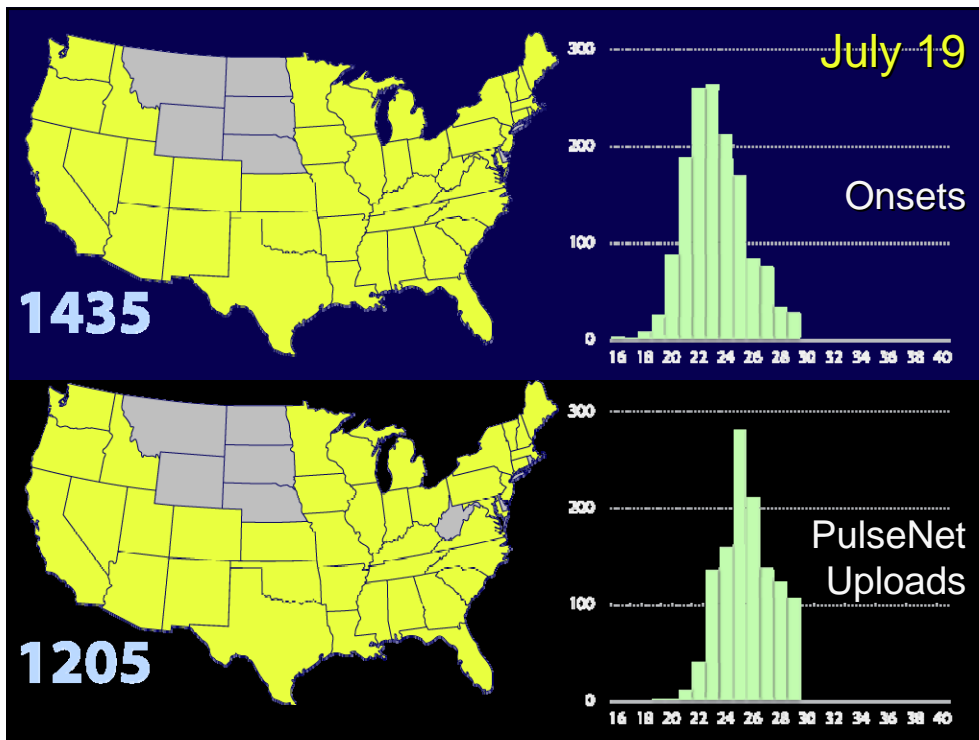
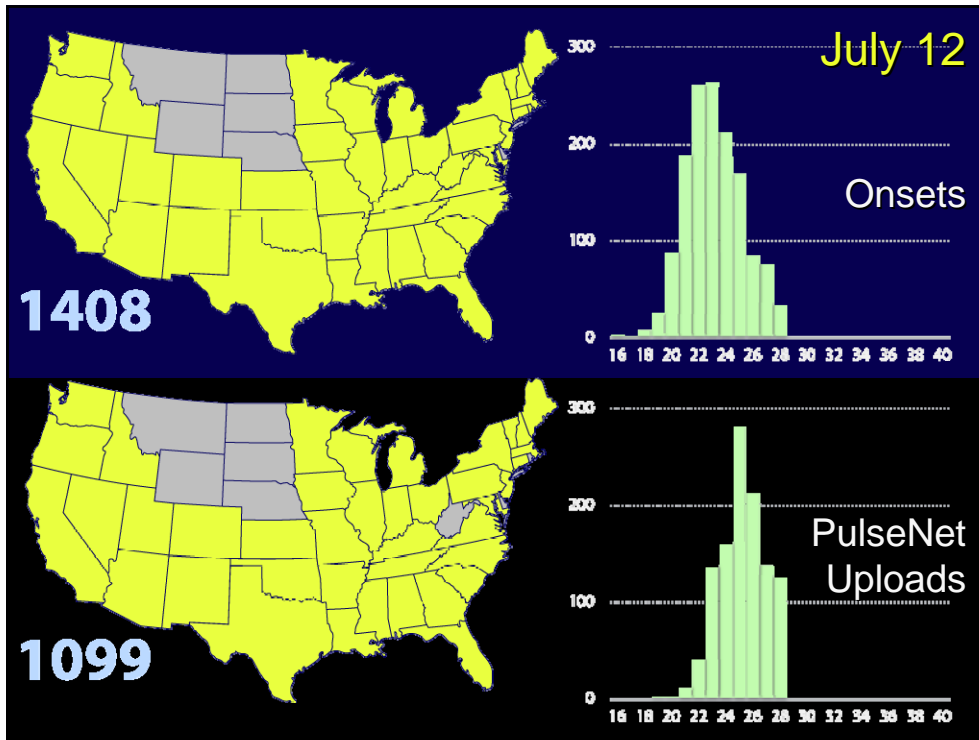


