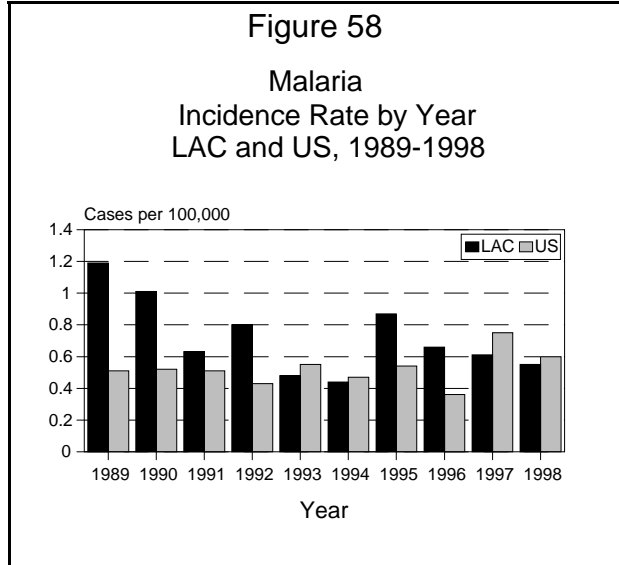


MALARIA

CRUDE DATA	
Number of Cases	50
Annual Incidence ^a	
LA County	0.61
California	1.26
United States	0.75
Age at Onset	
Mean	36
Median	36
Range	4-78 yrs
Case Fatality	
LA County	0.0%
United States	N/A

^aCases per 100,000 population.

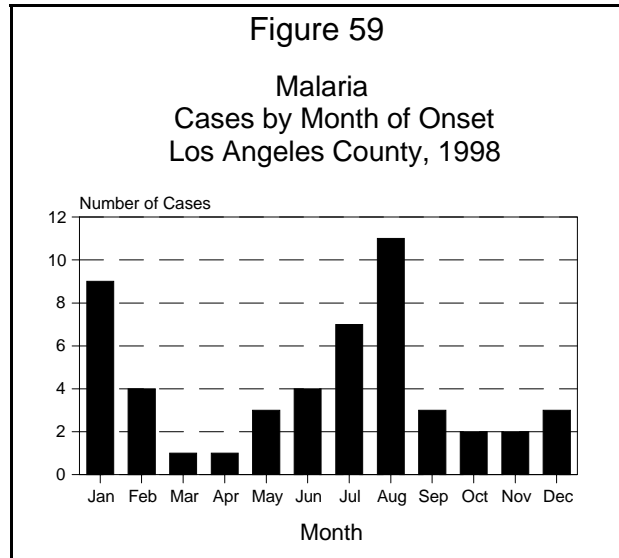


ETIOLOGY

Human malaria is caused by four species of the genus *Plasmodium*: *P. vivax*; *P. falciparum*; *P. malariae*; and *P. ovale*. Malaria is acquired from the bite of an infective female *Anopheles* mosquito.

DISEASE ABSTRACT

The incidence rate of malaria in Los Angeles County (LAC) decreased slightly in 1998 (Figure 58). Foreign travel by US residents increased as a risk factor from 1997 to 1998, climbing from 56% to 78% of cases. This was especially true for travel to Africa, which was responsible for just 18% of 1997 cases but 61% of cases reported in 1998 (Table 6).



STRATIFIED DATA

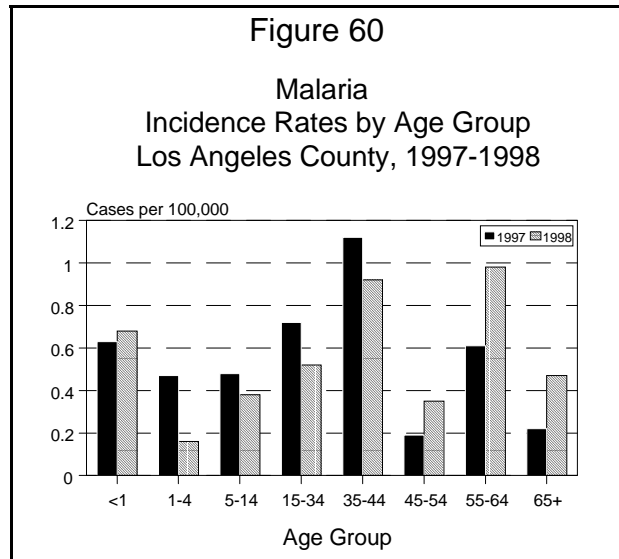
Seasonality: Malaria is not transmitted locally. However, travel to and from endemic areas during the northern hemisphere's summer may account for the higher number of cases reported in the summer and early winter (Figure 59).

Age: Malaria incidence was greatest among adults aged 55-64 years (Figure 60). Except for infants under 1 year of age, all groups below 45 years old had lower rates than the previous year.

Sex: The rate ratio of male-to-female cases was 2.3:1.

