

Turtlepocalypse 2012



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National Center for Emerging and Zoonotic Infectious Diseases
Division of Foodborne, Waterborne, and Environmental Diseases



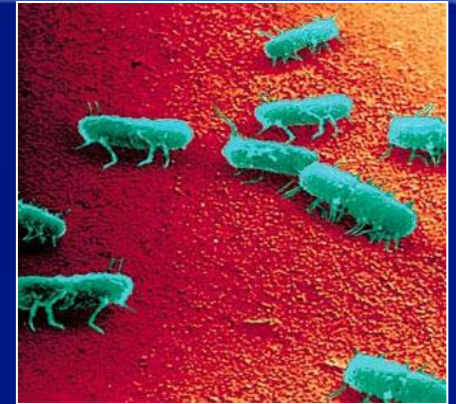


Brief *Salmonella* and Turtle History

BACKGROUND

Salmonella

- **Most common bacterial cause of foodborne disease in the U.S**
 - Meat, poultry, and produce
- **Animal Contact**
 - Reptiles, amphibians, live poultry
- **>2,500 serotypes**
- **1 laboratory-confirmed *Salmonella* infection, \geq 16 others**



Human *Salmonella* Infections

- **Incubation period 12 to 72 hours**
- **Illness duration 4 to 7 days**
- **Acute gastroenteritis: fever, diarrhea, abdominal cramps, vomiting**
- **Serious illness: meningitis, bloodstream infections, joint infections**
- **Most do not require treatment other than oral fluids**
 - **May require rehydration with intravenous fluids**
 - **Antibiotics not usually needed for treatment**

Populations at High-Risk

- ❑ Children aged <5 years
- ❑ Persons >65 years
- ❑ Immunocompromised persons

Zoonotic *Salmonella* Infections

❑ Animals can be a source of *Salmonella* and other zoonoses

- Direct contact with infected animals
 - May appear healthy and clean
- Indirect contact with infected animals
 - Animal environments, contaminated pet food



Pet Ownership Statistics 2011-2012*

□ 72.9 million U.S. households include ≥ 1 pets

| Pet | Households Own Pet |
|----------------|--------------------|
| Dog | 46.3 |
| Cat | 38.9 |
| Small Animal | 5.0 |
| Reptile | 4.6 |

Turtle-associated *Salmonella*

❑ Turtles have long been recognized as a source of human infections

- *Salmonella* are found in the normal gut flora
- Turtles high-risk for young children
 - More likely than other reptiles to be given to young children
 - Frequently in daycares and schools
 - Commonly given as prizes at carnivals

❑ 1960s

- Turtles were popular household pets
- ~15 million turtles per year produced on farms

1000 LIVE BABY TURTLES GIVEN AWAY WITH THIS OFFER

EVERY BOY AND GIRL LOVES THESE CLEAN LITTLE PETS... DELIVERED HEALTHY AND SAFE IN A SPECIAL MOSS-PROTECTED PACKAGE.

MAGIC ROCK GARDEN
Grows Real Grass & Flowers in 4 Days

Only \$1.69

HERE'S OUR OFFER
You pay only \$1.69 for the real grass and flowers... and you must be 18%... delivered in a special offer. *Harry Campbell*

10 DAY TRIAL FREE!
Planner House Products Corp. Dept. 351
1000 Rock Garden and five baby turtles at once. If I am not completely satisfied I may return the garden for a partial refund of the full purchase price, and I may keep the five baby turtles. **FREE!** Rock to \$1.69

FEATURES
Everything You Need
You get all the items you need... real growing grass and... *Harry Campbell*

Magic Seeds in Magic Soil
A real growing Rock Garden... about 100 square inches of sweet grass and bright lively flowers... for you to care for. When the flowers grow you can pick a bouquet for your mother or friend. When the grass grows too high you will have to cut and trim it. And all the time you will have a beautiful garden you can be proud of and show off to your friends. You'll learn many useful things... it will even help you understand more things they teach at school.

Turtle-associated *Salmonella*

□ Turtles have long been recognized as a source of human infections

- *Salmonella* are found in turtles
- Turtles high-risk for salmonellosis
 - More likely than other reptiles to be found in the homes of young children
 - Frequently in direct contact with children

1000 LIVE BABY TURTLES GIVEN AWAY WITH THIS OFFER

EVERY BOY AND GIRL LOVES THESE CLEAN LITTLE PETS. DELIVERED HEALTHY AND SAFE IN A SPECIAL MOSS-PROTECTED PACKAGE.

MAGIC ROCK GARDEN
Grows Real Grass & Flowers in 4 Days

only \$1.69

HERE'S OUR OFFER
You pay only \$1.69 for the rock garden and turtle... **FREE** you must be 100% delighted or money back... Only 2 orders to a customer with this special offer. Harry Cooper!

10 DAY TRIAL FREE!

Homer House Products Corp. Dept. 351
248 Broadway, New York 10, N. Y.

Each my Rock Garden and five baby turtles at once. If I am not completely satisfied I may return the garden for a prorated refund of the full purchase price, and I may keep the turtles **ABSOLUTELY FREE**. Price is \$1.69.

Enclosed \$1.69 in full payment.
 Send C.O.D. I'll pay anytime, plus C.O.D. fee on delivery.

NAME _____
ADDRESS _____

FEATURES
Everything You Need
You get all these items — you don't need anything else. Harry of Magic:
grass seeds... Magic soil, Perennial American meadow... Bright-colored mixed naturally American flag... Fertilizer that opens and closes... Simulated rocks, Plant food, many other exciting features.

Magic Seeds in Magic Soil
A real growing Rock Garden — about 100 square inches of sweet grass and bright lovely flowers — for you to care for. When the flowers grow you can pluck a bouquet for your mother or friend. When the grass grows too high you will have to cut and trim it. And all the time you will have a beautiful garden you can be proud of and show off to your friends. You'll learn many useful things, too — it will even help you understand many things they teach at school.

□ 1960s

- Turtles were popular pets
- ~15 million turtles sold in pet stores

Turtle-associated *Salmonella*

❑ 1970s

- 4% of households reported having at least one turtle
- ~280,000 cases of *Salmonella* each year in the U.S.
- 14% of *Salmonella* infections in humans

❑ Several states passed laws blocking turtle imports

- Not an effective prevention measure

❑ In 1975, FDA enacted a ban to protect children from turtle-associated infections



Code of Federal Regulations Title 21

FDA:TURTLE BAN

CFR Code of Federal Regulations Title 21

CFR - Code of Federal Regulations Title 21

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[Revised as of April 1, 2011]
[CITE: 21CFR1240.62]



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TITLE 21--FOOD AND DRUGS

CHAPTER 21--FOOD AND DRUG ADMINISTRATION

DEPARTMENT OF HEALTH AND HUMAN SERVICES

SUBCHAPTER 1--REGULATIONS UNDER CERTAIN OTHER ACTS ADMINISTERED BY THE FOOD AND DRUG ADMINISTRATION

PART 1240 -- CONTROL OF COMMERCIAL DISEASES

Subpart 1240.62--Specific Administrative Decisions Regarding Interstate Shipments

Sec. 1240.62 Turtles interstate and interstate requirements.

(a) **Definition.** As used in this section the term "turtles" includes all animals commonly known as turtles, tortoises, terrapins, and all other animals of the order Testudinata, class Reptilia, except marine species (Genitalia Dermochelidae and Cheloniidae).

(b) **Rules; general prohibition.** Except as otherwise provided in this section, viable turtle eggs and live turtles with a carapace length of less than 4 inches shall not be sold, held for sale, or offered for any other type of commercial or public distribution.

(c) **Destruction of turtles or turtle eggs; criminal penalties.** (1) Any viable turtle eggs or live turtles with a carapace length of less than 4 inches which are held for sale or offered for any other type of commercial or public distribution shall be subject to destruction in a humane manner by or under the supervision of an officer or employee of the Food and Drug Administration in accordance with the following procedure:

(i) Any District Office of the Food and Drug Administration upon detecting viable turtle eggs or live turtles with a carapace length of less than 4 inches which are held for sale or offered for any other type of commercial or public distribution, shall serve upon the person in whose possession such turtles or turtle eggs are found a written demand that such turtles or turtle eggs be destroyed in a humane manner under the supervision of said District Office, within 10 working days from the date of promulgation of the demand. The demand shall recite with particularity the facts which justify the demand. After service of the demand, the person in possession of the turtles or turtle eggs shall not sell, distribute, or otherwise dispose of any of the turtles or turtle eggs except to destroy them under the supervision of the District Office, unless and until the Director of the Center for Veterinary Medicine withdraws the demand for destruction after an appeal pursuant to paragraph (c) (1) (ii) of this section.

(ii) The person on whom the demand for destruction is served may either comply with the demand or, within 10 working days from the date of its promulgation, appeal the demand for destruction to the Director of the Center for Veterinary Medicine, Food and Drug Administration, 7515 Standish Pl., Rockville, MD 20855. The demand for destruction may also be appealed within the same period of 10 working days by any other person having a pecuniary interest in such turtles or turtle eggs. In the event of such an appeal, the Center Director shall provide an opportunity for hearing by written notice to the appellant(s) specifying a time and place for the hearing to be held within 14 days from the date of the notice but not within less than 7 days unless by agreement with the appellant(s).

(iii) Appearance by any appellant at the hearing may be by mail or in person, with or without counsel. The hearing shall be conducted by the Center Director or his designee, and a written summary of the proceedings shall be prepared by the person presiding. Any appellant shall have the right to hear and to question the evidence on which the demand for destruction is based, including the right to cross-examine witnesses, and he may present oral or written evidence in response to the demand.