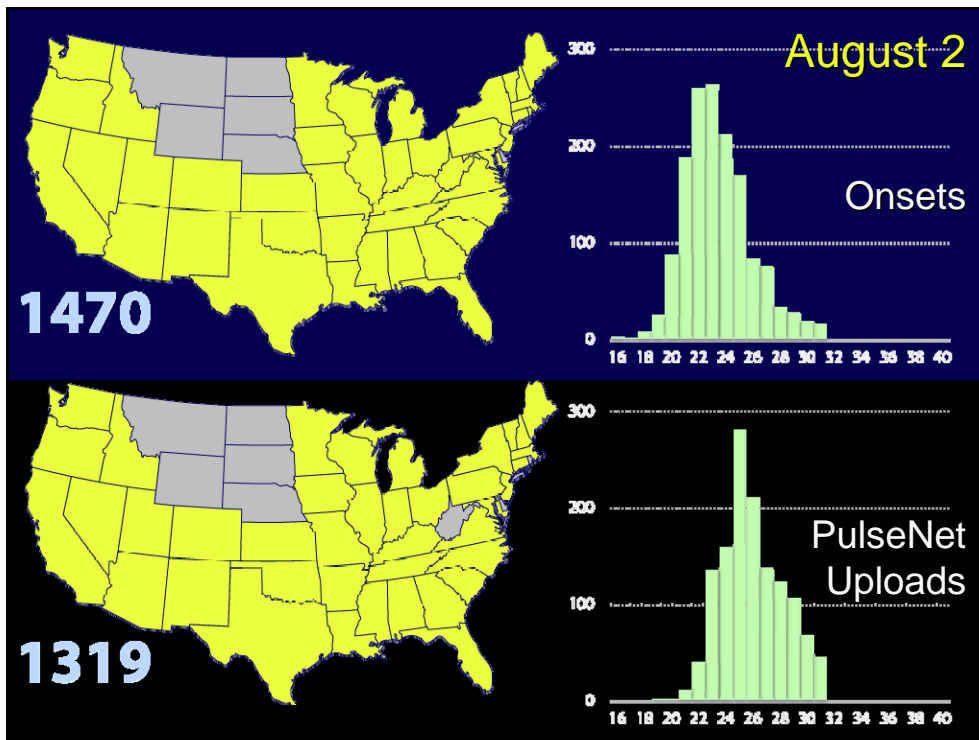
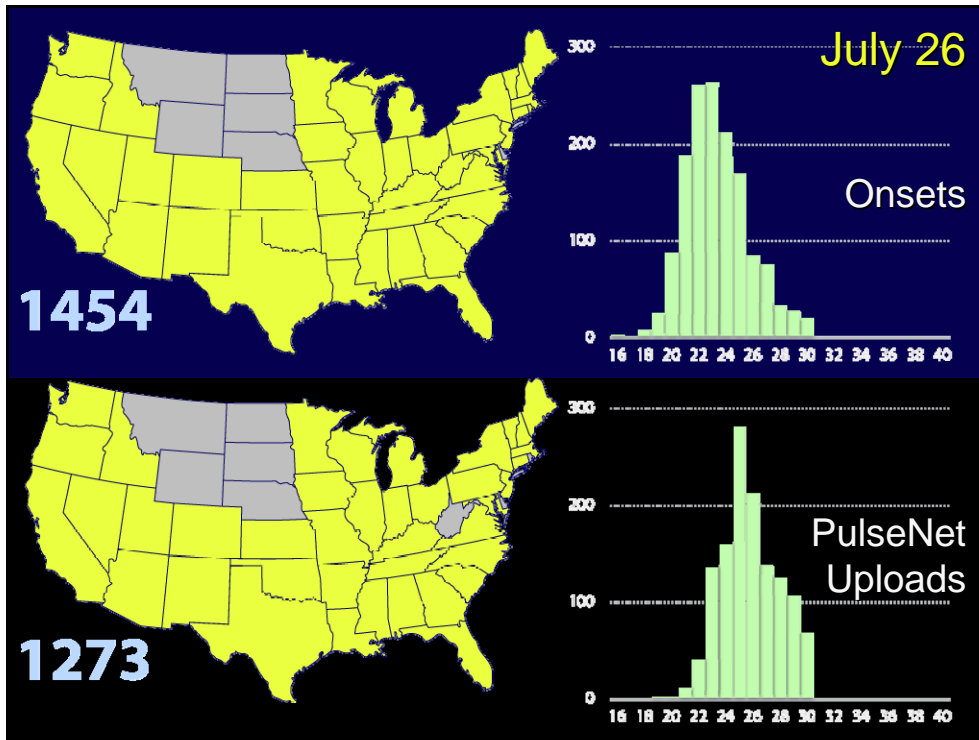


