AMEBIASIS

CRUDE DATA	
Number of Cases	64
Annual Incidence[a]	
LA County	0.68
California[b]	0.70
United States[c]	N/A
Age at Diagnosis	
Mean	39
Median	37
Range	<1–76 years

[a]Cases per 100,000 population.
[b]Not available as of Aug 15, 2015.
[c]Not notifiable.

DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water. It also can be transmitted from person-to-person through fecal-oral spread. The incubation period for amebiasis is 1 to 4 weeks. Recreational waters such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. Intestinal disease is often asymptomatic. When symptoms occur, they may range from acute abdominal pain, fever, chills and bloody diarrhea, to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colon perforation.

Visual inspection of stool for ova and parasites in the microbiology laboratory cannot differentiate between pathogenic *E. histolytica* and non-pathogenic *E. dispar*. Clinicians frequently order stool inspection for ova and parasites for persons with enteric symptoms, particularly those who have been involved in recreational activities (e.g., hiking), travel, persons with HIV and men who have sex with men (MSM). Within LAC DPH, stool ova and parasite specimens are frequently collected on new refugees as part of established CDC health screening guidelines despite the lack of significant gastrointestinal symptoms. Since many clinicians only obtain visual inspection of stool for ova and parasites without pursuing more specific Enzyme Immunoassay (EIA) stool antigen testing which can differentiate between *E. histolytica* and *E. dispar*, many reports may be of persons infected with the non-pathogenic *E. dispar*, leading to an overestimation of *E. histolytica* infection.

Cases of amebiasis are reportable at the state and local level and surveillance is enhanced through electronic laboratory reporting which captures EIA, microscopic or serologically confirmed amebiasis cases from selected participating hospital and commercial laboratories.

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands. Individuals with diarrheal illness should avoid swimming in recreational waters to prevent transmission to others. Fecal exposure during sexual activity, anal intercourse and oral-anal sexual practices, should also be avoided. There is no vaccine available for disease prevention.

2014 TRENDS AND HIGHLIGHTS

- In 2013, the LAC DPH's protocol changed to count only symptomatic persons with suspected gastrointestinal and/or extra-intestinal amebiasis with laboratory evidence of *E. histolytica*. In 2014, the LAC DPH continued to count only laboratory confirmed symptomatic infections as confirmed cases of *Entamoeba histolytica*.
- While the 2014 incidence rate was slightly higher than 2013, there was a 62% decrease in the incidence from a mean of 1.13/100,000 in 2010-12 to 0.68/100,000 in 2014. The decrease in incidence is likely due to the change in case definition that occured in 2013.
- In 2014, clinical and laboratory findings documented one case with extraintestinal infection with evidence of amoebic abscesses in the liver.
- The greatest incidence of amebiasis was in <1 year olds (1.7 cases per 100,000) followed by those 35–44 years of age (1.3 cases per 100,000) (Figure 2).
- The greatest incidence of amebiasis occurred among whites and blacks (0.9 cases per

100,000) respectively, and followed by Hispanics (0.6 cases per 100,000) (Figure 6).

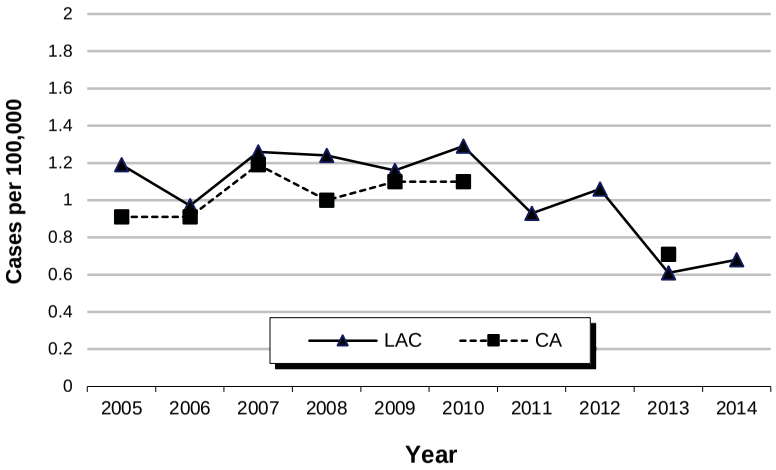
- The highest amebiasis incidence rates was documented within Service Planning Area (SPA) 4 (1.7 per 100,000) and SPA 5 had the second higestest incidence of cases (1.1 per 100,000). (Figure 4). Across the remaining 6 SPAs incidence of amebiasis cases were consistent, suggesting even geographical distribution of cases. Reasons for the higher incidence in SPA 4 may be attributable to a higher rate of MSM in that region.
- The number of cases peaked in March and this was consistent with previous five-year average (Figure 5).
- Consistent with previous years, males comprised the majority (81%) of reported cases in 2014. The incidence rate of males was 4 times greater than females, with 1.1 and 0.3 cases per 100,000, respectively.
- Risk factor information was available for all cases reported in 2014. More than one risk factor was identified for several cases. The most frequently reported risk factor was contact with animals, predominantly exposure to dogs (28%), followed by MSM (27%), travel to another country (19%), exposure to recreational water (16%), and consumption of raw cheese from Mexico (11%). Additional reported risk factors were recent refugee/immigrants and hiking (9%) respectively, drinking untreated water, cololonic procedure, diaper exposure, and camping.

