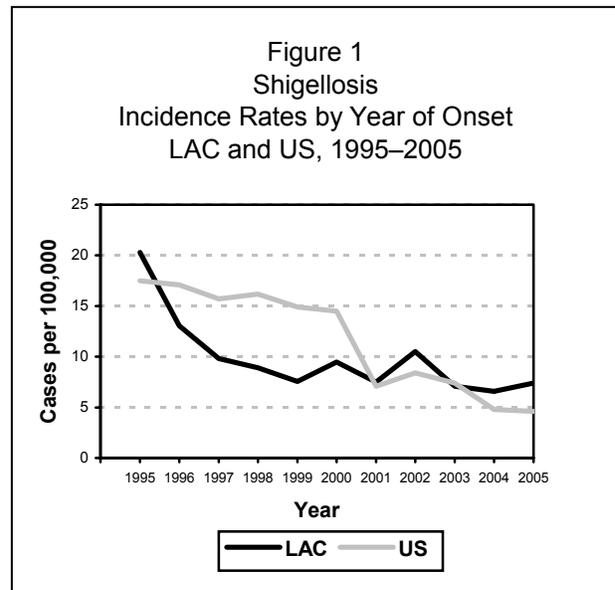




SHIGELLOSIS

CRUDE DATA	
Number of Cases	710
Annual Incidence ^a	
LA County	7.4
California	5.8
United States	4.6
Age at Diagnosis	
Mean	20.3
Median	11
Range	<1–89 years
Case Fatality	
LA County	<1%
United States	N/A

^a Cases per 100,000 population.



DESCRIPTION

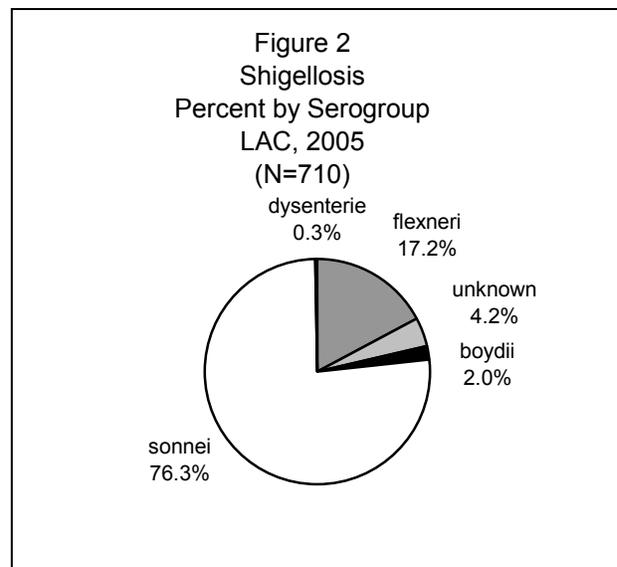
Shigellosis is caused by a Gram-negative bacillus with four main serogroups: *Shigella dysenteriae* (group A), *S. flexneri* (group B), *S. boydii* (group C) and *S. sonnei* (group D). Incubation period is 1-3 days. Transmission occurs when individuals fail to thoroughly wash their hands after defecation and spread infective particles to others, either directly by physical contact, including sexual behaviors, or indirectly by contaminating food. Infection may occur with ingestion of as few as 10 organisms. Common symptoms include diarrhea, fever, nausea, vomiting, and tenesmus. Stool may contain blood or mucous. In general, the elderly, the immunocompromised, and the malnourished are more susceptible to severe disease outcomes.

DISEASE ABSTRACT

- There was a 14% increase in reported cases in 2005 due to an increase in family clusters and outbreak related cases.
- Three shigellosis-associated outbreaks were investigated in 2005.

STRATIFIED DATA

Trends: There was a 14% increase in the number of cases during 2005. The rate had been decreasing since reaching a peak of 10.5 in 2002 but increased in 2005 (Figure 1). This may be due to an increase in family clusters and outbreak related cases.





Serotypes: In 2005, there was a significant decrease in the proportion of *S. flexneri* (n=122) when compared to 2004 (p<0.005). *S. sonnei* remains the dominant serotype (n=542). Other serotypes identified during 2005 include: *S. boydii* (n=14) and *S. dysenteriae* (n=3) (Figure 2). A few of the *S. boydii* cases (n=5, 36%) reported travel as possibly related to their exposure. The three reported cases of *S. dysenteriae* did not travel during the incubation period.

Seasonality: In 2005, incidence peaked in September and continued to stay above the five-year average through October (Figure 3). This was due primarily to two outbreaks and several large family clusters. The rate of travel related cases that occurred from July through September increased to 60% as compared to 43% in 2004.

Age: Children aged 1–4 years (29.5 per 100,000) and 5–14 (14.4 per 100,000) again had the highest rates; however, these rates were lower than the previous five-year average (Figure 4).

Race/Ethnicity: During 2005, Latinos aged 1–4 years again had the highest age-adjusted rate (Figure 5). For the third year, Latino infants and children aged 5–14 had higher age adjusted rates compared to other race ethnicities. Latinos aged 55 years and older also had higher age-adjusted rates compared to other race ethnicities. Overcrowding and living with extended family members plus the higher overall rate in Latinos may be possible causes.