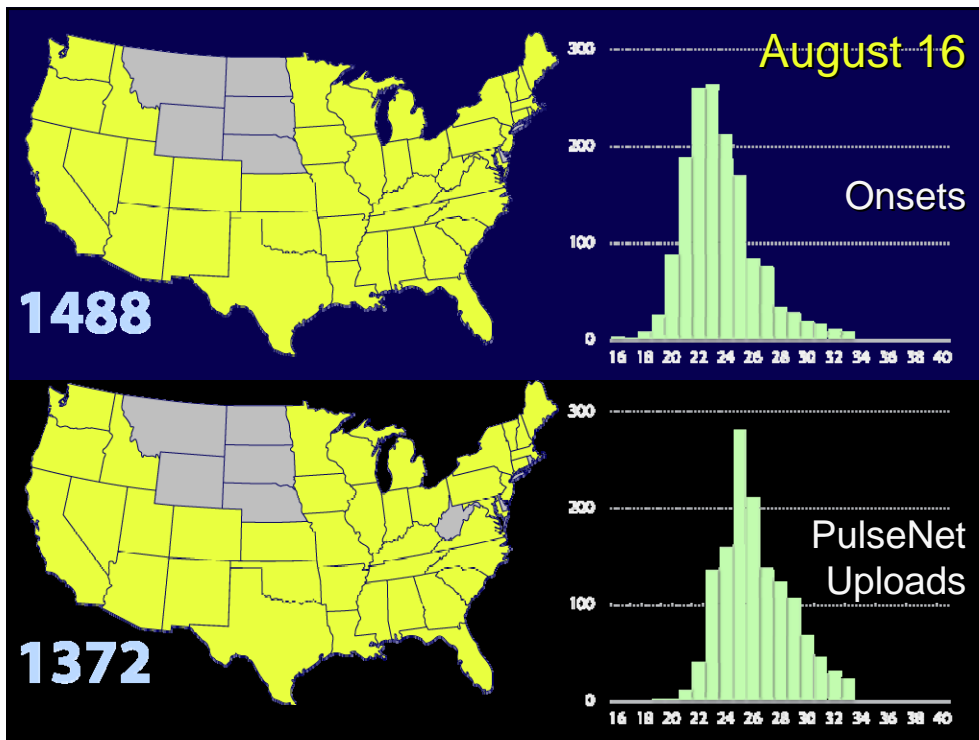
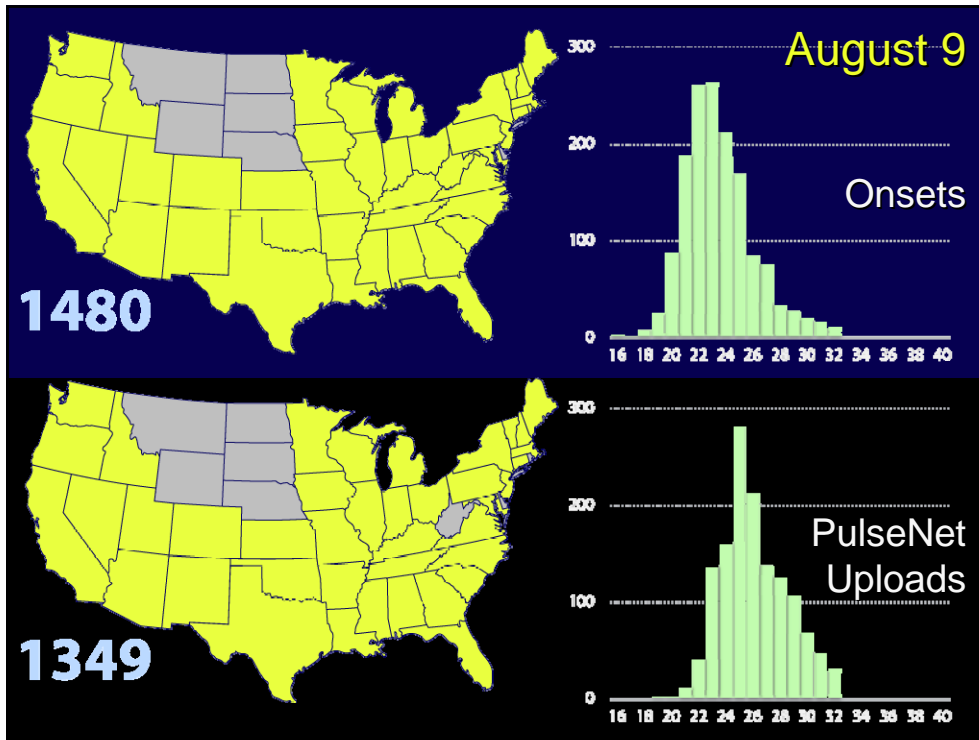