(iv) If, based on the evidence presented at the hearing, the Center Director finds that the turtles or turtle eggs were held for sale or offered for any other type of commercial or public distribution in violation of this section, he shall affirm the demand that they be destroyed under the supervision of an officer or employee of the Food and Drug Administration; otherwise, the Center Director shall issue a written notice that the prior demand by the District Office is withdrawn. If the Center Director affirms the demand for destruction he shall order that the destruction be accomplished in a humane manner within 10 working days from the date of the promulgation of his decision. The Center Director's decision shall be accompanied by a statement of the reasons for the decision. The decision of the Center Director shall constitute final agency action, reviewable in the courts.

(v) If there is no appeal to the Director of the Center for Veterinary Medicine from the demand by the Food and Drug Administration District Office and the person in possession of the turtles or turtle eggs fails to destroy them within 10 working days, or if the demand is affirmed by the Director of the Center for Veterinary Medicine after an appeal, and the person in possession of the turtles or turtle eggs fails to destroy them within 10 working days, the District Office shall designate an officer or employee to destroy the turtles or turtle eggs. It shall be unlawful to prevent or to attempt to prevent such destruction of turtles or turtle eggs by the officer or employee designated by the District Office. Such destruction will be stayed if so ordered by a court pursuant to an action for review in the courts as provided in paragraph (c) (1) (iv) of this section.

(2) Any person who violates any provision of this section, including but not limited to any person who sells, offers for sale, or offers for any other type of commercial or public distribution viable turtle eggs or live turtles with a carapace length of less than 4 inches, or who refuses to comply with a valid final demand for destruction of turtles or turtle eggs (either an unappealed demand by an FDA District Office or a demand which has been affirmed by the Director of the Center for Veterinary Medicine pursuant to appeal), or who fails to comply with the requirement in such a demand that the manner of destruction be humane, shall be subject to a fine of not more than \$1,000 or imprisonment for not more than 1 year, or both, for each violation. In accordance with section 365 of the Public Health Service Act (42 U.S.C. 371).

(d) **Exceptions.** The provisions of this section are not applicable to:

(1) The sale, holding for sale, and distribution of live turtles and viable turtle eggs for bona fide scientific, educational, or exhibitional purposes, other than use as pets.

(2) The sale, holding for sale, and distribution of live turtles and viable turtle eggs not in connection with a business.

(3) The sale, holding for sale, and distribution of live turtles and viable turtle eggs intended for export only, provided that the outside of the shipping package is conspicuously labeled "For Export Only."

(4) Marine turtles excluded from this regulation under the provisions of paragraph (a) of this section and eggs of such turtles.

(e) **Petitions.** The Commissioner of Food and Drugs, either on his own initiative or on behalf of any interested person who has submitted a petition, may publish a proposal to amend this regulation. Any such petition shall include an adequate factual basis to support the petition, and will be published for comment if it contains reasonable grounds for the proposed regulation. A petition requesting such a regulation, which would amend this regulation, shall be submitted to the Division of Dockets Management, Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852.

142 FR 22845, May 23, 1975, as amended at 48 FR 5461, Jan. 27, 1983; 48 FR 11431, Mar. 18, 1983; 54 FR 24900, June 12, 1989; 58 FR 43356, Mar. 26, 1993; 60 FR 26035, Nov. 6, 2001; 70 FR 40073, Aug. 15, 2005

CFR Code of Federal Regulations Title 21



Prohibit the sale of turtles with a carapace <4 inches

(b) *Sales; general prohibition.* Except as otherwise provided in this section, viable turtle eggs and live turtles with a carapace length of less than 4 inches shall not be sold, held for sale, or offered for any other type of commercial or public distribution.

commercial or public distribution, shall serve upon the person in whose possession such turtles or turtle eggs are found a written demand that such turtles or turtle eggs be destroyed in a humane manner under the supervision of said District Office, within 10 working days from the date of promulgation of the demand. The demand shall recite with particularity the facts which justify the demand. After service of the demand, the person in possession of the turtles or turtle eggs shall not sell, distribute, or otherwise dispose of any of the turtles or turtle eggs except to destroy them under the supervision of the District Office, unless and until the Director of the Center for Veterinary Medicine withdraws the demand for destruction after an appeal pursuant to paragraph (c)(1)(ii) of this section.

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Purchase is acceptable for "...bona fide, scientific, educational, or exhibitional purposes..."

destroy them within 10 working days, or if the demand is affirmed by the Director of the Center for Veterinary Medicine after an appeal and the person in possession of the turtles or turtle eggs fails to

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[42 FR 22547, May 23, 1975, as amended at 48 FR 5481, Jan. 27, 1983; 48 FR 11431, Mar. 18, 1983; 54 FR 24900, June 12, 1989; 58 FR 14386, Mar. 26, 1993; 60 FR 28035, Nov. 6, 2001; 70 FR 49073, Aug. 18, 2005]

Results of the Ban

- ❑ **1980s**
 - ~100,000 reptile-associated *Salmonella* infections in children annually were prevented in the U.S among children ages 1-9 years
 - Production declined to ~2 million turtles each year from ~15 million in the 1960s
- ❑ **Small turtles remain available in pet shops, souvenir shops, flea markets, street vendors, and online sales**
- ❑ **Since 2006, 11 multistate outbreaks reported to CDC**

Challenges of Enforcing the Ban

❑ **Loopholes to ban**

- Small signs with small print quoting ban
- Internet sales with hidden disclaimer
- Buy tank, get turtle free
- Prize at carnival
- Flea markets and street vendors



❑ **Limited resources at the local, state, and federal levels**



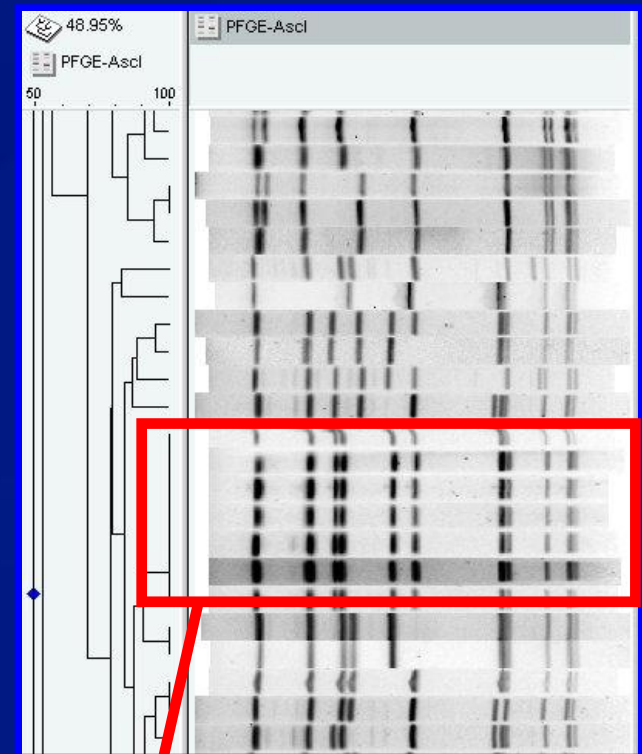
TURTLEPOCALYPSE 2012



EPIDEMIOLOGIC INVESTIGATION

PulseNet USA

- ❑ National molecular subtyping network for foodborne disease surveillance
- ❑ Network of >85 public health & regulatory laboratories
- ❑ Pulsed-field gel electrophoresis (PFGE)
- ❑ Electronically creates and shares “DNA fingerprints”
- ❑ “DNA fingerprints” stored in dynamic database at CDC