Sex: The male-to-female rate ratio was 1:1. Men are still the preponderance group, however, the ratio has decreased compared to 2004 and with fewer MSM in 2005.

Location: The rates for SPA 4 (11.7 per 100,000) and SPA 6 (11.6 per 100,000) were again significantly higher than the county average (8.20 per 100,000). One outbreak each occurred in SPAs 2, 4, and 8. The majority of MSM cases (38%) were again seen in SPA 4.

Severity of Illness: Many of the reported shigellosis cases (17%) were hospitalized for at least two days. There was one shigellosis-associated death reported—a two year old girl with no history of medical problems.

Risk Factors: Exposure to a case inside or outside the household (26%, n=186) and foreign travel (23%, n=166) were the most commonly reported potential sources of infection. The majority of travel-associated illness (61%, n=102) involved visiting Mexico. In 2005, four percent of cases were in MSM compared to seven percent in 2004.

Figure 3
Shigellosis
Cases by Month of Onset
LAC, 2005

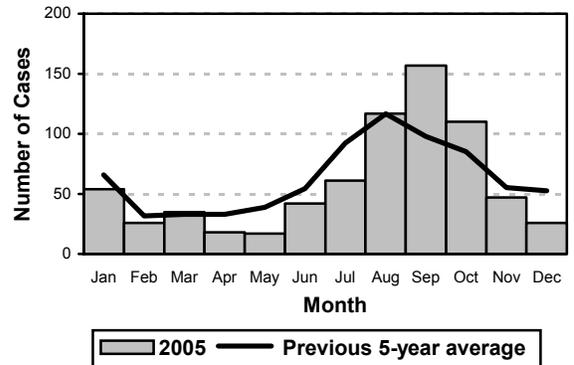


Figure 4
Shigellosis
Incidence Rates by Age Group
LAC, 2005

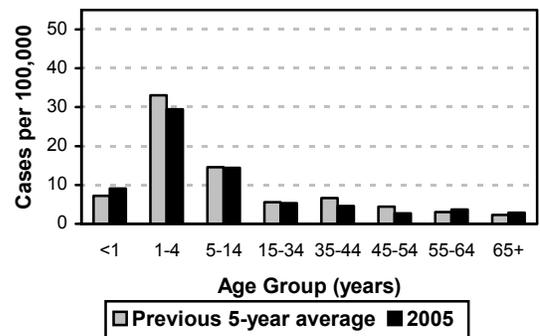
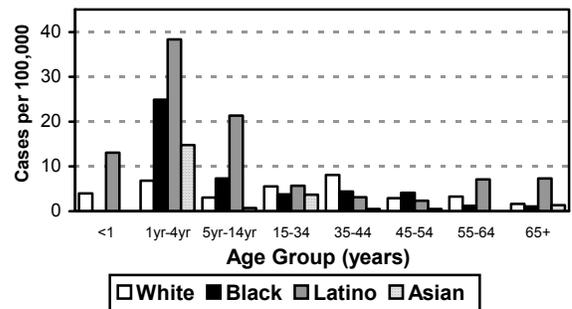


Figure 5
Shigellosis Incidence Rates
by Age Group and Race
LAC, 2005 (N=710)





PREVENTION

Careful hand washing is vital in preventing this disease. Young children or anyone with questionable hygiene should be monitored to promote compliance. Hand washing is especially important when out in crowded areas such as amusement parks or shopping malls. Ill children should not be allowed to swim or wade while ill with diarrhea; ill children in diapers should never be allowed in public swimming areas. Swimming or wading in areas not designated for such activities should be avoided, especially in areas where there are no toileting or hand washing facilities. In LAC, cases and symptomatic contacts in sensitive occupations or situations (e.g., food handling, daycare and healthcare workers) are routinely removed from work or the situation until they have culture negative stool specimens tested in the Public Health Laboratory.

COMMENTS

There were three shigellosis outbreaks investigated in 2005; all three were laboratory confirmed. Two were community outbreaks involving cases among extended family members and friends and a home day care operation. The third outbreak was travel related.

Eight LAC residents were involved with an out-of-state outbreak and five other cases were named as part of another investigation. Both of these outbreaks appeared to be from person-to-person transmission.

Certain sexual practices—especially those in which there is direct contact with fecal material—are a potential source of infection. There were 29 shigellosis cases reported in MSM. No links could be established among these cases. *S. flexneri* (55%) was again the predominant serotype in 2003 and 2004 for this risk group; in 2002 the predominant MSM serotype was *S. sonnei* (56%).

ADDITIONAL RESOURCES

General information about shigellosis is available at:
www.cdc.gov/ncidod/dbmd/diseaseinfo/shigellosis_g.htm

General information and reporting information about this and foodborne diseases in LAC is available at:
www.lapublichealth.org/acd/food.htm

Map 12. Shigellosis Rates by Health District, Los Angeles County, 2005*