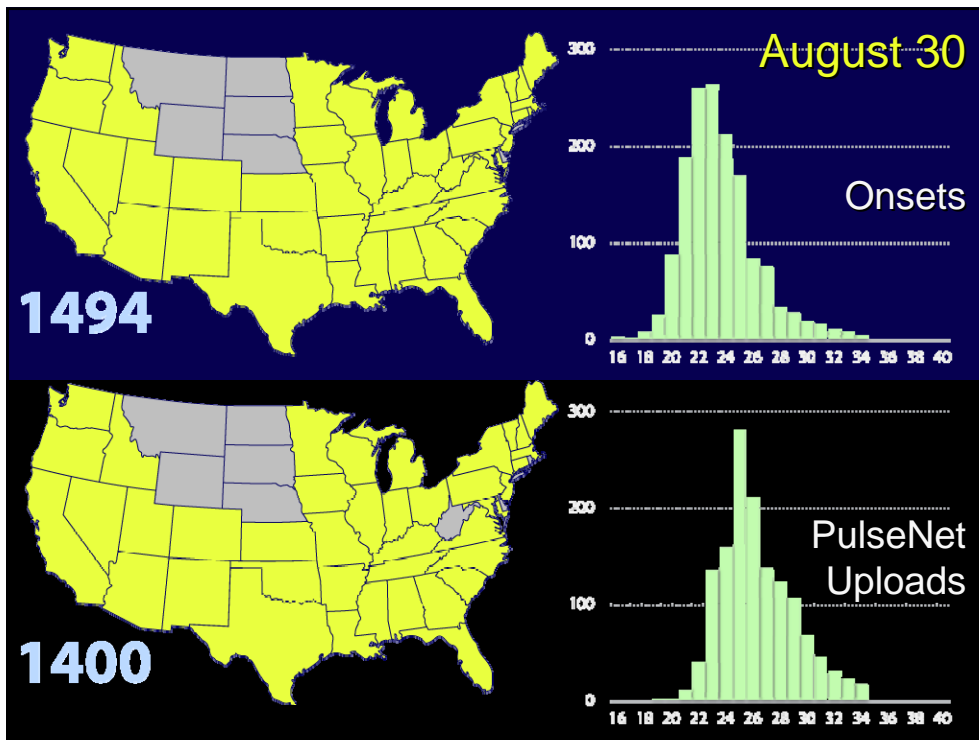
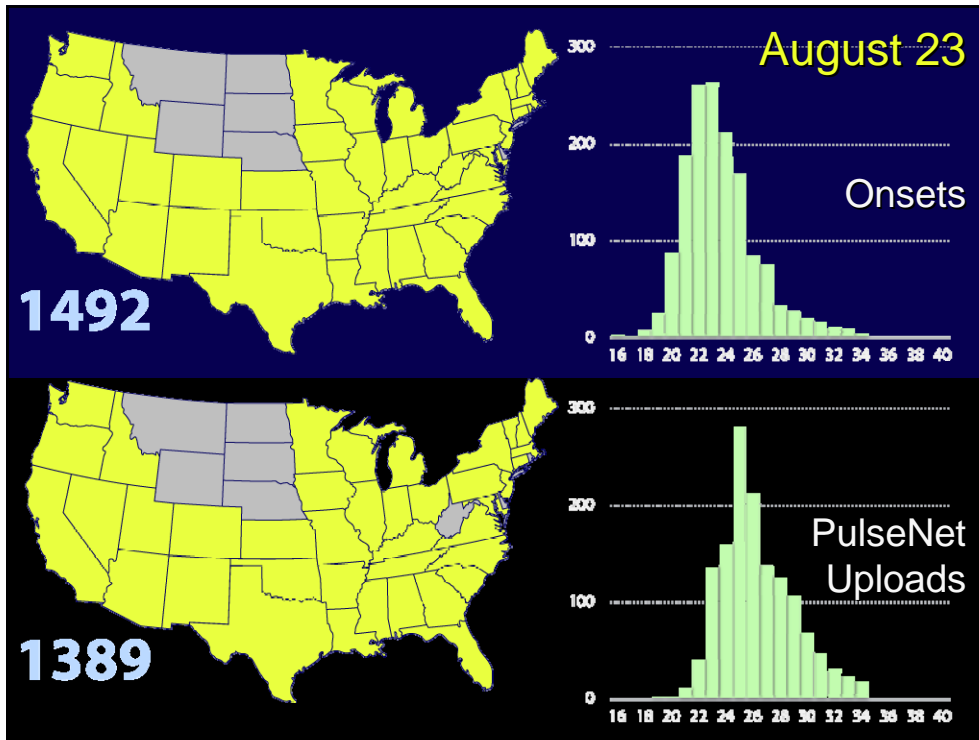