Reported Amebiasis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2010–2014

	2010 (N=119)			2011 (N=86)			2012 (N=99)			2013 (N=57)			2014 (N=64)		
	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	0	-	-	1	1.1	0.7	0	-	-	0	-	-	2	3.1	1.7
1-4	5	4.2	0.9	1	1.1	0.2	1	1	0.2	0	-	-	1	1.6	0.2
5-14	8	6.7	0.6	4	4.7	0.3	5	5.1	0.4	0	-	-	3	4.7	0.2
15-34	38	31.9	1.3	26	30.2	0.9	33	33.3	1.2	18	31.6	0.6	19	29.7	0.7
35-44	25	21	1.7	17	19.8	1.2	24	24.2	1.8	13	22.8	1	17	26.6	1.3
45-54	25	21	1.8	15	17.4	1.1	18	18.2	1.4	21	36.8	1.6	12	18.8	0.9
55-64	11	9.2	1.1	9	10.4	0.9	9	9.1	0.9	3	5.3	0.3	4	6.3	0.4
65+	7	5.9	0.7	13	15.1	1.2	9	9.1	0.8	2	3.5	0.2	6	9.4	0.5
Race / Ethnicity															
Asian	2	1.9	0.2	1	1.1	0.1	6	6.1	0.5	3	5.3	0.2	5	7.8	0.4
Black	0	-	-	7	8.1	0.8	4	4	0.5	2	3.5	0.3	7	10.9	0.9
Hispanic	37	34.6	0.8	40	46.5	0.8	39	39.4	0.9	17	29.8	0.4	26	40.9	0.6
White	43	40.2	1.5	27	31.5	0.9	33	33.3	1.2	34	59.6	1.3	23	35.9	0.9
Other	1	0.9	-	2	2.3	-	0	-	-	0	-	-	0	-	-
Unknown	24	22.5	-	9	10.5	-	17	17.2		1	1.8		3	-	-
SPA															
1	2	1.9	0.5	0	-	-	1	1	0.3	1	1.8	0.3	2	3.1	0.5
2	49	45.8	2.2	25	29	1.1	29	29.3	1.4	21	36.8	1	13	20.3	0.6
3	9	8.4	0.5	7	8.1	0.4	4	4	0.2	5	8.8	0.3	7	10.9	0.4
4	18	16.8	1.4	20	23.3	1.6	25	25.3	2.2	13	22.7	1.1	19	29.7	1.7
5	8	7.5	1.2	6	7	0.9	8	8.1	1.3	8	14	1.2	7	10.9	1.1
6	4	3.7	0.4	13	15.1	1.2	13	13.1	1.3	3	5.3	0.3	4	6.3	0.4
7	12	11.2	0.9	10	11.6	0.7	15	15.2	1.2	3	5.3	0.2	7	10.9	0.5
8	3	2.8	0.3	4	4.7	0.4	4	4	0.4	3	5.3	0.3	5	7.8	0.5
Unknown	0	-	-	1	1.2	-	0	-	-	0	-	-	0	-	-

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Amebiasis CA and LAC, 2005-2014 *



* No data was collected for CA for 2011-2014.