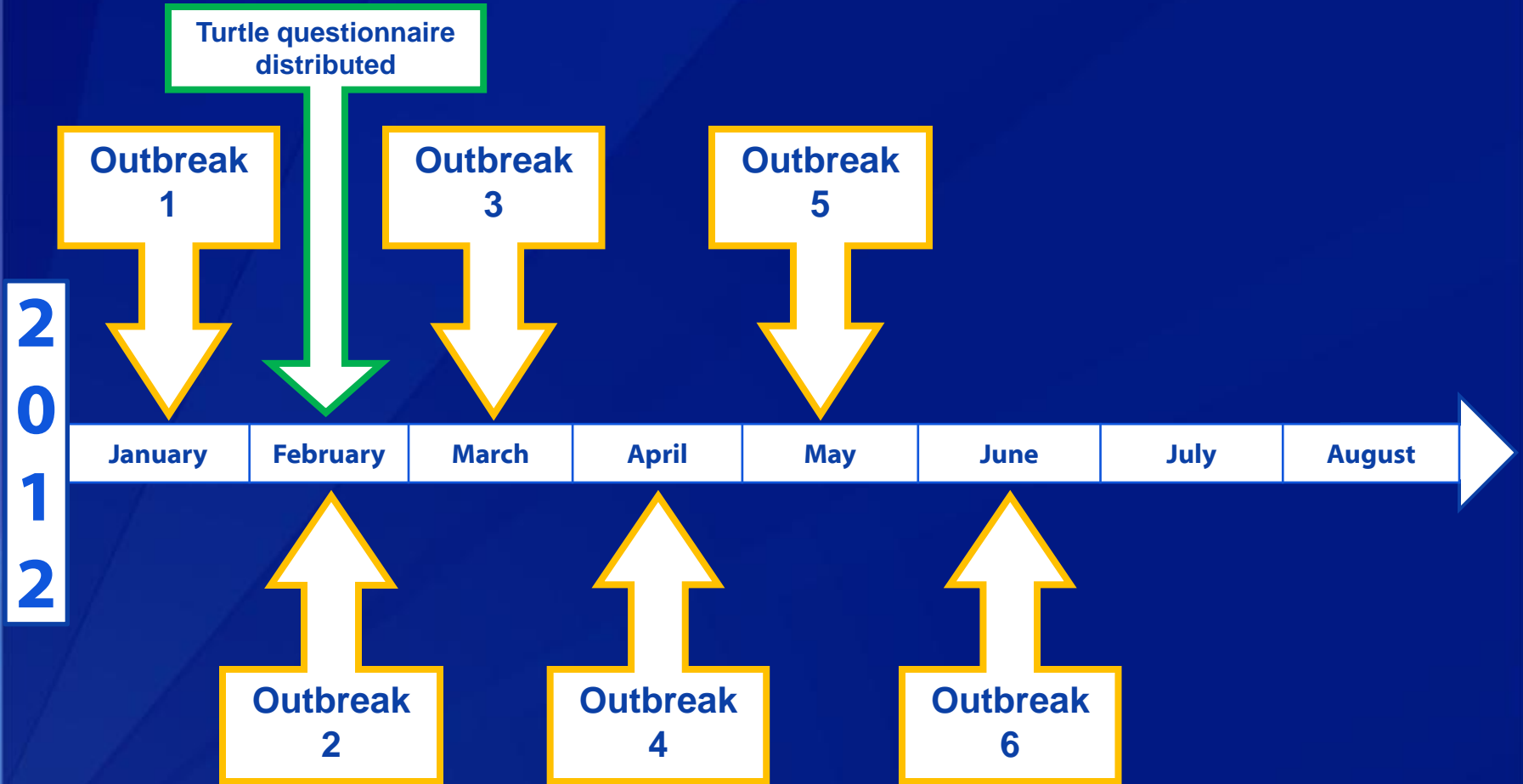


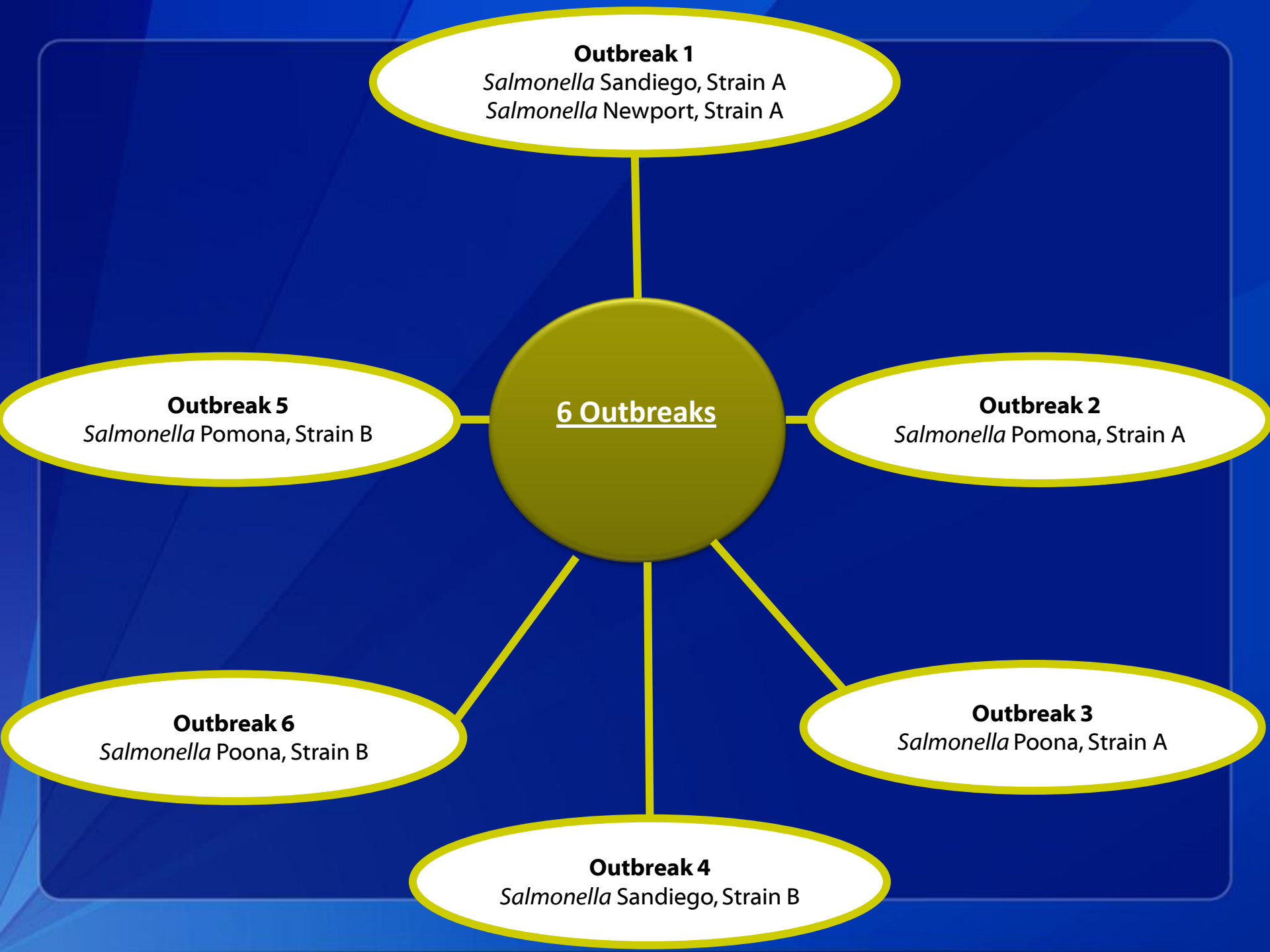
Cluster of indistinguishable patterns as “outbreak strain”

Outbreak Detection

- ❑ **In January 2012, PulseNet detected a national increase in *Salmonella* Sandiego pattern JLXX01.0053**
- ❑ **PulseNet notified CDC epidemiologists of cluster**
- ❑ **State and local health departments contacted and performed case interviews**
- ❑ **Turtles emerged as hypothesis**

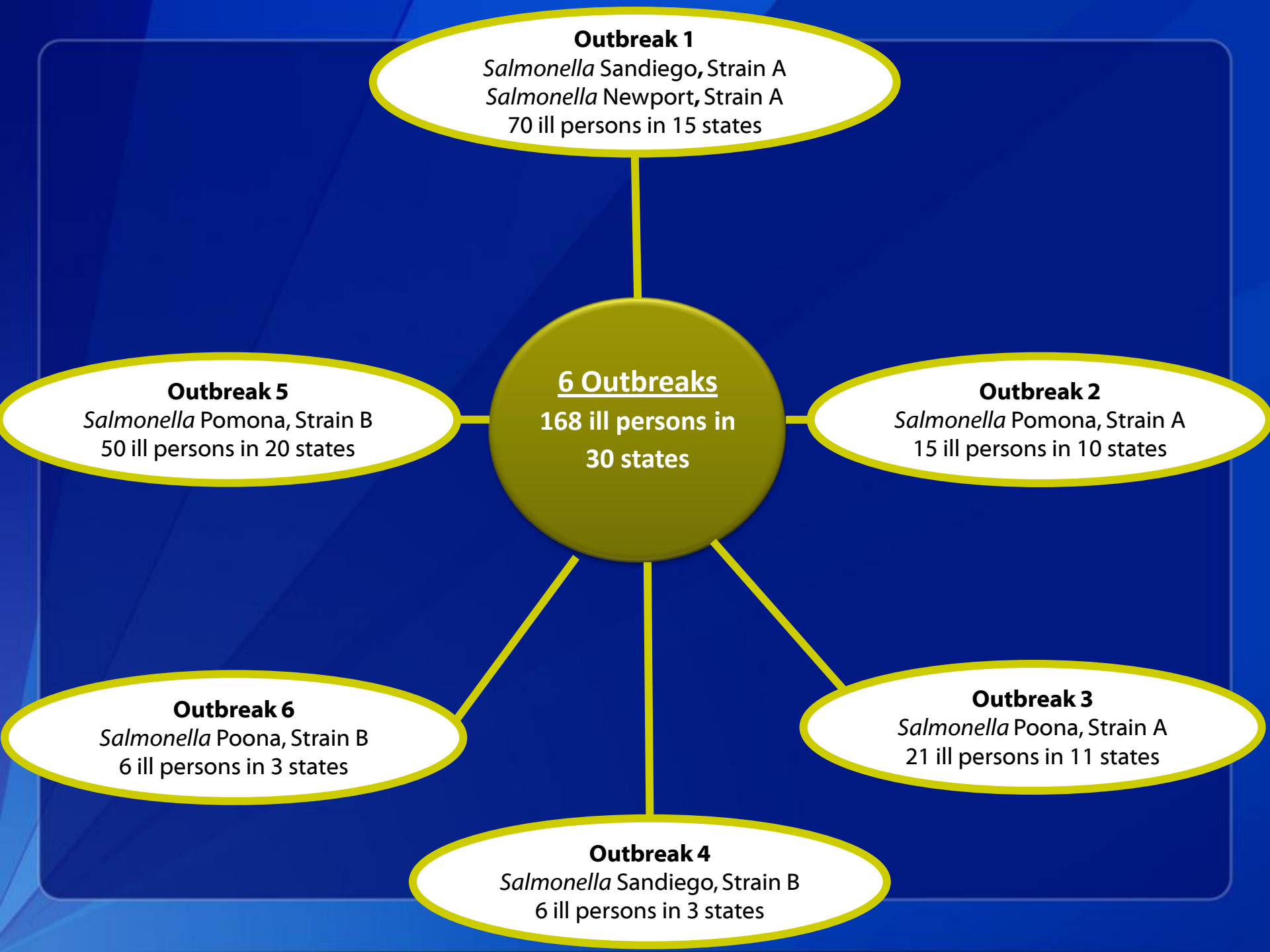
Outbreak Detection Timeline: 6 Multistate Turtle-Associated Outbreaks



