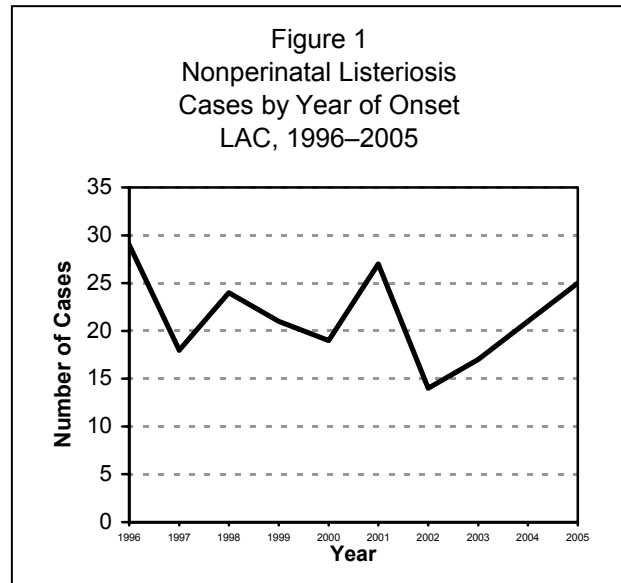




## LISTERIOSIS, NONPERINATAL

CRUDE DATA	
Number of Cases	25
Annual Incidence <sup>a</sup>	
LA County	0.26
United States	N/A
Age at Diagnosis	
Mean	54.4
Median	57
Range	1–89 years
Case Fatality	
LA County	10%
United States	N/A

<sup>a</sup> Cases per 100,000 population.



### DESCRIPTION

Listeriosis is a disease transmitted primarily through consumption of food contaminated with *Listeria monocytogenes*, a gram-positive bacterium. *L. monocytogenes* is found in soil and water, and can contaminate raw foods (e.g., uncooked meats and vegetables), as well as processed foods that become contaminated after processing (e.g., soft cheeses and cold cuts). Unpasteurized (raw) milk and foods made from unpasteurized milk may also contain the bacterium. Common symptoms of listeriosis include fever, muscle aches, headache, nausea, diarrhea, and neck stiffness. A case of nonperinatal listeriosis is one that occurs in persons other than pregnant women and/or their fetuses, neonates, or infants up to 42 days after birth. Historically, nonperinatal listeriosis presents as meningoenzephalitis and/or septicemia, primarily affecting elderly and immunocompromised persons, such as those with cancer or HIV, and those on immunosuppressive therapy.

### DISEASE ABSTRACT

- In 2005, 25 nonperinatal listeriosis cases were reported, an increase from the previous year (N=21) that indicates a rising trend of infection in LA County. However, the ten-year trend is still one of decline (Figure 1).
- There were five case fatalities in 2005. Like in 2004, these fatalities were more likely due to severe underlying disease (i.e. cancer) although advanced age exacerbated the effect.
- Although two multistate clusters were identified by PulseNet and investigated, there were no confirmed foodborne listeriosis outbreaks during 2005.



## STRATIFIED DATA

**Trends:** Since 2002 (N=14), the number of nonperinatal listeriosis cases has been increasing (Figure 1). In 2005 there were 25 cases of nonperinatal listeriosis.

**Seasonality:** Listeriosis typically follows a seasonal trend with most cases occurring during the summer months. During the previous five years, the highest incidence of cases occurred during June. Except for having relatively few cases in June, 2005 followed the typical seasonal trend with a peak in August (Figure 2).

**Age:** Advanced age is considered a risk factor for nonperinatal listeriosis. In 2005, 36% (n=9) of nonperinatal listeriosis cases were 65-years of age or older—a decrease from 2004 (52%, n=11). In 2005, 24% (n=6) of cases were 55 to 64 years of age (Figure 3). In 2005 the median age of nonperinatal listeriosis cases was 55 with a majority of cases over the age of 45 years.