Figure 2. Incidence Rates of Amebiasis by Age Group LAC, 2014 (N=64)

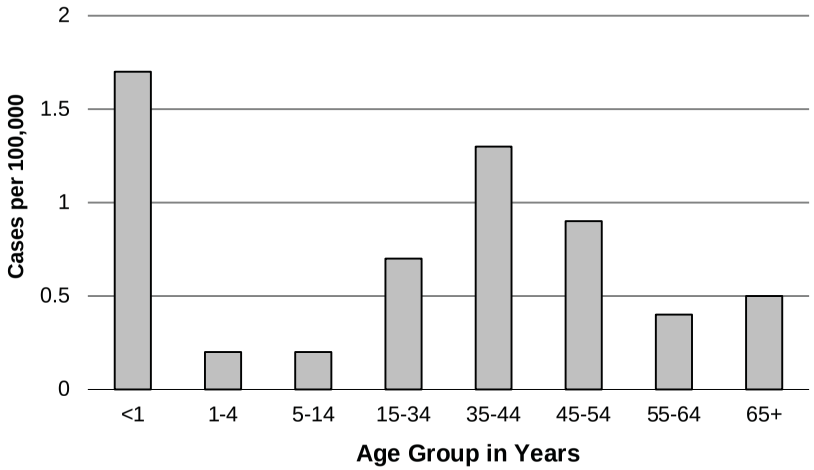


Figure 3. Percent Cases of Amebiasis by Race/Ethnicity LAC, 2014 (*N=64)

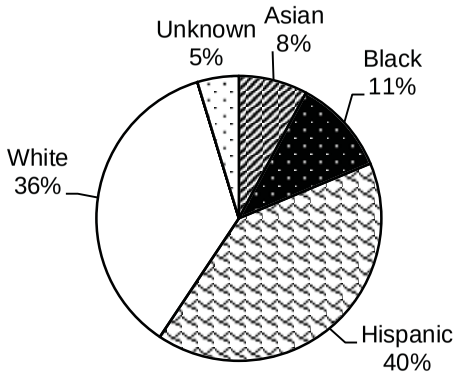
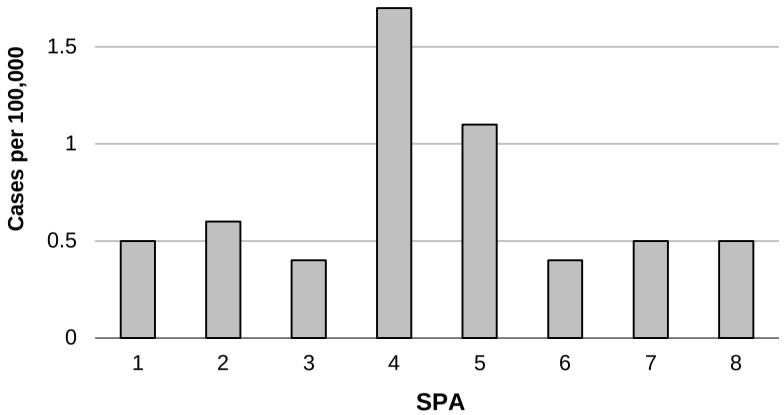


Figure 4. Incidence Rates of Amebiasis by SPA LAC, 2014 (N=64)



* Other includes Native American and any additional racial/ethnic group that cannot be categorized as Asian, black, Hispanic, and white.

Figure 5. Reported Amebiasis Cases by Month of Onset LAC, 2014 (N=64)