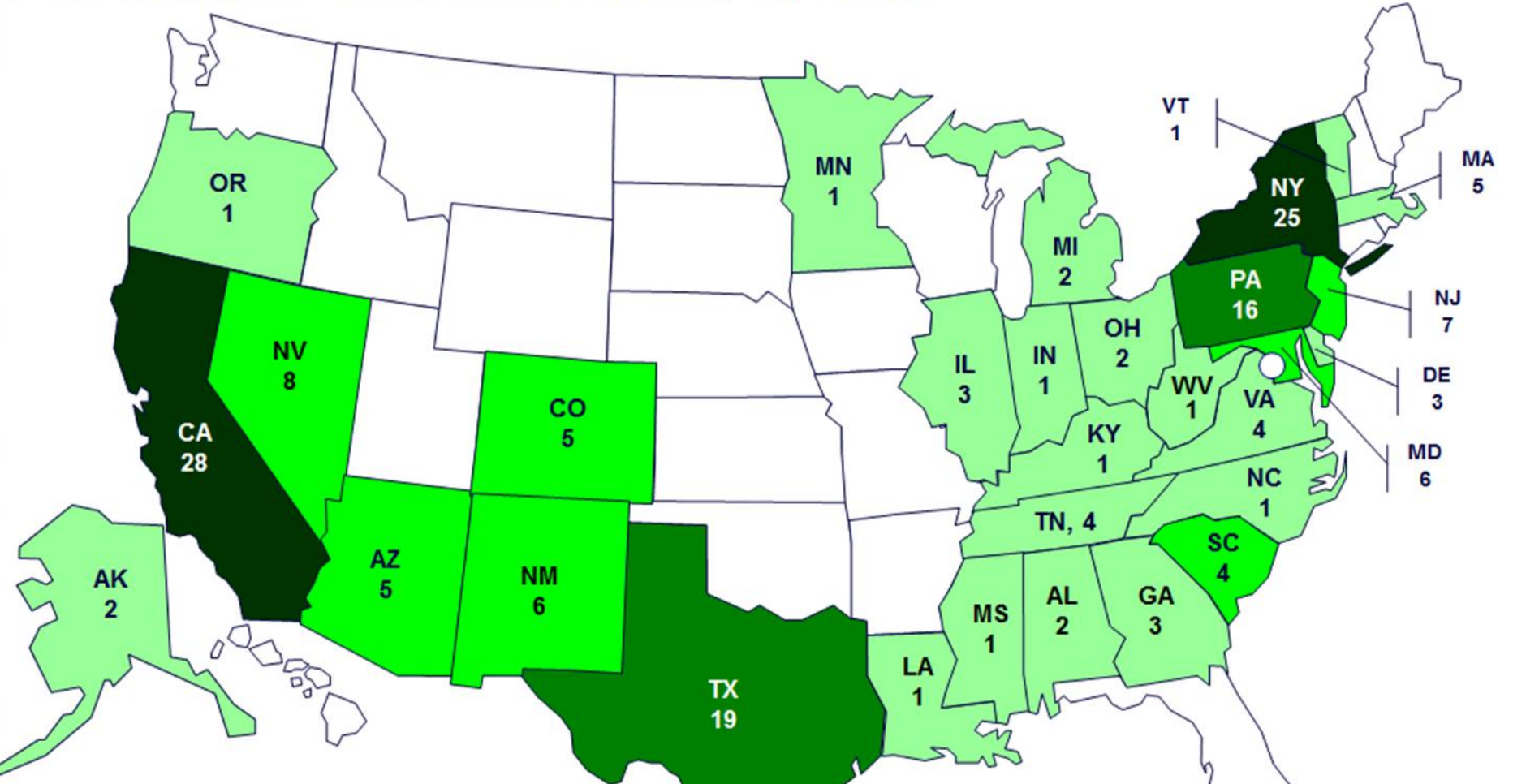


Case Definitions for 6 Multistate Turtle Associated Outbreaks in 2012

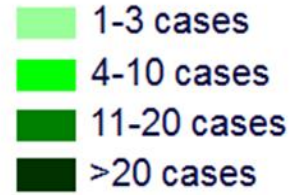
| Outbreak # | Serotype | Strain (Xbal Pattern) | Illness Onset |
|------------|---|--|--|
| 1* | <i>Salmonella</i> Sandiego <i>Salmonella</i> Newport | Strain A (JLXX01.0053) Strain A (JJPX01.1253) | August 1, 2011 to present August 1, 2011 to present |
| 2 | <i>Salmonella</i> Pomona | Strain A (POMX01.0004) | December 1, 2011 to present |
| 3 | <i>Salmonella</i> Poona | Strain A (JL6X01.0104) | October 15, 2011 to present |
| 4 | <i>Salmonella</i> Sandiego | Strain B (JLXX01.0051) | February 15, 2011 to present |
| 5 | <i>Salmonella</i> Pomona | Strain B (POMX01.0002) | June 20, 2011 to present |
| 6 | <i>Salmonella</i> Poona | Strain B (JL6X01.0055) | April 1, 2012 to present |



Cases from Turtle-associated Outbreaks of *Salmonella* Sandiego, Pomona, and Poona, United States,* by State**



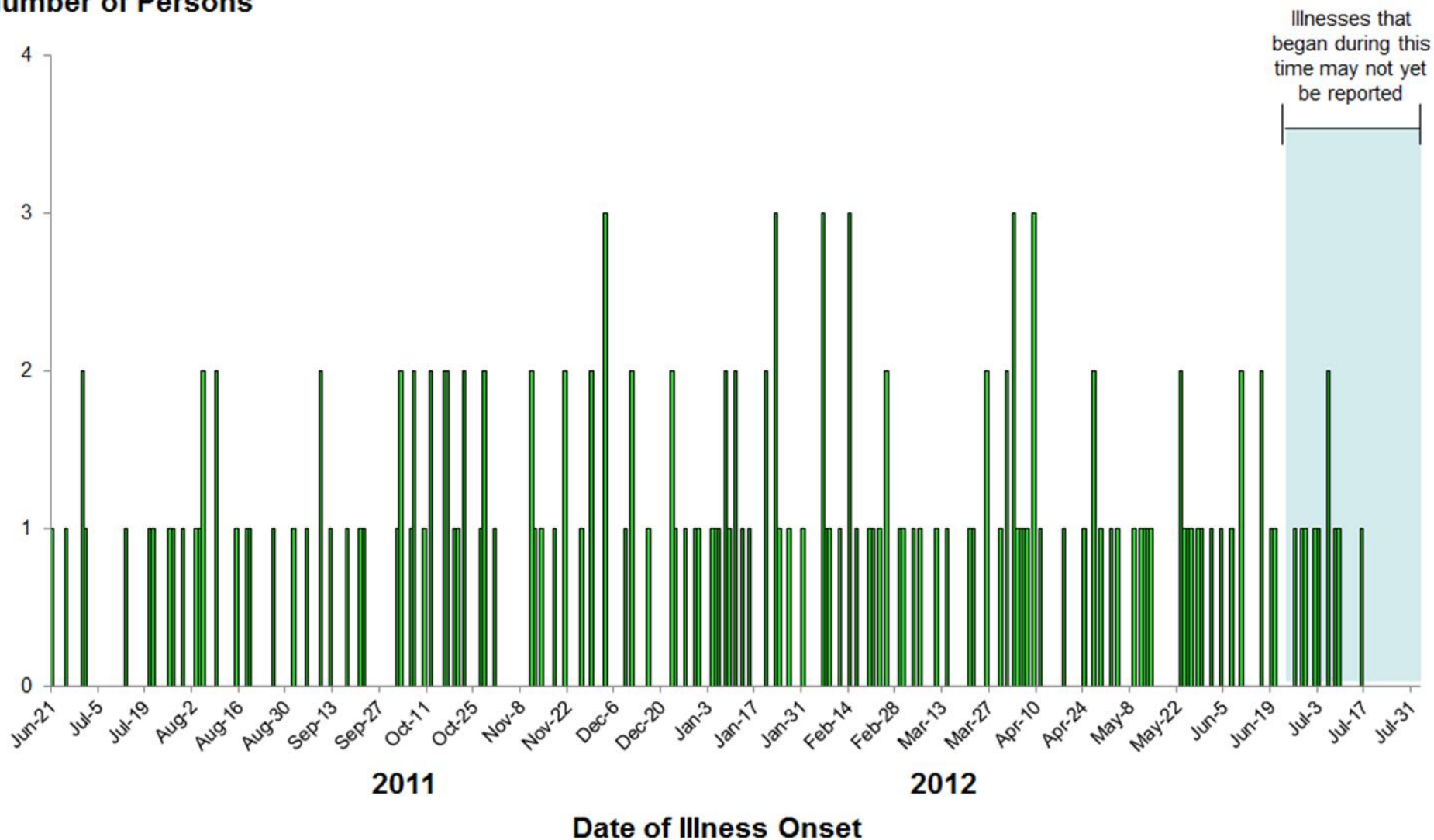
*OB #1 Sandiego 1201PAJLX-1 n=70,
 OB #2 Pomona 1202MLPOM-1 n=15,
 OB #3 Poona 1203MLJL6-1 n=21,
 OB #4 Sandiego 1204COJL6-1 n=6,
 OB #5 Pomona 1205MLPOM-1 n=50,
 OB #6 Poona 1206PAJL6-1 n=6



**n=168 for whom information was reported as of August 2, 2012

Persons infected with the outbreak strains of *Salmonella* Sandiego, *Salmonella* Pomona, and *Salmonella* Poona, by date of reported illness onset*

Number of Persons



Illnesses that began during this time may not yet be reported

* n=168 for whom illness onset date was reported as of August 2, 2012. Some illness onset dates have been estimated from other reported information.