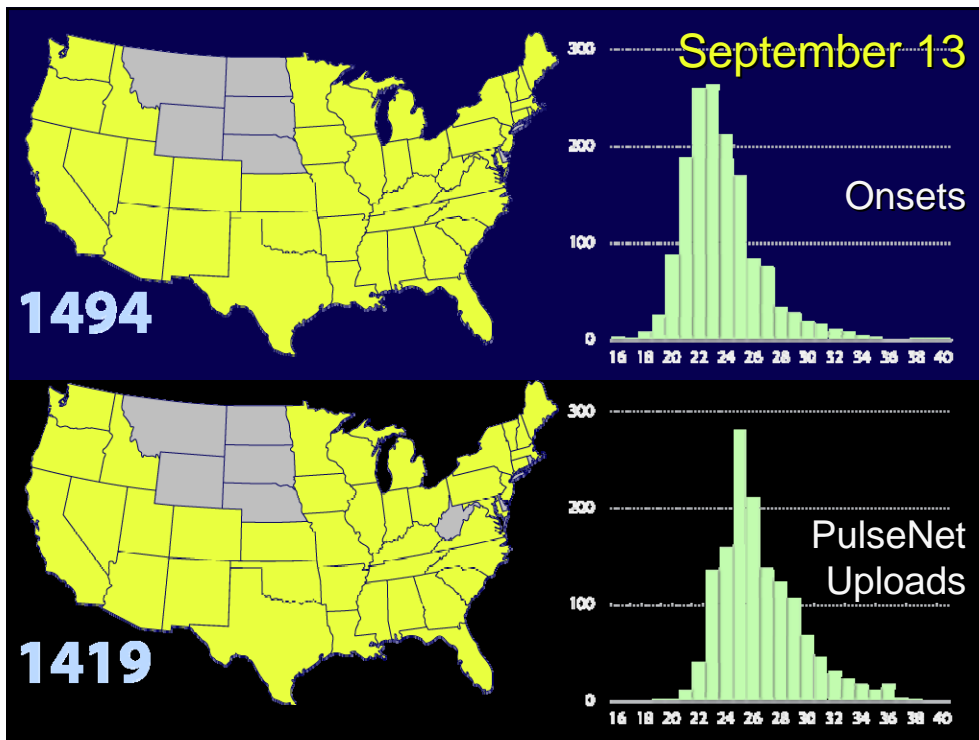
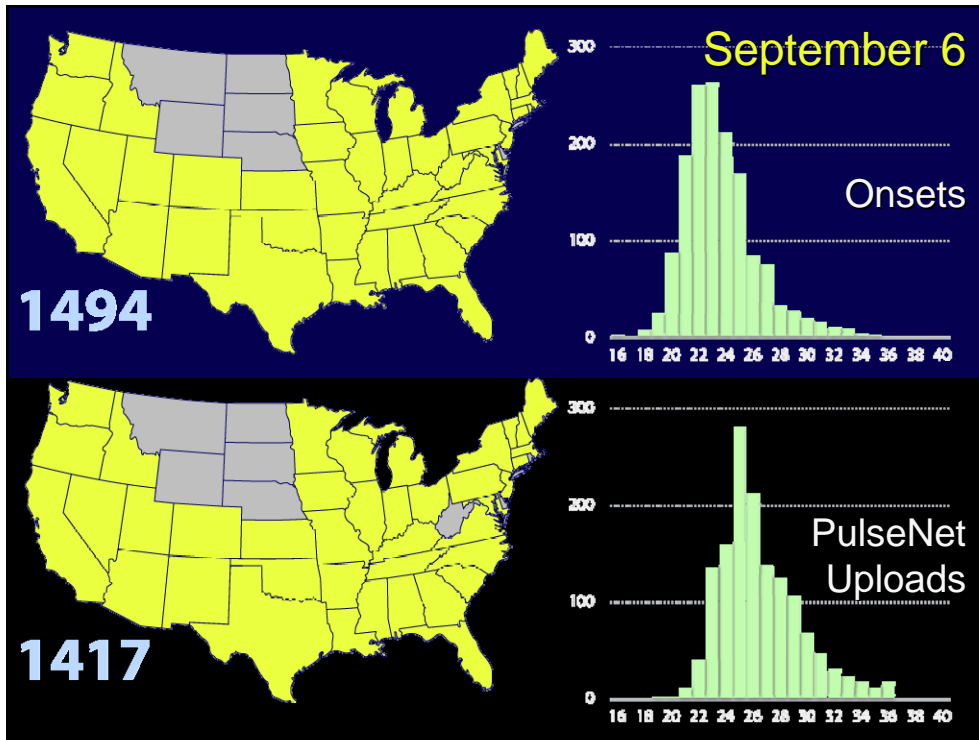