Race/Ethnicity: Malaria incidence (both for total cases and LAC residents) was highest among African nationals/Black Americans and Whites (Figure 61). All Asian and White cases were US residents traveling abroad; one third of Black cases (6 of 19) were African nationals.

Location: The Inglewood and West Valley Health Districts each had five residents acquire malaria; 8 of these 10 cases traveled for pleasure and did not avail themselves of prophylaxis prior to travel.

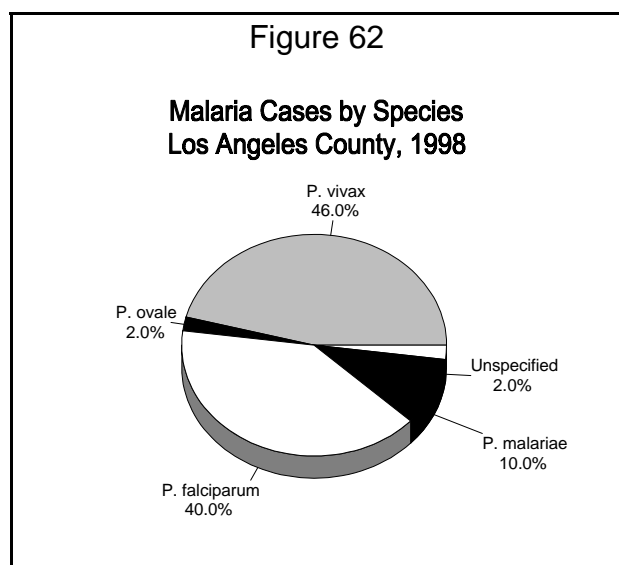
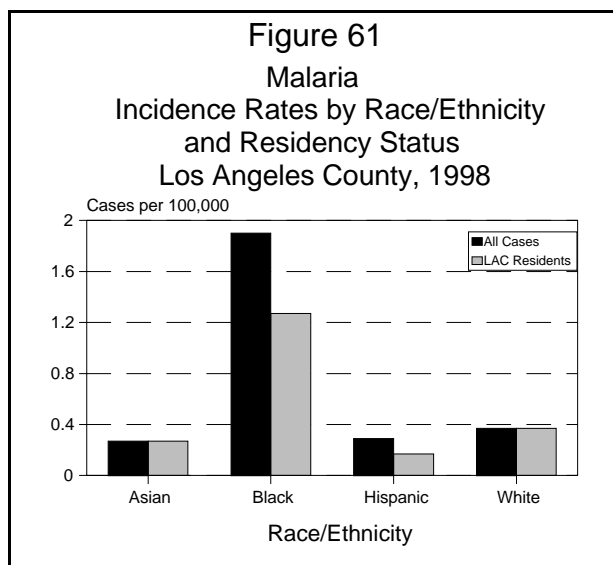


COMMENTS

Transmission of malaria locally, excluding congenital transmission and an occupationally acquired case, has not been documented in LAC since 1949.

Incidence rates that include cases among immigrants and foreign nationals overestimated the risk to local residents. Residency and/or reason for travel were available on 49 of the 50 malaria cases. Thirty-eight (78%) were LAC residents who traveled abroad either for work (13, 28%) or pleasure (23, 49%), and 11 (23%) were foreign nationals or new immigrants (Table 6).

Among malaria cases in US residents traveling abroad, Africa was the most common region visited (23, 61%), and Nigeria the most frequent destination (12, 52%). For cases among recent immigrants or visitors to the US, Nigeria was also the most common country of origin (4, 36%) (Table 6).



Antimalarial prophylaxis history was available for 37 of the 38 US resident cases (Table 7). Only 9 individuals (24%) took any form of prophylaxis. Work-related cases were more likely than tourist cases to take prophylaxis (42% vs. 17%).

The infecting malaria species was identified for 49 cases (98%) (Figure 62). Most cases were infected with *P. vivax* (23, 46%) or *P. falciparum* (20, 40%); *P. malariae* accounted for 10% of cases, while there was only one case of *P. ovale*. All but one *P. falciparum* infections were acquired in Africa (Table 6).

Table 6. Malaria Cases by Species, Residency Status and Travel Exposure, Los Angeles County, 1998*

Foreign Travel by US Residents		Recent Immigration or Visit to US by Non-US Residents	
Region/Country	Number of Cases (Species)**	Country	Number of Cases (Species)**
Africa			
Angola	1 (1F)	Congo	1 (1F)
Equatorial Guinea	1 (1M)	Nigeria	4 (2V, 1F, 1L)
Ghana	2 (2F)	Senegal	1 (1F)
Ivory Coast	2 (2F)		
Kenya	1 (1F)		
Liberia	2 (2F)		
Nigeria	12 (4V, 6F, 1M, 1N)		
Tanzania	1 (1F)		
Western Africa, unsp.	1 (1F)		
Latin America			
Costa Rica	1 (1M)	El Salvador	2 (2V)
El Salvador	1 (1V)	Guatemala	1 (1V)
Guatemala	2 (2V)		
Mexico	3 (2V, 1M)		
Nicaragua	1 (1V)		
Asia/Oceania			
India	3 (3V)	India	2 (2V)
Indonesia	2 (1M, 1V)		
New Guinea	1 (1F)		
Unknown	1 (1V)		
Total	38		11

* N=49; one case with unknown residency status.