Combined Demographics: 6 Outbreaks of Human *Salmonella* Infections Linked to Small Turtles

(as of August 2, 2012)

- ❑ **Median age: 8 years (1-86 years)**
 - 64% are age 10 or younger
 - 27% are age 1 or younger
- ❑ **57% female**
- ❑ **34 ill persons hospitalized**
- ❑ **No deaths**

Epidemiologic Findings

- ❑ **High % of Hispanic ethnicity reported**
 - 56% of all ill persons included in all 6 outbreak investigations are of Hispanic ethnicity



Epidemiologic Findings

□ Turtle Exposure (n= 127)

- 72% of ill persons reported turtle exposure prior to illness
 - 94% of ill persons reported exposure to turtle <4 inches
 - 84% reported owning or contact with red eared sliders

□ Purchase (n= 63)

- 39% report purchase from street vendors
- 15% reported purchase from pet stores

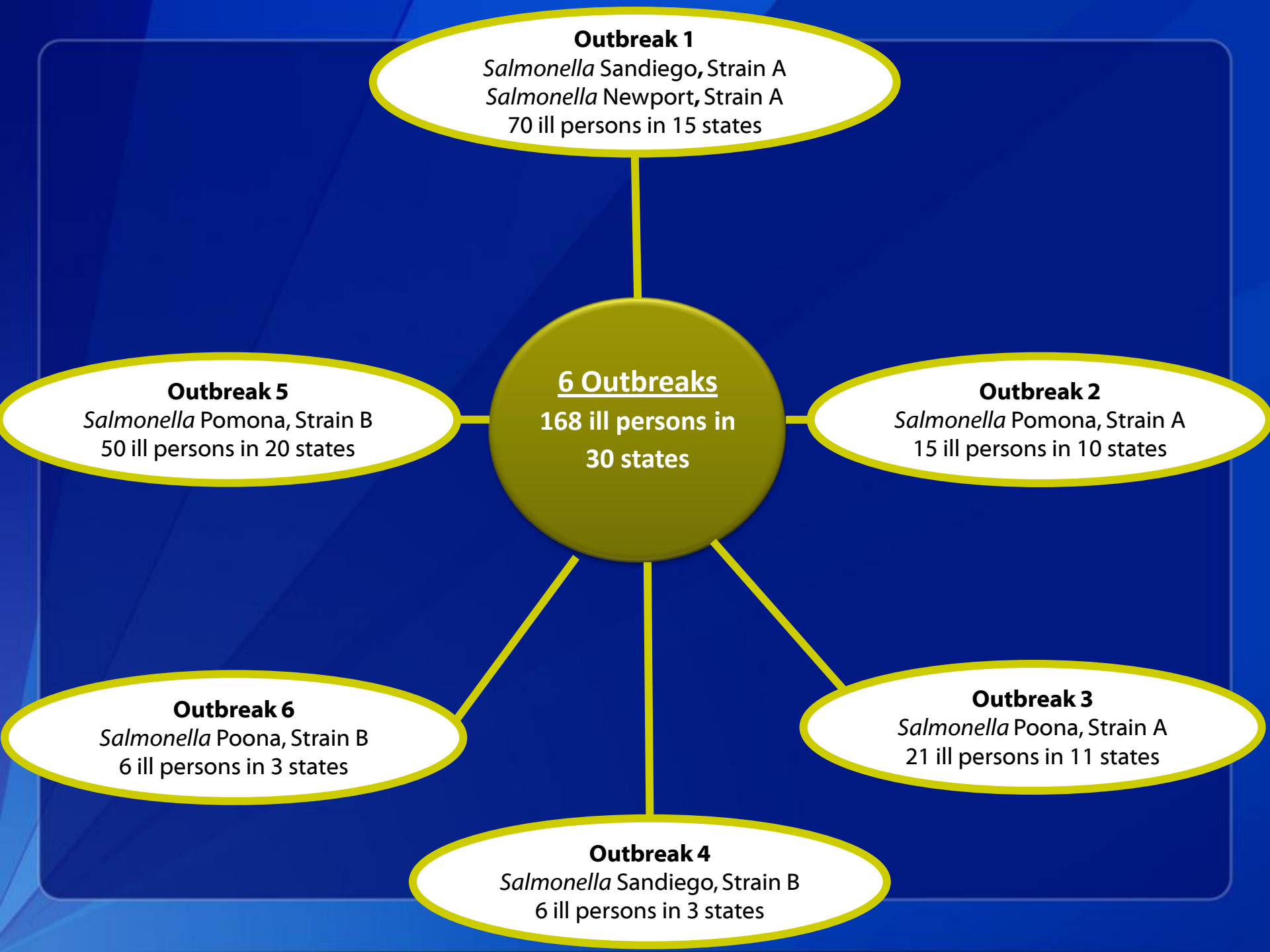


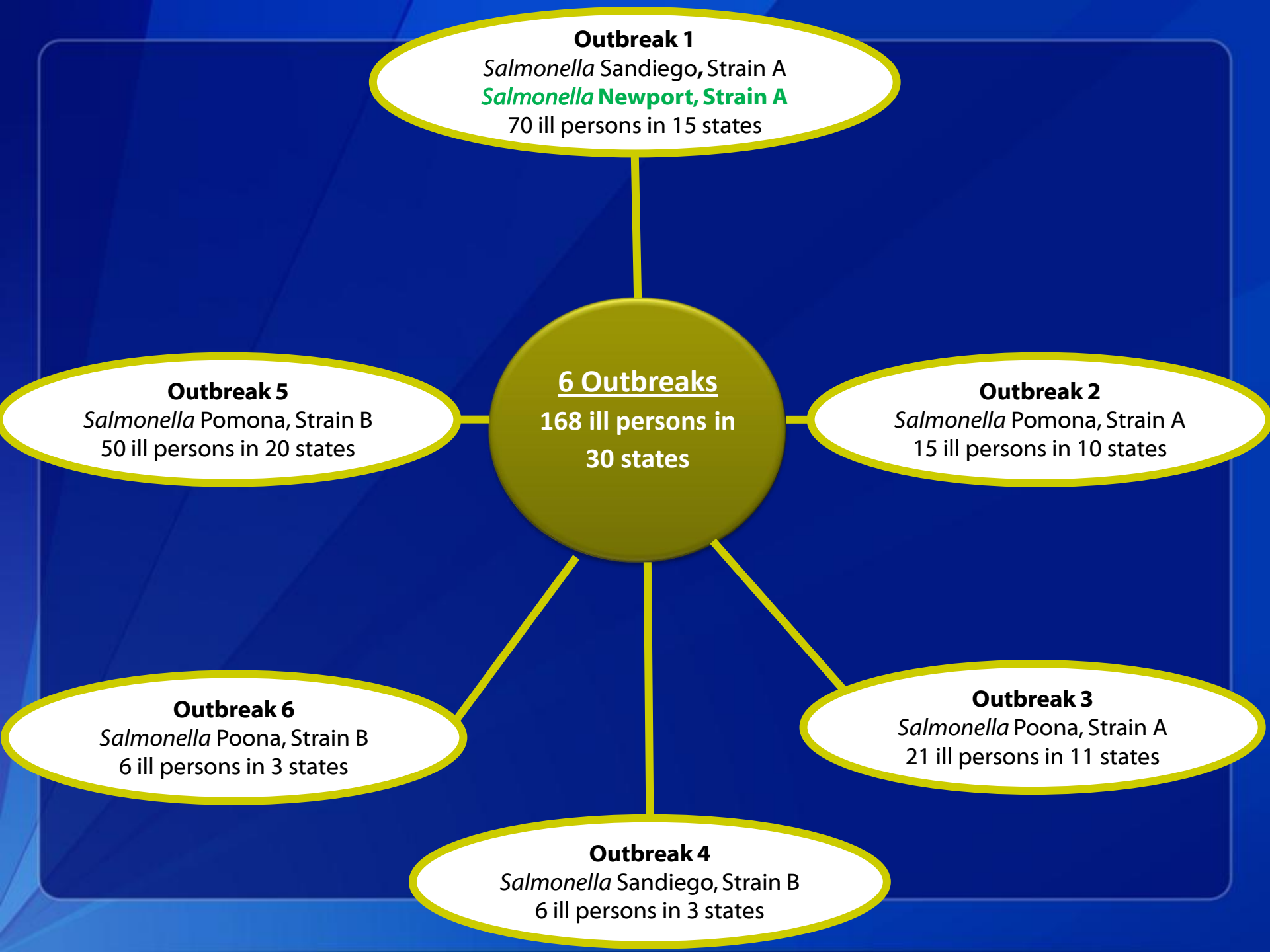
ENVIRONMENTAL AND TRACEBACK INVESTIGATIONS

Environmental and Traceback Investigations

□ States with outbreak-associated cases

- Environmental sampling of turtles and turtle tank water from case-patient homes
- Detailed purchase information obtained from patients for traceback investigations
- Collected and tested turtles and tank water from retail stores





Outbreak 1

Salmonella Sandiego, Strain A
Salmonella Newport, Strain A
70 ill persons in 15 states