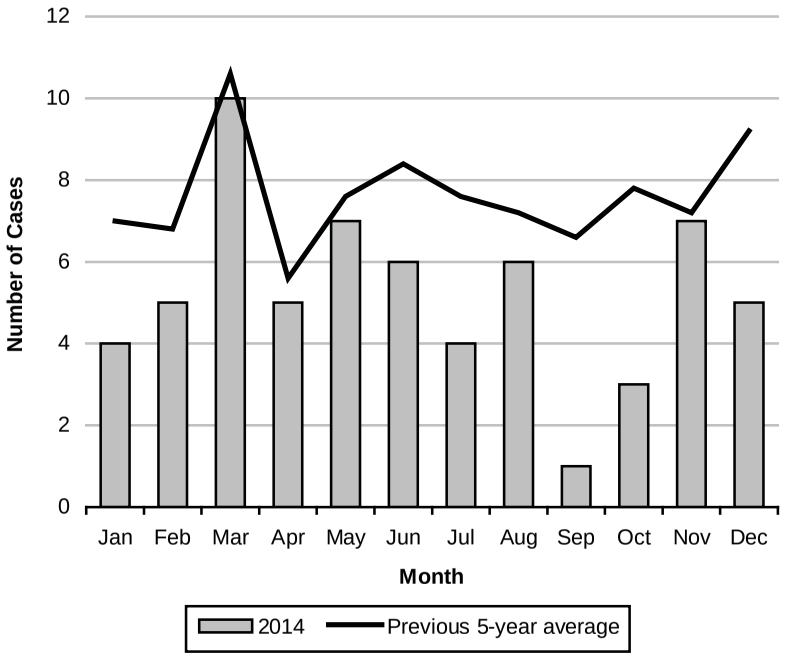
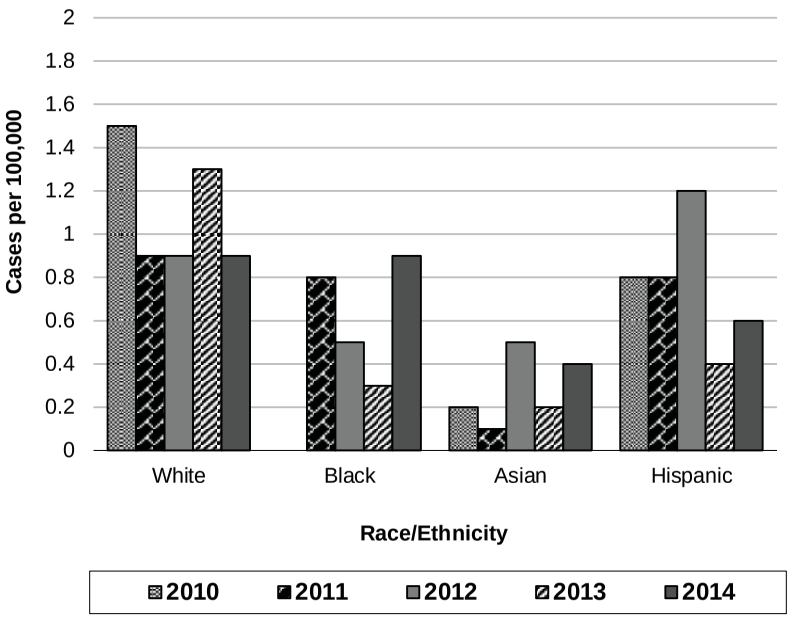
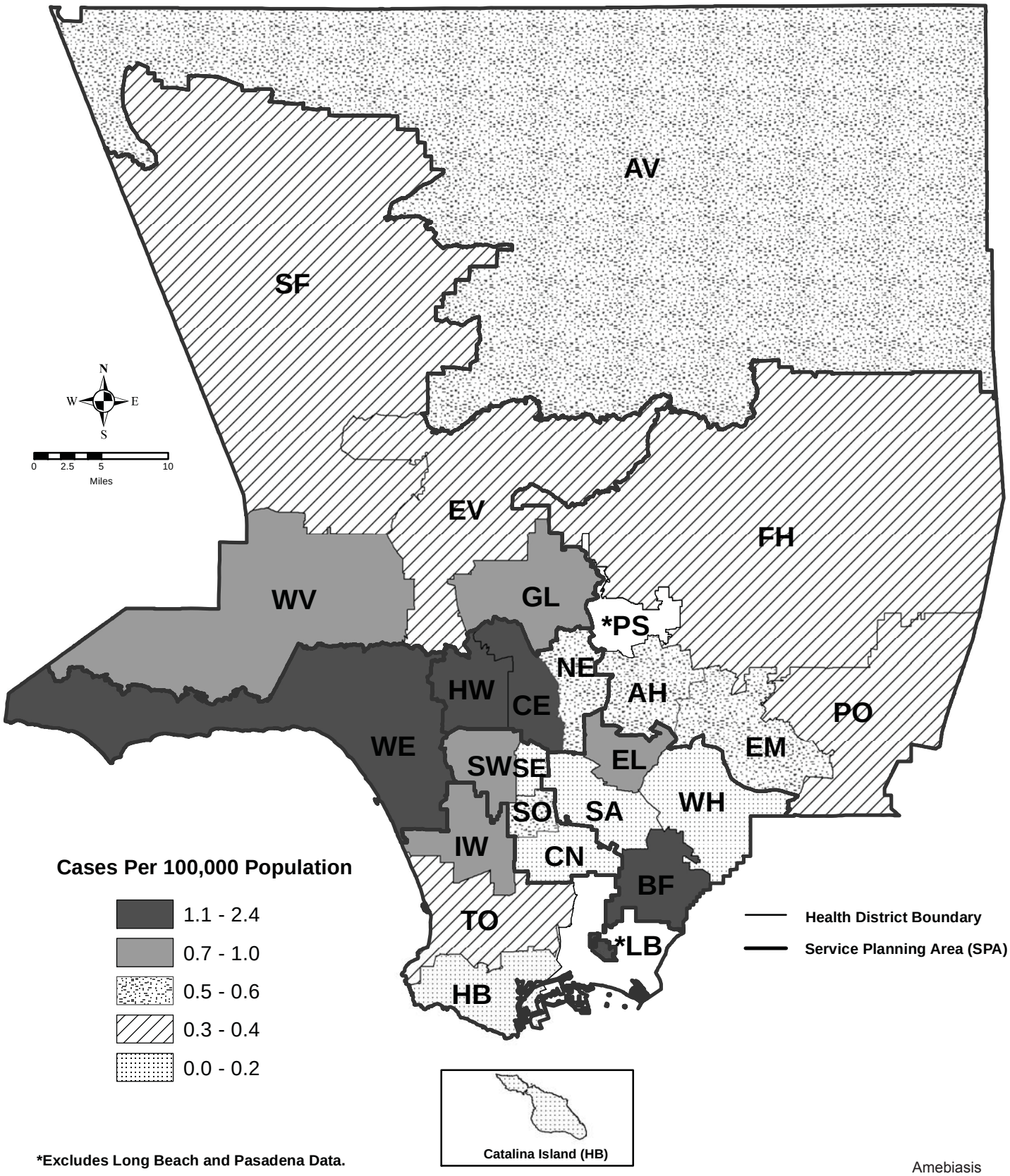