**F = *P. falciparum*, L = *P. ovale*, M = *P. malariae*, N = not determined, V = *P. vivax*, unsp. = country unspecified

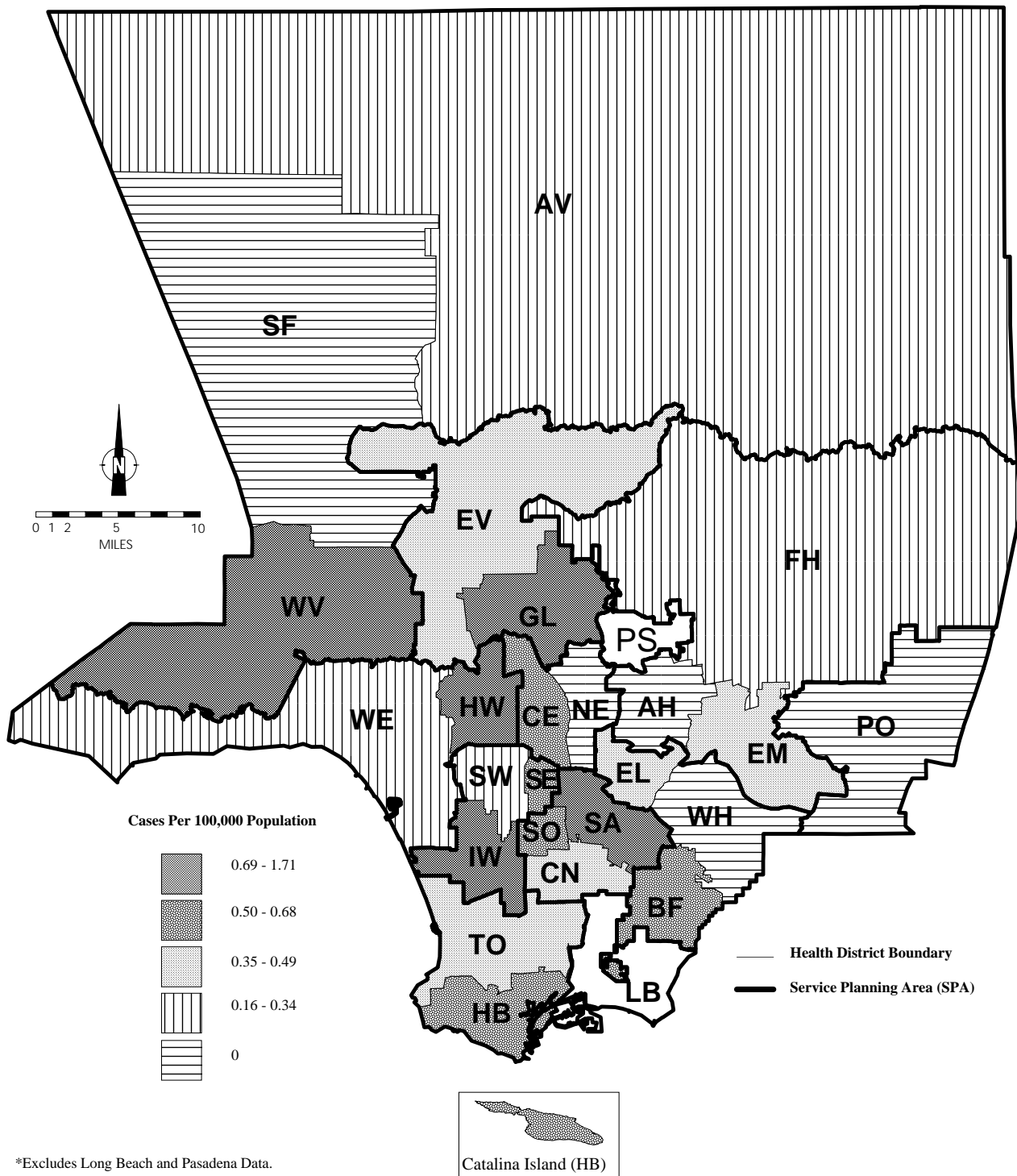
**Table 7. Malaria Cases by Residency Status, Reason for Travel,
Malaria Prophylaxis, and Previous Malaria History
Los Angeles County, 1998**

	US Residents			Non-US Residents
	Total US Residents	Travel for Work	Travel for Pleasure	Recent Immigrant or Foreign Visitor to US
Prophylaxis (%)	9/37 (24)	5/12 (42)	4/23 (17)	0*
Previous Malaria (%)	12/38 (32)	5/13 (38)	7/25 (28)	6/11 (55)

*Natives of malaria-endemic countries generally do not take pre-exposure prophylaxis.

MAP 7. Malaria

Rates by Health District, Los Angeles County, 1998*



*Excludes Long Beach and Pasadena Data.