6 Outbreaks

**168 ill persons in
30 states**

Outbreak 2

Salmonella Pomona, Strain A
15 ill persons in 10 states

Outbreak 3

Salmonella Poona, Strain A
21 ill persons in 11 states

Outbreak 4

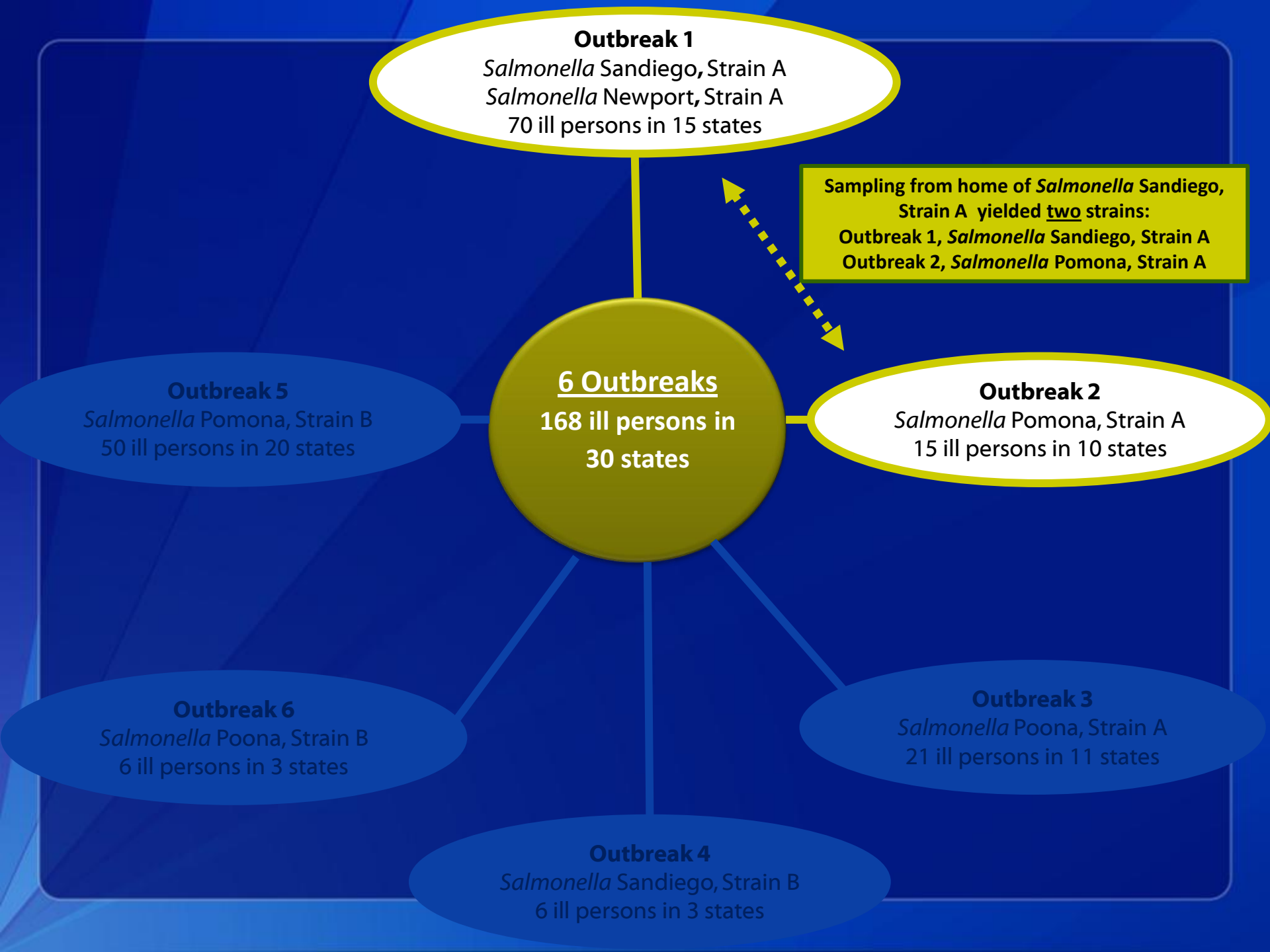
Salmonella Sandiego, Strain B
6 ill persons in 3 states

Outbreak 5

Salmonella Pomona, Strain B
50 ill persons in 20 states

Outbreak 6

Salmonella Poona, Strain B
6 ill persons in 3 states



Outbreak 1
Salmonella Sandiego, Strain A
Salmonella Newport, Strain A
70 ill persons in 15 states

Sampling from home of *Salmonella* Sandiego,
Strain A case yielded :
Outbreak 1, *Salmonella* Newport, Strain A
Outbreak 5, *Salmonella* Pomona, Strain B

Epi Link 

Outbreak 5
Salmonella Pomona, Strain B
50 ill persons in 20 states

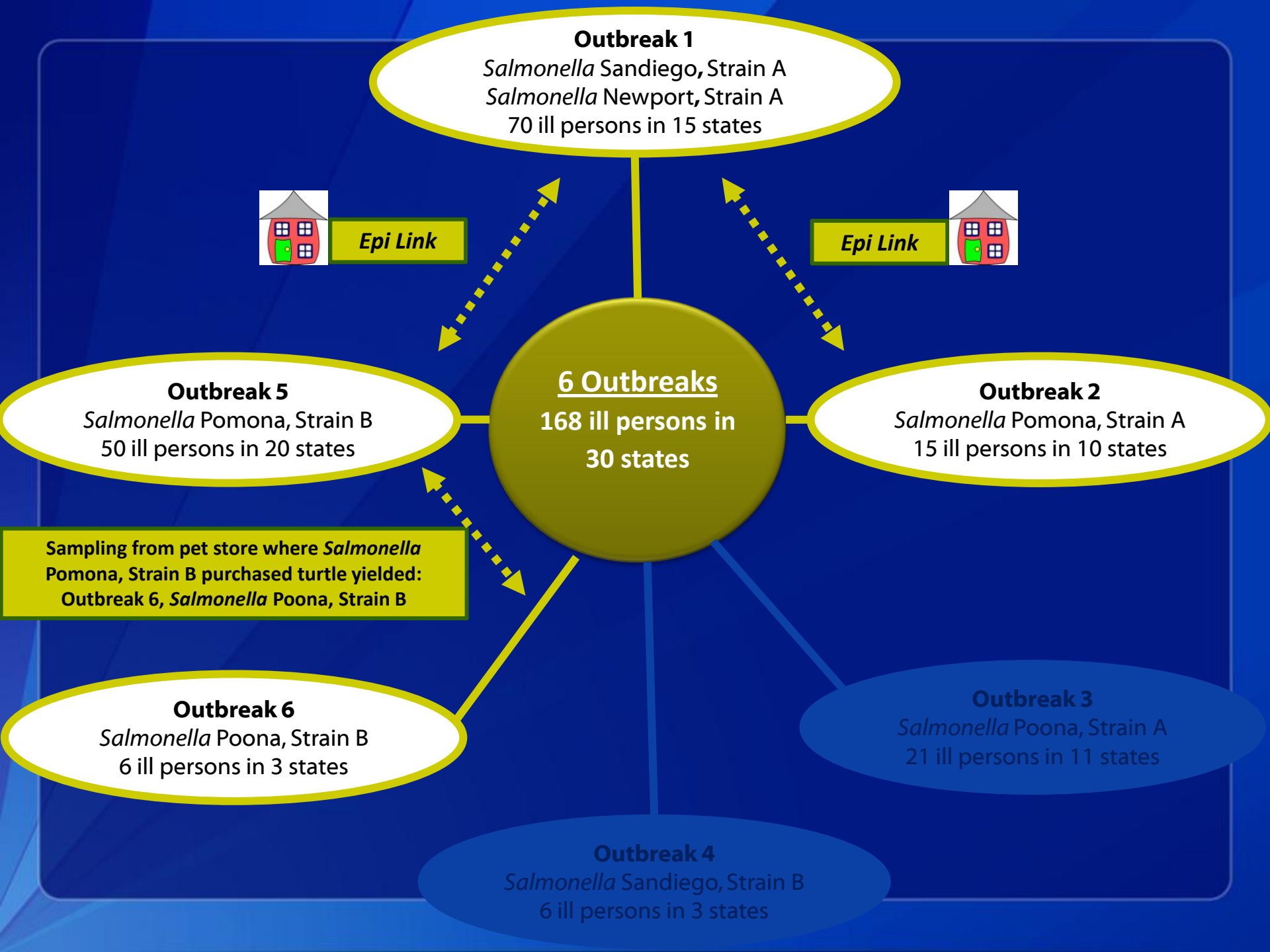
6 Outbreaks
168 ill persons in
30 states

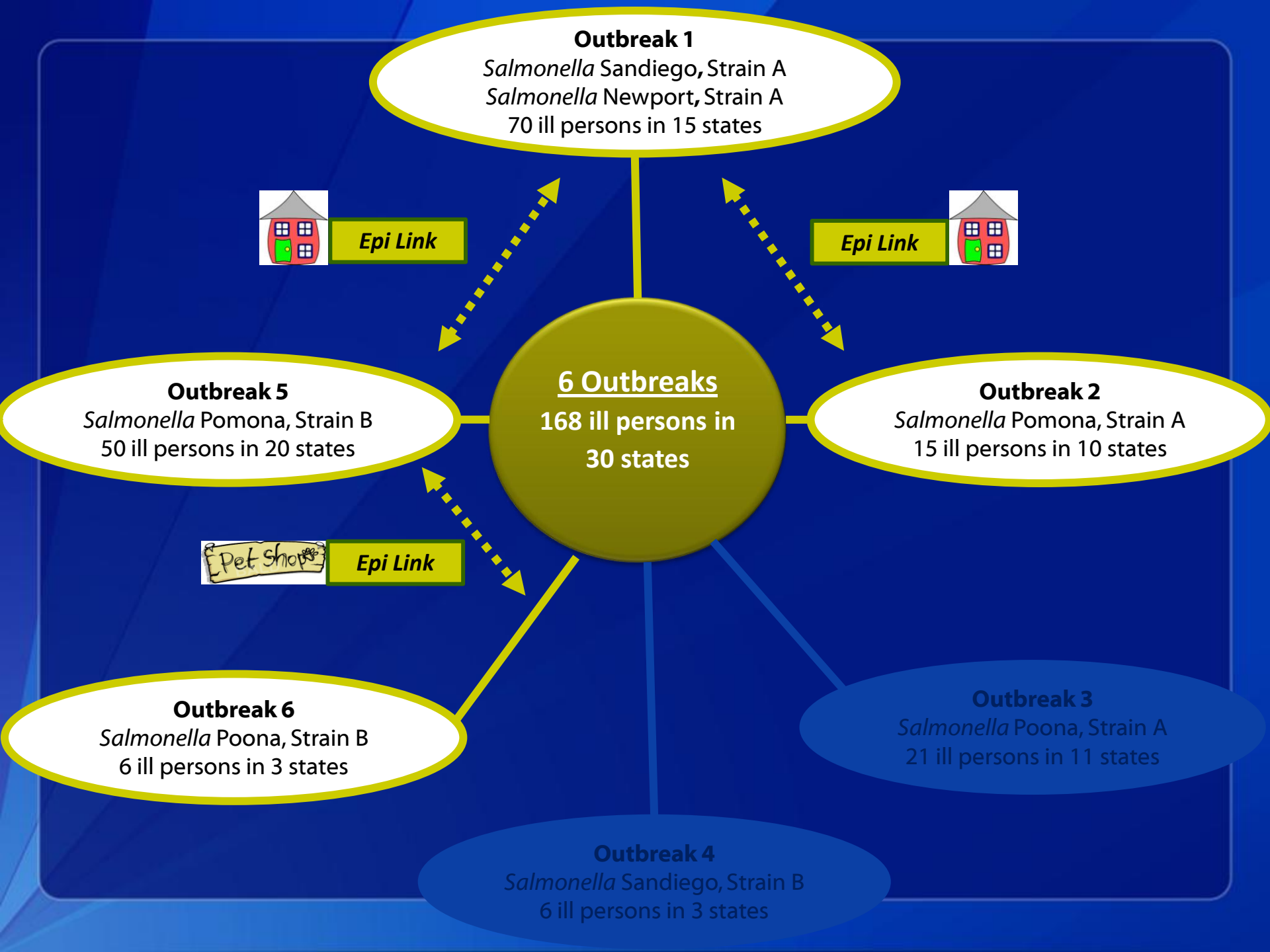
Outbreak 2
Salmonella Pomona, Strain A
15 ill persons in 10 states