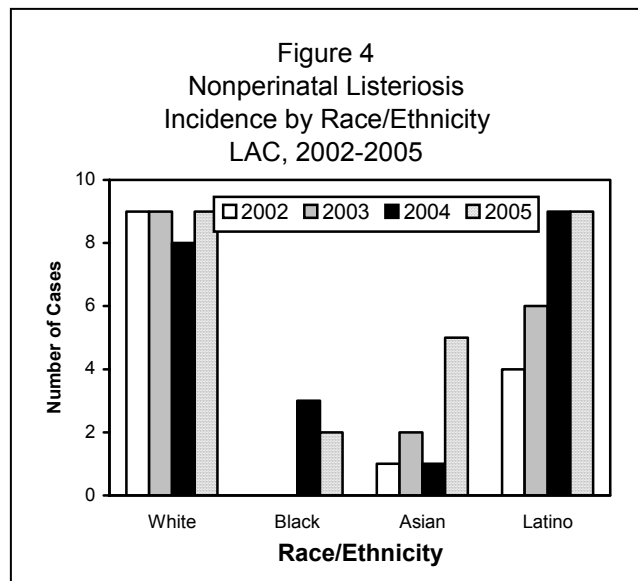
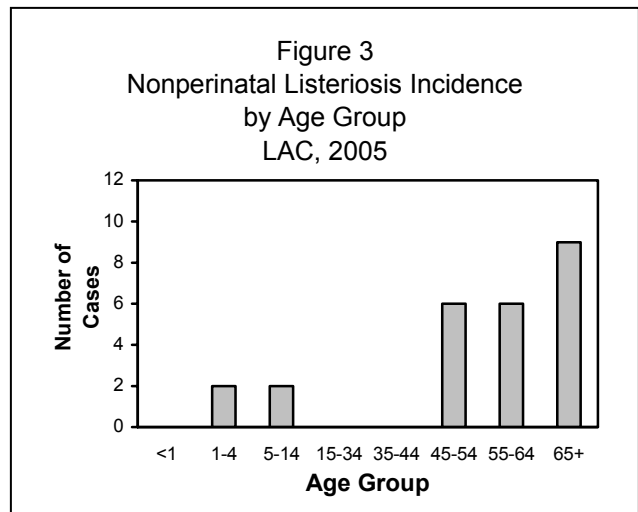
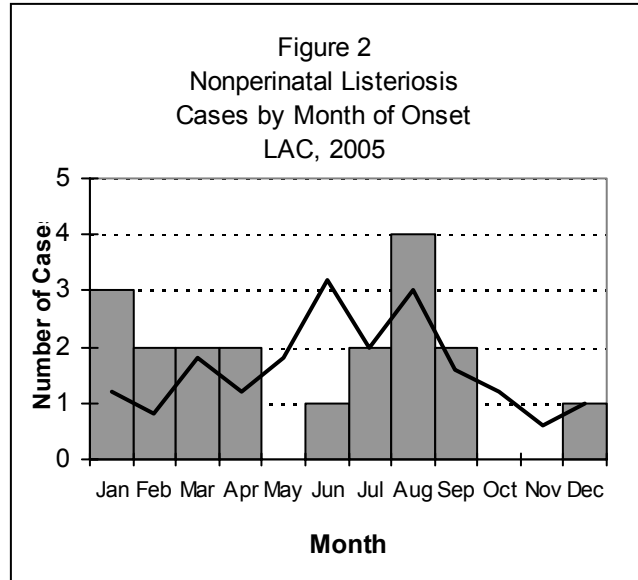
**Sex:** Similar to previous years, more males (n=13) than females (n=12) contracted nonperinatal listeriosis; the male-to-female incidence ratio was 1.083:1, reflecting a narrowing in the gender gap.

**Race/Ethnicity:** In 2005, Latinos and Whites had the highest numbers of incident cases of nonperinatal listeriosis (n=9, 43%, and n=8, 38%, respectively). Since 2002, the annual numbers of Latino cases have been increasing. In 2005 there was a significant increase in Asian cases.

**Location:** During 2005, there was no significant clustering of cases by location. Geographic information was known for 24 of the cases, and unknown for one case.

**Predisposing Conditions and Medical Risk Factors:** In 2005 50% of the nonperinatal cases occurred in adults older than 54 years of age. In addition, 48% had diabetes, 38% were on steroid medication, 38% had history of gastrointestinal disease, 38% were using antacids, 33% had cancer, 24% had recent chemotherapy, 24% had kidney disease, and 24% had recent antibiotic use. Sixteen (76%) of nonperinatal cases had two or more medical risk factors. Two cases did not have any known risk factors for listeriosis (Table 1).

**High-risk Foods:** For high-risk foods routinely investigated, 24% of cases reported eating soft cheese, 36% cold cuts or deli meats, 40% other cheese (non-Mexican-style cheese, non-soft





cheese), 84% raw fruits, 56% raw vegetables, and 36% Mexican-style cheese (Table 2).

**Outcome:** Five (20%) of the 25 cases in 2005 died. These cases were not of advanced age but were at advanced stages of cancer.

**Culture Sites:** *L. monocytogenes* was isolated from blood only in 16 (64%) cases, CSF in four (16%) cases, and one culture each drawn from a groin abscess, paracentesis and peritoneal fluid.