Figure 6. Incidence Rate of Amebiasis by Race/Ethnicity LAC, 2010-2014, 2014 (N=64)



Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2014*



*Excludes Long Beach and Pasadena Data.

AMEBIASIS

CRUDE DATA	
Number of Cases	57
Annual Incidence[a]	
LA County	0.61
California[b]	0.71
United States[c]	N/A
Age at Diagnosis	
Mean	41
Median	42
Range	21 - 81

[a]Cases per 100,000 population.
[b]http://www.cdph.ca.gov/data/statistics/Documents/ProvisionalIDBCaseCountsbyMonthandLHJ2013.pdf
cNot Notifiable

DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water. It is spread through food or water contaminated with fecal material. It can be spread from person to person, particularly by contact with the mouth or rectal area of an infected person. The incubation period for amebiasis is 1 to 4 weeks. Recreational waters such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. While intestinal disease is often asymptomatic, symptoms may range from acute abdominal pain, fever, chills, and bloody diarrhea to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colonic perforation.

Visual inspection of stool for ova and parasites in the microbiology laboratory cannot differentiate between pathogenic *E. histolytica* and non-pathogenic *E. dispar*. Many clinicians only obtain visual inspection of ova and parasites testing without pursuing more specific EIA stool antigen testing which can differentiate between *E. histolytica* and *E. dispar*. Many case reports lack complete testing with stool antigens, thus many infections may represent infection with the non-pathogenic *E. dispar*, thus leading to an overestimation of E. histolytica infection.

Cases of amebiasis are reportable at the state and local level and surveillance is enhanced through electronic laboratory reporting which captures EIA, microscopic or serologically confirmed amebiasis cases from selected participating hospital and commercial laboratories.

Clinicians frequently order stool inspection for ova and parasites for persons with enteric symptoms who have been involved in recreational activities (e.g., hiking), travelers, persons with HIV and men who have sex with men (MSM). Within LAC DPH, stool ova and parasite specimens are frequently collected on new refugees as part of established CDC health screening guidelines despite the lack of significant gastrointestinal symptoms..

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands. Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased. There is no vaccine available for disease prevention.