## Peanut Butter Outbreak

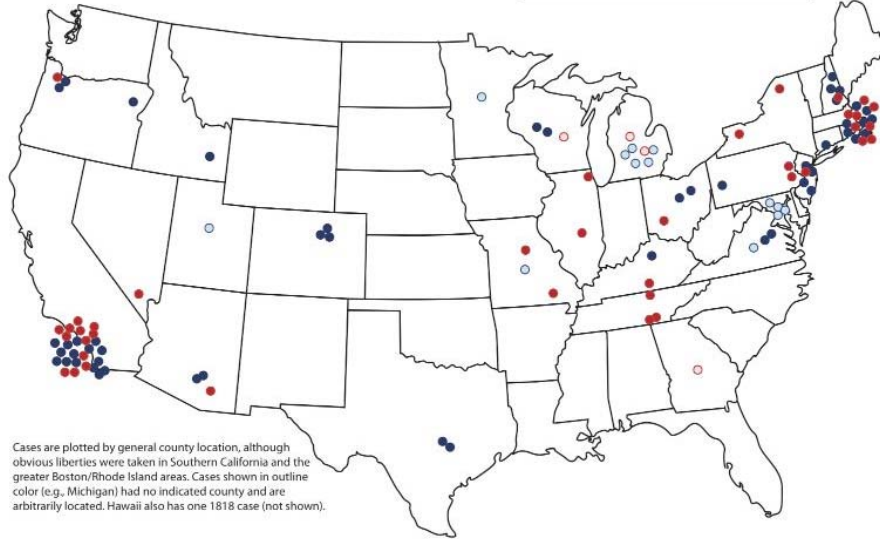


### State and Local Health Departments Vary

- Staffing, experience, and interest
- "Routine" follow-up practices
- Legal structures and state-local dynamics
- Lab capacity
- Lab-epi integration and coordination
- Interest in old and cold cases; discretionary time
- Ability to work nights and weekends
- Experience working with business

### Salmonella Typhimurium Outbreak Cases

● 0811MLJPX-1c (JPXX01.0459) N = 41  
● 0811SDCJPX-1c (JPXX01.1818) N = 68



Cases are plotted by general county location, although obvious liberties were taken in Southern California and the greater Boston/Rhode Island areas. Cases shown in outline color (e.g., Michigan) had no indicated county and are arbitrarily located. Hawaii also has one 1818 case (not shown).

JPXX01.0459   
 JPXX01.1818

Data as of 3 Dec 2008







"All the News That's Fit to Print"

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# The New York Times

**SALES DROP 25% AS PARENTS SHUN PEANUT BUTTER**

**FEARS OF SALMONELLA**

**Top Brands Countering With Ads on Safety — Recall Widens**

By ANDREW MARTIN and ALIZ ROBBINS

Many consumers, apparently disregarding the fine print of the salmonella outbreak and food recall caused by a Georgia peanut plant, are swearing off peanut butter, driving down sales by nearly 25 percent.

The drop-off is so striking that brands like Jif are taking the unusual step of buying ads to tell shoppers that their products are not affected, and giving them a coupon to make sure they do not learn to live without a staple that almost every child loves — and more than a few of their parents, too.

