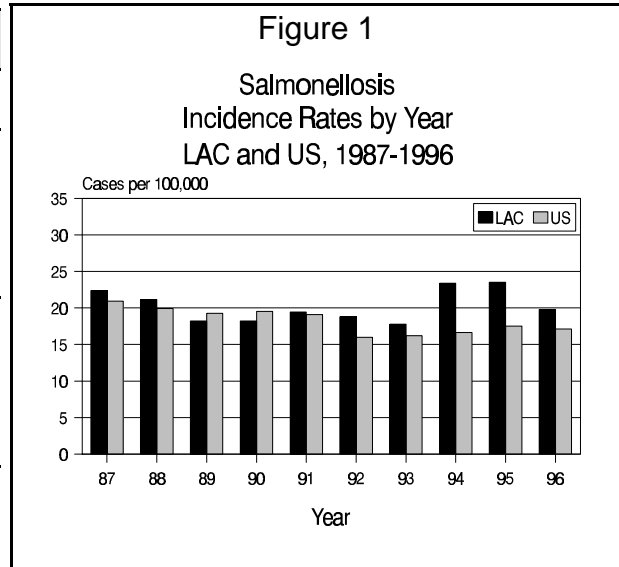




## SALMONELLOSIS

CRUDE DATA	
Number of Cases	1,757
Annual Incidence <sup>a</sup>	
LA County	19.8
California	20.5
United States	17.1
Age at Onset	
Mean	26.0
Median	22
Range	< 1-95 yrs
Case Fatality	
LA County	1.1
United States	N/A



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

### ETIOLOGY

Table 1 shows the 10 most frequently isolated *Salmonella* serotypes (excluding *S. typhi*) submitted to Los Angeles County (LAC) Department of Health Services' Bacteriology Laboratory in 1995 and 1996. *S. enteritidis* accounted for nearly half of all reported *Salmonella* infections in 1996, continuing the trend seen in 1994 and 1995. Prior to 1994, *S. typhimurium* was the most common serotype.



## DISEASE ABSTRACT

The 1996 salmonellosis crude rate dropped 16.9% compared to 1995. Disease incidence decreased among all age and racial/ethnic groups. For the third consecutive year, *Salmonella enteritidis* (SE) was the predominant serotype and was the etiologic agent identified in 7 of 10 *Salmonella* outbreaks recorded in 1996.

## STRATIFIED DATA

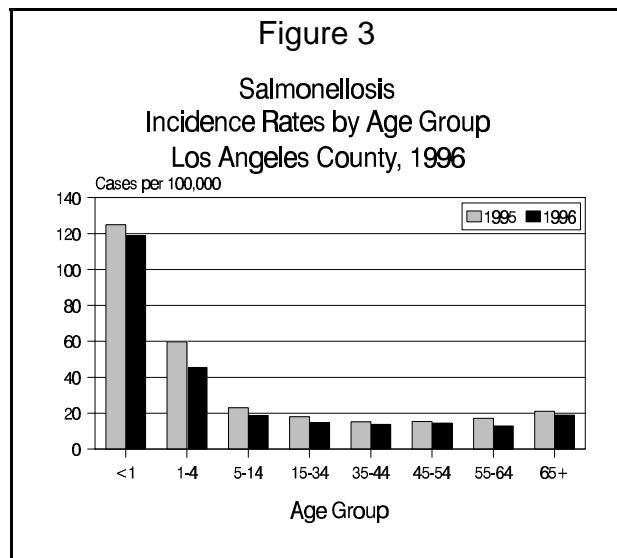
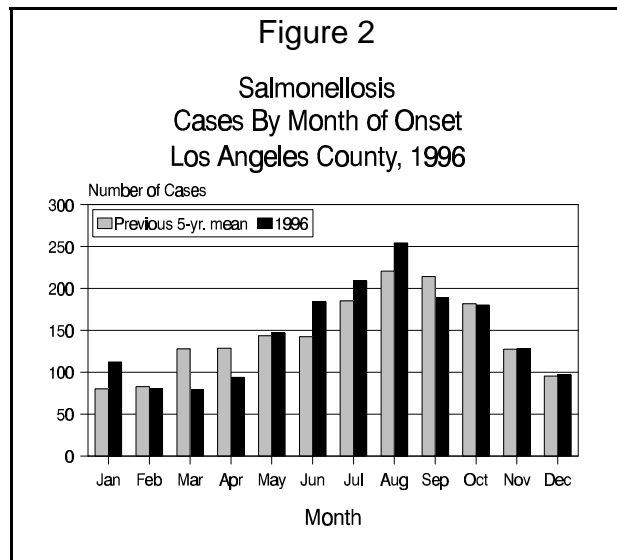
**Trends:** The incidence of reported salmonellosis cases in 1996 dropped to a rate of 19.8 per 100,000 population, a decrease of 16.9% , but remains higher than rates for LAC in the early 1990s and for the United States (Figure 1). Despite a 7.6% decrease in SE cases in 1996, SE still makes up 44.8% of all *Salmonella* isolates.

**Seasonality:** During 1996, a peak was seen during summer due to large outbreaks (Table 2). The peak added to the usual seasonal increase in reported cases during warm months (June through October) (Figure 2).