**PFGE-identified Clusters:** Five clusters of listeriosis were identified by using pulsed-field gel electrophoresis (PFGE) and participating in PulseNet under CDC, but none of the CDC investigations found a common source.

**PREVENTION**

In general, listeriosis may be prevented by thoroughly cooking raw food from animal sources, such as beef, pork, or poultry; washing raw vegetables thoroughly before eating; and keeping uncooked meats separate from vegetables, cooked foods, and ready-to-eat foods. Avoiding unpasteurized milk or foods made from unpasteurized milk, and washing hands, knives, and cutting boards after handling uncooked foods also may prevent listeriosis.

Persons at high risk for listeriosis include the elderly, those with cancer, HIV, diabetes, weakened immune systems, and those on immunosuppressive therapy. These individuals should follow additional recommendations: avoid soft cheeses such as feta, brie, camembert, blue-veined, and Mexican-style cheese. Hard cheeses, processed cheeses, cream cheese, cottage cheese, or yogurt need not be avoided all together; however, individuals with severely compromised immune systems and/or several disease risk factors should avoid them. Leftover foods or ready-to-eat foods, such as hot dogs, should be cooked until steaming hot before eating. Finally, although the risk of listeriosis associated with foods from deli counters is relatively low, immunosuppressed persons may choose to avoid these foods or thoroughly reheat cold cuts before eating.

**Table 1. Predisposing Factors in Cases of**

<b>Nonperinatal Listeriosis—LAC, 2005</b>		
<b>Medical Conditions</b>	<b>Number</b>	<b>Percent</b>
Age >65 years	9	36
Cancer	7	28
Chemotherapy	5	20
Steroid Use	8	32
Diabetes	9	36
Kidney Disease	7	28
Chronic Alcoholism	2	8
Radiation Therapy	1	4
Autoimmune Disease	3	12
Liver Disease	4	16
Lung Disease	1	4
Prior Antibiotic Use	7	28
Antacid Use	8	32
Asthma	0	0
Gastrointestinal Disease	7	28
HIV+/AIDS	0	0
Other Immunosuppressive Therapy	1	4
Organ Transplant	0	0
Intravenous Drug Use	0	4
No Identified Risk Factors	4	16

**Table 2. High-risk Foods among Cases of Nonperinatal Listeriosis—LAC, 2004**

<b>Risk foods</b>	<b>Number</b>	<b>Percent</b>
Raw Milk	0	0
Raw Milk Products	1	4
Mexican-style Cheese	9	36
Soft Cheese	6	24
Other Cheese	10	40
Raw Beef	1	4
Raw Pork	0	0
Raw Poultry	0	0
Raw Fish	3	12
Cold Cuts/ Deli Meats	9	36
Raw Egg	1	4
Raw Fruit	21	84
Raw Vegetables	14	56



## COMMENTS

2005 marked another increase in annual cases. Although 2002 had the second lowest incidence rate for listeriosis in at least 10 years, the increase, particularly among Latinos, indicates public health education may be necessary to reverse the upward trend. While better reporting might be a contributor to having more cases in 2005, the need for public health action is apparent. Case fatality was 24% (n=4) in 2003 and 10% (n=2) in 2004. There were two pediatric listeriosis cases in 2005; one had underlying disease (lymphoma) the other had no known medical risk factors.

*L. monocytogenes* is an opportunistic disease targeting people who have compromised immune systems. Healthy immune systems and intestinal tracts are important to prevent clinical illness. This year also highlighted the significance of iron overload and blood transfusions in the pathology of *L. monocytogenes* as one PFGE-identified cluster involved an asymptomatic platelet donor. The investigation of this cluster demonstrated that while iron overload is routinely investigated for listeriosis cases, there is a diagnostic bias as only patients with certain chronic anemias are tested for iron overload. Including history of blood transfusions and blood disorders like anemia in the routine investigation of listeriosis is now being considered.

All *L. monocytogenes* isolates are now analyzed by pulsed field gel electrophoresis (PFGE). There were no LAC outbreaks or LAC cases associated with a multi-jurisdictional outbreak identified in this manner in 2004.

## ADDITIONAL RESOURCES

General disease information is available from the CDC at:  
[www.cdc.gov/ncidod/dbmd/diseaseinfo/listeriosis\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/listeriosis_g.htm)

General information and reporting information about this and other foodborne diseases in LAC is available at: [www.lapublichealth.org/acd/food.htm](http://www.lapublichealth.org/acd/food.htm)