Given the steady stream of headlines since mid-January about one of the largest food contamination scares in the nation's history, the companies whose products are not being recalled could have a difficult time winning over people like Guadalupe Vasquez.

On Friday, she and her three young children kept walking past shelves of peanut butter at a grocery store in Dulles, Va.

**As Jobs Vanish, Senators Reach Deal on Stimulus**

**New U.S. Plan To Help Banks Sell Bad Assets**

By STEPHEN LABATON

WASHINGTON — After weeks of internal debate, the Obama administration has settled on a plan to inject billions of dollars in fresh capital into banks and entice investors to purchase their most troubled assets.

The new financial industry rescue plan, to be outlined in broad terms on Monday in a speech by the Treasury secretary, Timothy F. Geithner, will not require banks to increase their lending, despite criticism that institutions that already received money from the Troubled Asset Relief Program, or TARP, either hoarded it or used the funds to acquire other banks.

The incentives to investors could be in the form of commitments to absorb some of the losses from any assets they purchase, should their values continue to decline. The goal is to relieve the banks of their worst assets so that private investors might then provide more capital.

Officials hope that that part of the plan is not labeled a "bad bank" administered by the government, although they expect that some might call it that.

No matter what it is called, the government would assume some of the risk of declining assets at the heart of the economic crisis. But by relying on a combination

**PARED-DOWN BILL**

Moderate Republicans Agree to a Package of \$780 Billion

By CARL HULSE and DAVID M. HERSHENHORN

WASHINGTON — Senate Democrats reached an agreement with Republican moderates on Friday to pare a huge economic recovery measure, clearing the way for approval of a package that President Obama said was urgently needed in light of mounting job losses.

The deal, announced on the Senate floor, was the result of two days of tense negotiations and political theater. Mr. Obama dispatched his chief of staff to Capitol Hill to reassure senators in his own party and called three key Republicans to applaud them for their patriotism.

Earlier, when it looked as if a vote might take place Friday night, officials said, a government plan was dispatched to Florida to bring back Senator Edward M. Kennedy, a Massachusetts Democrat who has brain cancer.

The fine print was not immediately available, and the numbers were shifting. But in essence, the Democratic leadership and two centrist Republicans announced that they had struck a deal on about \$110 billion in cuts to the roughly \$780 billion legislation.

President Obama introduced Paul Volcker, left, as leader of a recovery advisory board on Friday.

DOUG MILLSTEIN/NEW YORK TIMES

**Politics and Partisanship**

As his aspiration to put aside petty politics has met the necessity of winning votes, President Obama

**Furloughs in California**

In the starkest example of the intensifying budget crisis befalling most states, more than 200,000

**20,000 Pink Slips a Day**

Nearly 600,000 jobs disappeared last month, but

Job Losses

# Jif, the brand you can trust.

You can trust that Jif Peanut Butter, like all the products from The J.M. Smucker Company, is safe to enjoy. Jif products are **not** part of the peanut butter recall. The J.M. Smucker Company does not purchase peanuts or any ingredients from the Peanut Corporation of America (PCA).

Extensive product testing, including testing for salmonella, is a key part of our stringent quality assurance program. We choose only the finest peanuts and apply only the highest standards to our fresh-roasting process to ensure that every jar of Jif Peanut Butter is both safe and delicious.

When you choose any peanut butter product from The J.M. Smucker Company – Jif, Smucker's Natural®, Smucker's Uncrustables®, Adams®, or Laura Scudder's® – you can rest assured you're getting only the highest quality. To learn more, visit Jif.com.



Other peanut butter products from The J.M. Smucker Company that are safe to enjoy.

Choose quality. Choose taste.

**ENJOY 35¢ OFF**  
any one Jif® peanut butter from the brand you can trust

COUPON: Limit one coupon per purchase. Good only in the U.S.A. on purchase of brand name indicated. Void where regulated, or prohibited, or if altered, reproduced or transferred. Any other use constitutes fraud. Consumer must pay any sales tax. **RESTRICTION:** This will be reimbursed for the face value of this coupon plus 3¢ if submitted in accordance with The J.M. Smucker Company Coupon Redemption Policy on our website. Cash value: 1/100¢ of 1¢. Redeemable through The J.M. Smucker Company, P.O. Box 49100, St. Louis, MO 63146. Good only in the U.S.A. Offer expires 06/30/09. © 2009 The J.M. Smucker Company. 51500744035

## Skippy® Peanut Butter is NOT Part of the Peanut Recall

Recently, you may have heard that peanuts and peanut materials from the Peanut Corporation of America (PCA) have been recalled by PCA.