2013 TRENDS AND HIGHLIGHTS

- In 2013, the LAC DPH's protocol changed to count only laboratory confirmed symptomatic infections as confirmed cases of Entamoeba histolytica.
- From 2012 to 2013, the overall incidence rate of amebiasis decreased from 1.06 to 0.61 cases per 100,000 population. This decrease is most likely due to the change in case definition of amebiasis.
- In 2013, (55, 96%) amebiasis cases were diagnosed by visual inspection of stool for ova and parasites with no EIA testing and (2, 4%) cases were identified by serology testing. Fifty five cases had intestinal amebiasis. Clinical and laboratory findings documented two cases with extraintestinal amebiasis with evidence of amoebic abscesses in the liver and appendix.
- The largest proportion of cases was in the 45 to 54 age group (21, 37%), consistent with previous years (Figure 2).

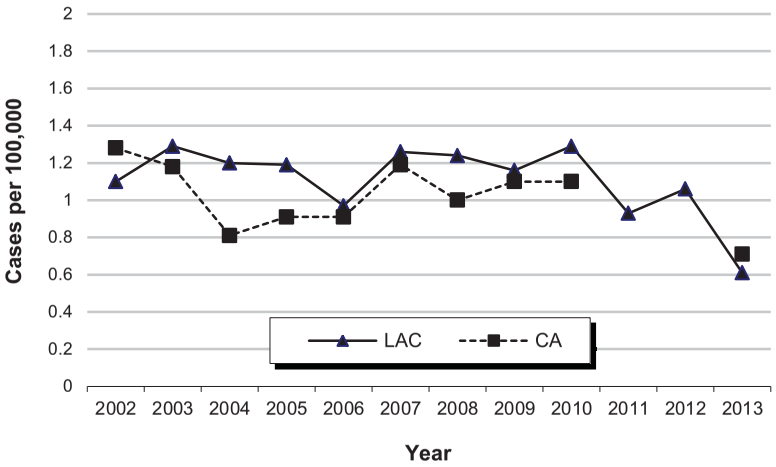
- A greater proportion of cases were reported among whites (34, 60%) and Hispanics (17, 30%). This was consistent with previous years.
- Service Planning Area (SPA) 2 had the largest proportion of reported amebiasis cases (21, 37%) compared to other SPAs. SPA 4 had the second largest proportion of cases (13, 23%) while SPA 5 had the highest incidence rate of amebiasis (1.2 cases per 100,000). About 50% of the reported cases in SPA 5 indicated travel as a risk factor. (Figure 4).
- The number of cases peaked in December (8, 14%) compared to the previous five-year average when cases peaked in March). The spike in numbers may be associatied with increased travel and high risk sexual behaviors that may occur during the holiday season as 50% of cases reported in December were MSM and the other 50% reported travel outside the US. (Figure 5).
- Consistent with previous years, males (47, 82%) comprised the majority of reported cases in 2013. The incidence rate of males was 5 times greater than females, with 1.0 and 0.2 cases per 100,000 for males and females respectively.
- Risk factor information was available for all cases reported in 2013. The most frequently reported risk factor was men who have sex with men (MSM) with (23, 40%) cases reported. This was consistent with 2012 which had (39, 40%) MSM cases reported. Immigration to the US was frequently reported as a risk factor (19, 33%), of which Iraq (4, 21%) and Mexico (3, 16%) were the most frequently reported countries of origin. Twenty (35%) cases were reported as having travelled to another country, of which Mexico was the most frequently reported destination (6, 30%).

Reported Amebiasis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2009 - 2013