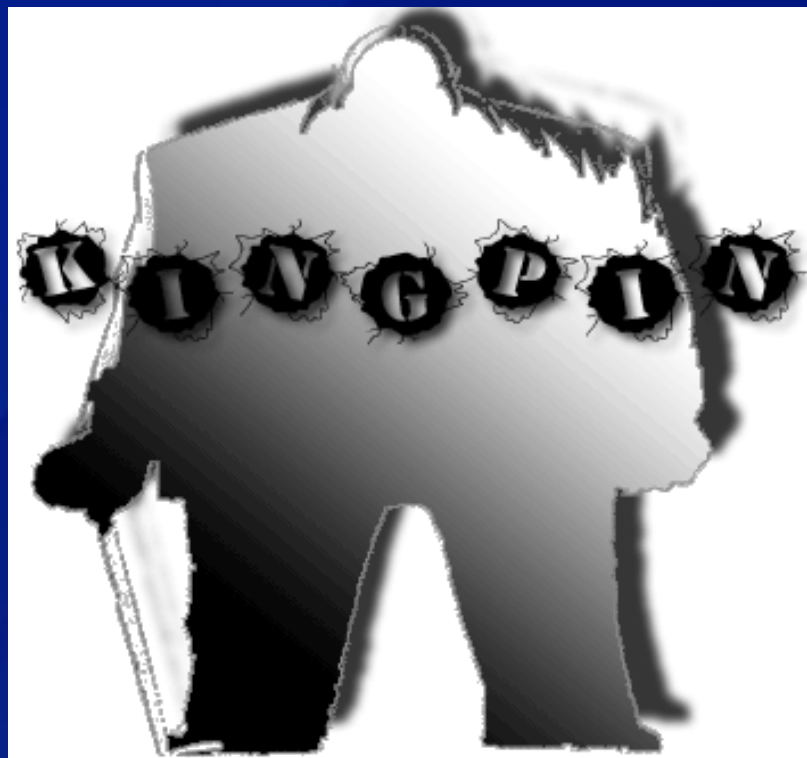
Outbreak 6
Salmonella Poona, Strain B
6 ill persons in 3 states

Outbreak 3
Salmonella Poona, Strain A
21 ill persons in 11 states

Outbreak 4
Salmonella Sandiego, Strain B
6 ill persons in 3 states







Traceback Investigations

- ❑ **Numerous state and local health departments performed traceback investigations**
 - Challenging, inadequate records
 - Street vendors or flea markets
 - 20% received as gifts
- ❑ **Goal: to identify stores with purchase records and turtle farms associated with outbreaks**

Documentation to Support Investigations

- ❑ Bills of Landings**
- ❑ Receipts that show sale of turtles <4 inches from source suppliers to customers**
- ❑ Proof of turtle size**
 - Photographs
 - Use small object to verify actual turtle size
- ❑ Sworn statement (e.g. affidavit)**
- ❑ States should collect all information when states visit turtle vendors**

Education and Recommendations

PREVENTION

Education and Recommendations

- ❑ **Collaboration needed at all levels - community, local, state, and federal**
- ❑ **Goal: to educate everyone about the risk of *Salmonella* infection from handling turtles**
 - General Public
 - Pet Stores and Employees
 - Pet Industry
 - School and Daycares
 - Health Professionals and Veterinarians
 - Shelter staff
 - Education Centers

Health Professionals



Multistate Outbreak of Human *Salmonella* Infections Associated with Exposure to Turtles --- United States, 2007--2008

Turtles and other reptiles have long been recognized as a source of human *Salmonella* infections (1). To prevent turtle-associated *Salmonella* infections in humans, the sale and distribution of small turtles (i.e., those with a carapace length of less than 4 inches) (2)

Multistate Outbreak of Human *Salmonella* Typhimurium Infections Associated with Pet Turtle Exposure --- United States, 2008

Weekly February 26, 2010 / 59(07):191-196

On September 4, 2008, the Philadelphia Department of Public Health (PDDH) and the Pennsylvania Department of Health (PADOH) notified CDC of an outbreak of (PFGE) pattern distribution health department reported to significant federal registration small turtle

Notes from the Field: Outbreak of Salmonellosis Associated with Pet Turtle Exposures -- United States, 2011

Weekly February 3, 2012 / 61(04):79

CDC is collaborating with the Pennsylvania State Health Department in an ongoing investigation of an outbreak of Paratyphi B var. I (s) (PTB) infections associated with pet turtle exposures. Turtles have long been infections and are a particular risk to young children (2). Although the sale or distribution of small turtles (cm) has been prohibited in the United States since 1975 (with exceptions for scientific or educational purposes), purchase through transient vendors on the street, at flea markets, and at fairs.

During August 5, 2010--September 26, 2011, a total of 132 cases of human *Salmonella* Paratyphi B var. I states. The median age of patients was 6 years (range: <1--75 years), 66% were aged <10 years, and 40% were aged <5 years.



From CDC Expert Commentary

Pet Turtles Can Make People Sick: Guidance for Clinicians

Janel Routh, MD

Authors and Disclosures

Posted: 06/25/2012

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Small Turtles Can Make People Sick

Small turtles have been making people sick for decades. Clinicians need to take specific steps to help protect patients and their families. In the United States, selling turtles with a shell less than 4 inches in length has been banned by the US Food and Drug Administration (FDA) since 1975.^[1] Despite the FDA's ban, small turtles continue to be sold in a variety of venues, including stores, flea markets, and fairs, and from roadside or street vendors.

The Centers for Disease Control and Prevention (CDC) recently published a report^[2] describing an outbreak involving 132 people who became ill with salmonellosis from August 2010 to September 2011 that was linked to contact with small turtles and their habitats. During this outbreak, interviews were conducted with 56 patients, and 36 (64%) of them reported exposure to a turtle in the week preceding their illness. For 15 patients who could recall the type of turtle they touched, 14 identified small turtles with a shell length of less than 4 inches. These turtles were subject to the FDA ban and should not have been for sale to the public.

► [Small Turtles Can Make People Sick](#)

[Preventing the Spread of Zoonotic Salmonellosis](#)

[Symptoms of Salmonella Infection](#)

[References](#)

Medscape Today



From CDC Expert Commentary

Pets Can Make People Sick

Casey Barton Behravesh, MS, DVM, DrPH

Authors and Disclosures

Posted: 08/22/2011

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Hi. I am Dr. Casey Barton Behravesh, an epidemiologist in the Outbreak Response and Prevention Branch at the Centers for Disease Control and Prevention (CDC). I am also a veterinarian with a pet dog and cat and the mother of 2 young children. Today, I am pleased to speak with you as part of the CDC Expert Video Commentary Series on Medscape. I will be talking with you about how certain pets can make people sick and the steps you can take to help protect your patients and their families.



Pet ownership has many positive

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A-Z Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

Salmonella

Salmonella Homepage

Outbreaks

Reporting Timeline

Typhimurium Infections Linked to Cantaloupe

Enteritidis Infections Linked to Ground Beef

Human *Salmonella* Hadar Infections Linked to Live Poultry

Human *Salmonella* Montevideo Infections Linked to Live Poultry

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Six Multistate Outbreaks of Human *Salmonella* Linked to Small Turtles

Posted August 8, 2012 2:00 PM ET

Highlights

- [Read the Advice to Consumers >](#)
- A total of 168 persons infected with outbreak strains of *Salmonella* Sandiego, *Salmonella* Pomona, and *Salmonella* Poona have been reported from 30 states.
- The number of ill persons identified in each state is

At a Glance

- Case Cou
- States: 3
- Deaths: 0



CDC en Español @CDCespanol

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Los #reptiles y los #anfibios como #tortugas, #lagartijas y #ranas pueden ser portadores de #Salmonella. go.usa.gov/Gmj

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CDC shared a link. February 2

February is American Heart Month. Join us and take the Million Hearts pledge to protect your heart. Be One in a Million!


Million Hearts - Be One in a Million
millionhearts.hhs.gov
Individuals, health care providers,

Did you know that reptiles and amphibians like turtles, lizards, and frogs can carry a harmful germ called Salmonella? If there are young children in your home, reptiles and amphibians might not be safe pets for your family. For more information, see <http://go.usa.gov/n38>.



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Search by Animal

Some animals carry germs that can be passed to humans. Learn what germs your pets and other animals can carry.

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Don't Kiss a Frog! and I Love Petting Zoos!