We would like to assure you that Skippy® Peanut Butter is in no way related to the current PCA recall. Specifically, no peanuts or peanut ingredients used in Skippy® Peanut Butter are sourced from PCA.

Skippy® has in place robust quality assurance and processing procedures to ensure product quality and safety.

As always, you should continue to enjoy Skippy® Peanut Butter and Fuel the Fun!™



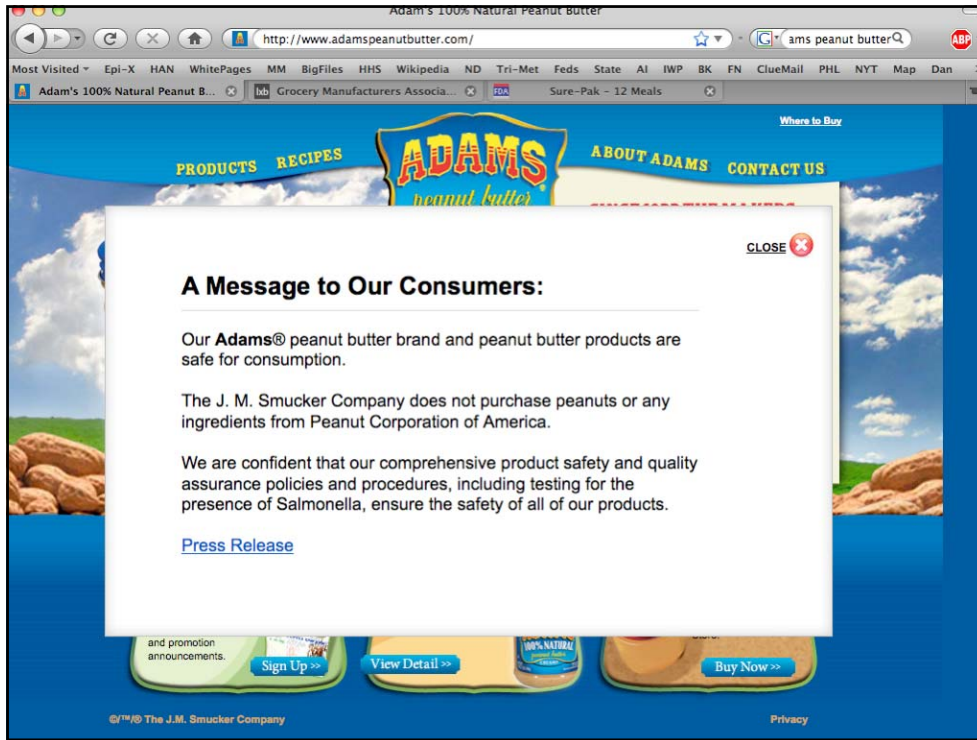
**FUEL THE FUN!™**

Visit [www.peanutbutter.com](http://www.peanutbutter.com) for great recipe ideas and for more nutritional information on Skippy® peanut butter

MANUFACTURER'S COUPON      EXPIRES 4/15/09

**SAVE 50¢**  
on any ONE (1) Skippy® Peanut Butter product (15 oz. or larger)

Discount: Limit one coupon per purchase on product specified. Void if reproduced, transferred, used to purchase products for resale or where prohibited, restricted by law. General price may be determined at participating retail stores. Void only in the U.S. Redeemable only in the U.S.A. Offer: 15¢ discount (50¢ off) on one (1) 15 oz. or larger jar of Skippy® Peanut Butter in compliance with our manufacturer policy. Voidable upon request. Cash value: 1/100¢ of 1¢. Any use of this coupon not specified herein constitutes fraud. Redeemable only at U.S. Retailers. ©2009 The J.M. Smucker Company. 4800140035





## Multiple Agencies Get Involved

- Local health departments
- State health departments
- CDC
- Regulatory agencies (state and national—Ag, FDA, USDA, ...)
- Not to mention: private physicians and labs, academic institutions, business groups, the media, MarlerClark, ...

## Amendment X

The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people.

## The 10th Amendment

The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people.

## Epidemiologists vs Regulators

Epidemiologists	Regulators
reactive	proactive and reactive
have big mouths	have police powers
do whatever they want	follow the rules
"unlimited" jurisdiction	jurisdiction is specified
share information freely	like to have secrets
world is grey	black and white
like to make a mess	like to clean up
think they're in charge	think they're in charge