	2009 (N=107)			2010 (N=119)			2011 (N=86)			2012 (N=99)			2013 (N=57)		
	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	0	0	0.0	0	0	0.0	1	1.1	0.	0	0	0.0	0	0	0
1-4	1	0.9	0.2	5	4.2	0.9	1	1.1	0.	1	1.0	0.2	0	0	0
5-14	6	5.6	0.4	8	6.7	0.6	4	4.7	0.	5	5.1	0.4	0	0	0
15-34	3	30.	1.2	38	31.	1.3	26	30.2	0.	33	33.3	1.2	18	31.6	0.6
35-44	2	21.	1.5	25	21	1.7	17	19.8	1.	24	24.2	1.8	13	22.8	1.0
45-54	2	20.	1.6	25	21	1.8	15	17.4	1.	18	18.2	1.4	21	36.8	1.6
55-64	1	13.	1.5	11	9.2	1.1	9	10.4	0.	9	9.1	0.9	3	5.3	0.3
65+	8	7.5	0.8	7	5.9	0.7	13	15.1	1.	9	9.1	0.8	2	3.5	0.2
Race/ Ethnicity															
Asian	7	6.1	0.5	2	1.9	0.2	1	1.1	0.	6	6.1	0.5	3	5.3	0.2
Black	3	2.6	0.4	0	0.0	0.0	7	8.1	0.	4	4.0	0.5	2	3.5	0.3
Hispanic	3	31.	0.8	37	34.	0.8	40	46.5	0.	39	39.	0.9	17	29.	0.4
White	5	48.	1.9	43	40.	1.5	27	31.5	0.	33	33.	1.2	34	59.	1.3
Other	4	3.5	16.2	1	0.9		2	2.3		0	0.0		0	0	
Unknown	9	7.8		24	22.		9	10.5		17	17.		1	1.8	
SPA															
1	1	0.9	0.3	2	1.9	0.5	0	0.0		1	1.0	0.3	1	1.8	0.3
2	5	45.	2.4	49	45.	2.2	25	29.	1.	29	29.	1.4	21	36.8	1.0
3	1	12.	0.8	9	8.4	0.5	7	8.1	0.	4	4.0	0.2	5	8.8	0.3
4	1	14.	1.3	18	16.	1.4	20	23.	1.	25	25.	2.2	13	22.7	1.1
5	6	5.2	0.9	8	7.5	1.2	6	7.0	0.	8	8.1	1.3	8	14.0	1.2
6	1	9.6	1.0	4	3.7	0.4	13	15.	1.	13	13.	1.3	3	5.3	0.3
7	7	6.1	0.5	12	11.	0.9	10	11.	0.	15	15.	1.2	3	5.3	0.2
8	7	6.1	0.6	3	2.8	0.3	4	4.7	0.	4	4.0	0.4	3	5.3	0.3
Unknown	0	0.0		0	0.0		1	1.2	-	0	0.0				

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Amebiasis CA and LAC, 2002 - 2013 *



* No data was collected for CA for 2011 and 2012.

Figure 2. Proportion of Amebiasis Cases by Age Group LAC, 2013, N=57

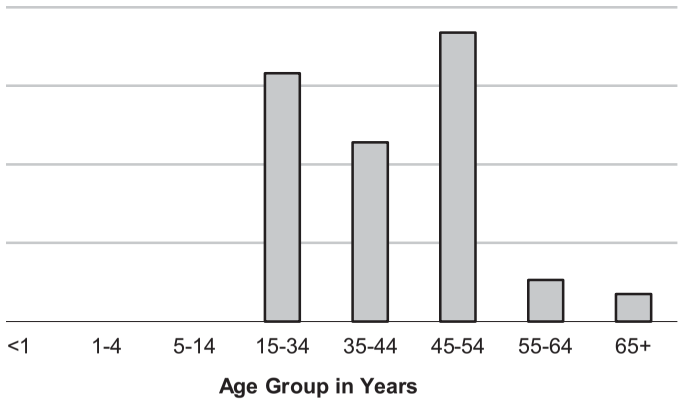


Figure 3. Percent Cases of Amebiasis by Race/Ethnicity LAC, 2013, N=57

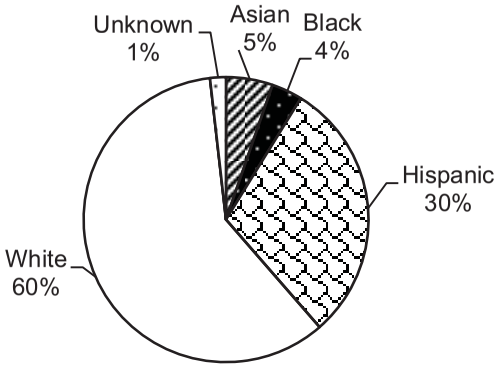
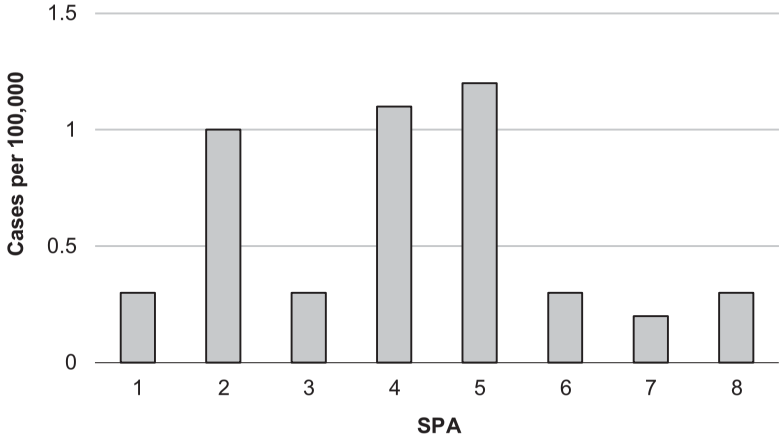