This CDC Kidtastics podcast discusses the danger of reptiles and amphibians carrying and spreading *Salmonella* and how to prevent infection. Created: 8/4/2009 by National Center for Zoonotic, Vector-Borne, and Enteric Diseases (NCZVED). Date Released: 8/4/2009. Series Name: CDC Kidtastics.

[More info on this topic >>](#)

Press Play to listen to this CDC Podcast
Running time = 3:50

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Educational Material

Lavez vos mains, après avoir touché des amphibiens ou des reptiles, pour ne pas tomber malade!



Le contact avec des amphibiens (comme les grenouilles et les crapauds) et des reptiles (comme les tortues, les serpents et les lézards) peut être une source de contamination à la salmonelle pour les humains.

Les petites tortues, avec un carapace de moins de 10 centimètres, sont une source de contamination à la *Salmonella* bien connue, surtout pour les jeunes enfants. Pour éviter ce risque, la « Food and Drug Administration » (Agence fédérale américaine des produits alimentaires et médicamenteux) interdit la vente de ces tortues depuis 1975.

Des microbes de la salmonelle peuvent provoquer chez les humains une diarrhée, plus ou moins sérieuse, et même entraîner un risque vital.

Les amphibiens et les reptiles peuvent être contaminés par les microbes de la salmonelle et apparaître propres et en bonne santé.

Des microbes de la salmonelle se retrouvent sur les surfaces, les déjections et peuvent facilement contaminer leurs corps et leur environnement.

Les reptiles et les amphibiens peuvent contaminer l'eau dans les aquariums.

Protégez vos enfants des microbes

A faire :

Après avoir touché des amphibiens ou des reptiles, lavez-vous les mains avec de l'eau et du savon dès que vous le pouvez.

Pour prévenir la contamination, ne laissez pas des amphibiens ou des reptiles dans la cuisine ou d'autres endroits où la nourriture est préparée, servie ou consommée.

Les réservoirs, aquariums ou autres équipements et matériels utilisés pour élever et soigner les amphibiens et reptiles doivent être nettoyés à l'extérieur. Il est important de se souvenir que l'eau des réservoirs et aquariums peut être contaminée à la salmonelle ou autres microbes.

À ne PAS faire :

Ne laissez pas les jeunes enfants de moins de 5 ans, les personnes âgées ou les personnes au système immunitaire affaibli toucher ou tenir des amphibiens ou reptiles.

Ne gardez pas les réservoirs contenant des amphibiens ou reptiles dans la chambre d'un enfant, surtout les jeunes de moins de 5 ans.

Ne laissez pas des reptiles ou amphibiens en liberté dans votre maison.

Ne nettoyez ni les animaux ni leurs aquariums dans l'évier de votre cuisine. Si la baignoire est utilisée pour nettoyer un réservoir, celle-ci doit être soigneusement nettoyée à l'eau de javel pour la désinfecter.

Pour plus d'information appelez **1-800-CDC-INFO** ou consultez le site www.cdc.gov.



National Center for Emerging and Zoonotic Infectious Diseases
Division of Foodborne, Waterborne, and Environmental Diseases

C5223416-A Photo Credit: Jim Capaldi September, 2010 www.flickr.com/photos/jcapaldi

Touch amphibians or reptiles, hands so you don't get sick!



Contact with amphibians (such as frogs and toads) and reptiles (such as lizards) can be a source of human *Salmonella* infections.

Small turtles, with a shell length of less than 4 inches, are a well known source of human *Salmonella* infections, especially among young children. The Food and Drug Administration has banned the sale of these turtles.

Salmonella germs can cause a diarrheal illness in people that can be life threatening.

Amphibians and reptiles can carry *Salmonella* germs and appear healthy.

Salmonella germs are shed in their droppings and can contaminate surfaces, feces, and other areas.

Reptiles and amphibians can contaminate water in aquariums.

Protect your children from germs

Do:

Wash your hands with soap and water right after touching amphibians or reptiles, especially where they live and roam, or where you eat.

Use hand sanitizer if soap and water are not readily available.

To prevent contamination, keep amphibians and reptiles out of kitchens where food and drink is prepared, served, or consumed.

Don't:

Don't let children younger than 5 years of age, older adults, or people with weakened immune systems handle or touch amphibians or reptiles.

Don't keep habitats containing amphibians or reptiles in a child's bedroom or other areas where they sleep.

Don't let reptiles and amphibians roam free in your home.

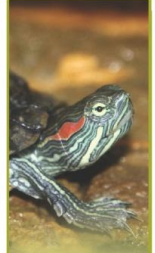
Don't bathe animals or their habitats in your kitchen sink. If bathtubs are used for these purposes, they should be thoroughly cleaned afterward. Use bleach to disinfect a tub or other place where reptile or amphibian habitats are cleaned.



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C5223416-A Photo Credit: Jim Capaldi September, 2010 www.flickr.com/photos/jcapaldi

Si toca anfibios o reptiles, ¡lávase las manos para no enfermarse!



El contacto con anfibios (como ranas y sapos) y reptiles (como tortugas, víboras y lagartijas) puede ser una fuente de infecciones por *Salmonella* en las personas.

Las tortugas pequeñas, con caparazón de menos de 4 pulgadas, son una fuente conocida de infecciones por *Salmonella*, especialmente en niños pequeños. Por esta razón, la Administración de Alimentos y Medicamentos (FDA) prohibió la venta de estas tortugas desde 1975.

Los gérmenes de *Salmonella* pueden causar enfermedades diarreicas en las personas, desde leves hasta graves, e incluso la muerte.

Los anfibios y reptiles pueden ser portadores de gérmenes de *Salmonella* aun cuando se vean limpios y sanos.

Los gérmenes de *Salmonella* se pasan fácilmente a su cuerpo y todo lo que tocan, lo que puede contaminar superficies, heces y otros lugares.

Los anfibios y reptiles pueden contaminar el agua en los acuarios.

Protéjanlos de los gérmenes

Lo que debe hacer:

Lave sus manos con agua y jabón inmediatamente después de tocar o alimentar a un anfibio o reptil, especialmente en el área o el agua en que habitan o donde comen.

Use un desinfectante para manos hasta que se las pueda lavar con agua y jabón lo más pronto posible.

Lo que no debe hacer:

No deje que los niños menores de 5 años de edad, los ancianos o las personas que tengan sistemas inmunitarios debilitados toquen o agarren anfibios o reptiles.

No mantenga las peceras o recipientes con anfibios o reptiles en los dormitorios de sus niños, especialmente si son menores de 5 años de edad.

No deje que los anfibios o reptiles anden sueltos por su casa.

No lave a estos animales ni sus recipientes en la cocina. Si los lava en la bañera, límpiela muy bien después de usarla. Use blanqueador para desinfectar las áreas que utilice para limpiar los recipientes de los anfibios o reptiles.



Para más información, llame al **1-800-CDC-INFO** o visite www.cdc.gov.



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Crédito de la fotografía: C5223414-D, Jim Capaldi, septiembre de 2010

General Recommendations

- ❑ **Basic ways to reduce risk for transmission of *Salmonella* from reptiles to humans**
 - **Thoroughly wash hands with soap and water**
 - **Households with children <5 years should not have reptiles**
 - **Do not buy small turtles from street vendors, websites, pet stores, or other sources**
 - **Keep reptiles away from food preparation areas**
 - **Schools and child care facilities should not have reptiles**





Photo Courtesy of Alison Laufer, EISO Class of 2013

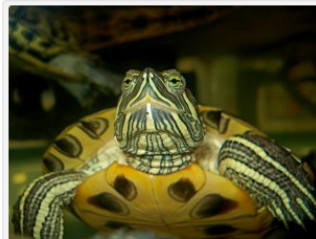
Unwanted Turtles

❑ Petco Turtle Relinquishment Program

- Petco accepts unwanted turtles at any Petco location
- Includes turtles <4 inches
- Sent to a turtle farm
- >70 unwanted turtles collected since May 2012
- www.petcoscoop.com

The Petco Turtle Relinquishment Program

written by Lori Wildrick on May 23rd, 2012 | [Leave a comment](#)



The Turtle Relinquishment Program is designed to help turtle fans return turtles that have a carapace length of less than 4 inches.

Due to recent Salmonella outbreaks, the U.S. Centers for Disease Control (CDC) is encouraging anyone who has an aquatic turtle smaller than the federally mandated 4-inch carapace length to relinquish them in an effort to prevent further spread of the disease.

"The sale and distribution of turtles with carapace lengths less than four inches has been prohibited in the United States since 1975," said Dr. Thomas Edling, VP of Veterinary Medicine, "yet they are still available for illegal purchase through street vendors, flea markets and fairs. Most of these turtles come from substandard breeding farms that do not utilize the latest egg disinfecting, hatching and grow out technologies to reduce the chance of Salmonella in their turtles. We want to do our part at Petco to help ensure the public has a chance to purchase healthy, legal turtles as well as reduce the population of illegal turtles in people's homes."

Turtle owners wishing to relinquish turtles with carapace lengths of less than four inches can bring them to any Petco. The turtles will be sent to Concordia Turtle Farms where they will live and be cared for in Concordia ponds. Concordia, who is partnering with Petco for this initiative, is a family owned and operated producer of farm-raised turtles, which has been their specialty since 1968. [Find your local Petco here.](#)

Final thoughts

- ❑ **Despite state laws and federal regulations, small turtles continue to be available to the public for sale**
- ❑ **Turtles continue to be identified as a source of human *Salmonella* infections, and are a public health problem**
- ❑ **Children are at high risk for turtle-associated *Salmonella* infections**
- ❑ **Education is critical for prevention of infections**
- ❑ **Collaborative investigations to identify**
 - Small turtle-associated outbreaks
 - Suppliers, distributors, or turtle farms

Acknowledgements

State and Local Health Departments & Public Health Laboratories

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For more information on “Turtlepocalypse 2012”,
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<http://www.flickr.com/photos/bretanicus/16955442/>

Thank you!

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Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov

Web: <http://www.cdc.gov>

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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