**Age:** As in past years, the highest age-specific rates of infection occurred among less-than-one-year-olds (118.9 per 100,000 population) followed by the 1- to 4-year age group (45.4 per 100,000) (Figure 3). For the second year in a row, disease incidence dropped in all age groups, concomitant with the overall drop in salmonellosis incidence. A less dramatic drop occurred in the adult population, probably due to the large number of adult cases associated with outbreaks.

**Sex:** The male-to-female rate ratio was 1:1.

**Race/Ethnicity:** In 1996, age-adjusted disease rates fell in all racial/ethnic groups (Figure





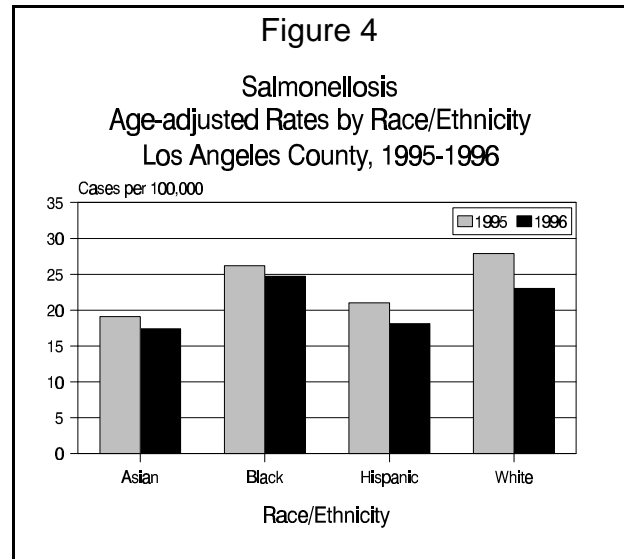
4). The highest rate was in Blacks (24.7), followed by White (23.0), Hispanic (18.1), and Asian (17.4) cases per 100,000 population.

**Location:** Inglewood Health District had the highest age-adjusted incidence rate (24.1 per 100,000 population), followed by Torrance (23.8 per 100,000) and Foothill Health Districts (22.3 per 100,000).

#### COMMENTS

During 1996 there were 10 reported outbreaks of salmonellosis in LAC, down from 17 salmonellosis outbreaks in 1995, the highest recorded in a decade (Table 2). Outbreak-related cases accounted for 6% of all culture confirmed salmonellosis cases in 1996. SE was the etiologic agent identified in 7 of the 10 outbreaks. The decreases in both sporadic and outbreak-related SE infections parallel the overall slight decrease in SE incidence occurring in Southern California.

Each report of salmonellosis is investigated, and preventive measures are recommended. These investigations demonstrate a need for public education on proper handling and preparation of animal-derived foods, especially eggs, as well as health education targeted to specific racial/ethnic groups. Given the increase in restaurant-associated salmonellosis outbreaks reported in 1994, 1995, and 1996, health education efforts also need to be intensified in the commercial food industry.





**Table 1. Top 10 *Salmonella* Serotypes  
Los Angeles County, 1995-1996**

Serotype	1996 N <sup>a</sup> = 1942		1995 N <sup>a</sup> = 2266		Change in Proportion
	No.	Percent	No.	Percent	Percent
<i>S. enteritidis</i>	870	(44.8)	1,098	(48.5)	-7.6
<i>S. typhimurium</i> <sup>b</sup>	259	(13.3)	404	(17.9)	-25.7
<i>S. heidelberg</i>	95	(4.9)	142	(6.3)	-22.2
<i>S. montevideo</i>	77	(4.0)	31	(1.4)	+ 185.7
<i>S. newport</i>	52	(2.7)	67	(3.0)	-10.0
<i>S. saintpaul</i>	42	(2.2)	13	(0.6)	+ 266.7
<i>S. oranienberg</i>	40	(2.1)	9	(0.4)	+ 425.0
<i>S. agona</i>	37	(1.9)	28	(1.2)	+ 58.3
<i>S. hadar</i>	33	(1.7)	26	(1.1)	+ 54.5
<i>S. braenderup</i>	27	(1.4)	18	(0.8)	+ 75.0
<i>S. thompson</i>	27	(1.4)	37	(1.6)	-12.5

<sup>a</sup>Denominator (N) = total isolates serotyped.

<sup>b</sup>Includes var. copenhagen and degraded form.



**Table 2. Salmonellosis Outbreaks in Los Angeles County, 1996**

Month	Outbreak Setting	Cases	Culture Positive	Serotype	Suspect Vehicle	Suspect Source
March	Retirement home	23	14	SE	Croissant sandwich	Turkey
June	Picnic	31	5	SE	Homemade ice cream	Eggs
June	Restaurant	11	6	SE	Various dishes	Chicken
July	Countywide	40	40	SM	Various dishes	Unknown
July	Private home	16	2	SE	Homemade egg rolls	Eggs
July	Restaurant	14	2	SE	Buffet item	Unknown
August	Church	100	29	SE	Korean egg dish	Eggs
August	Restaurant	10	1	SE	Tiramisu, Caesar salad	Eggs
August	Convalescent home	4	2	SR	Contaminated food	Unknown
Sep-tember	Hospital NICU*	4	4	SH	Person-to-person	Mother of case
<b>Total</b>	<b>10</b>	<b>253</b>	<b>105</b>			

\*NICU = Neonatal intensive care unit

SE= *Salmonella enteritidis*

SH= *Salmonella heidelberg*

SM= *Salmonella montevideo*

SR= *Salmonella reading*