Figure 4. Incidence Rates of Amebiasis by SPA LAC, 2013, N=57



* Other includes Native American and any additional racial/ethnic group that cannot be categorized as Asian, black, Hispanic, and white.

Figure 5. Reported Amebiasis Cases by Month of Onset
LAC, 2013

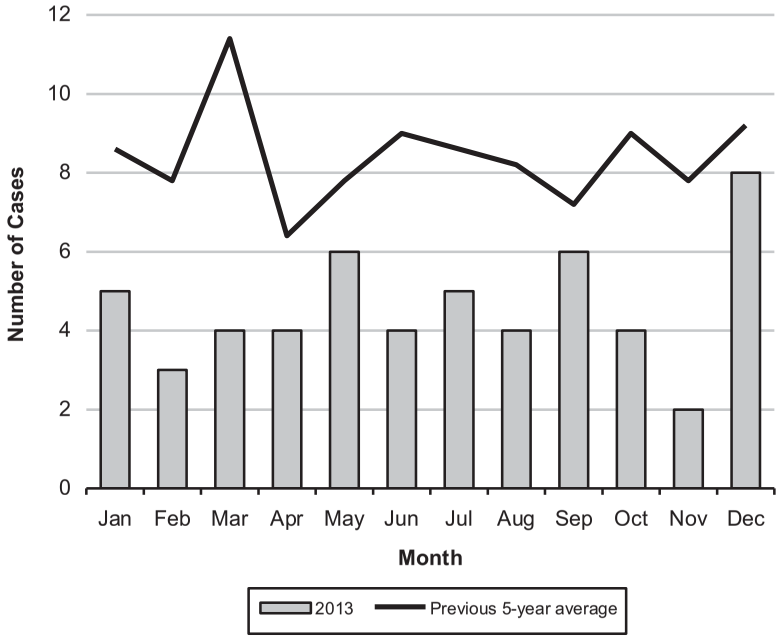
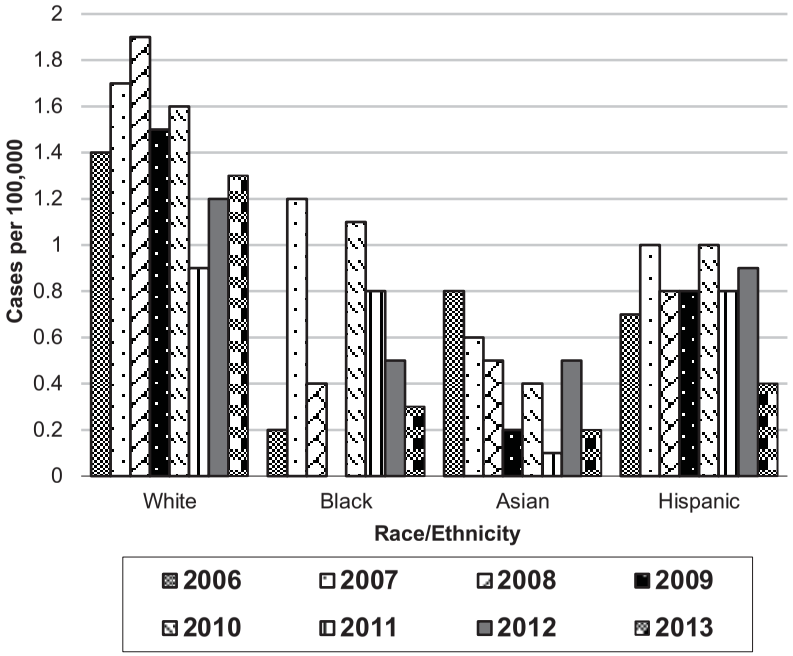
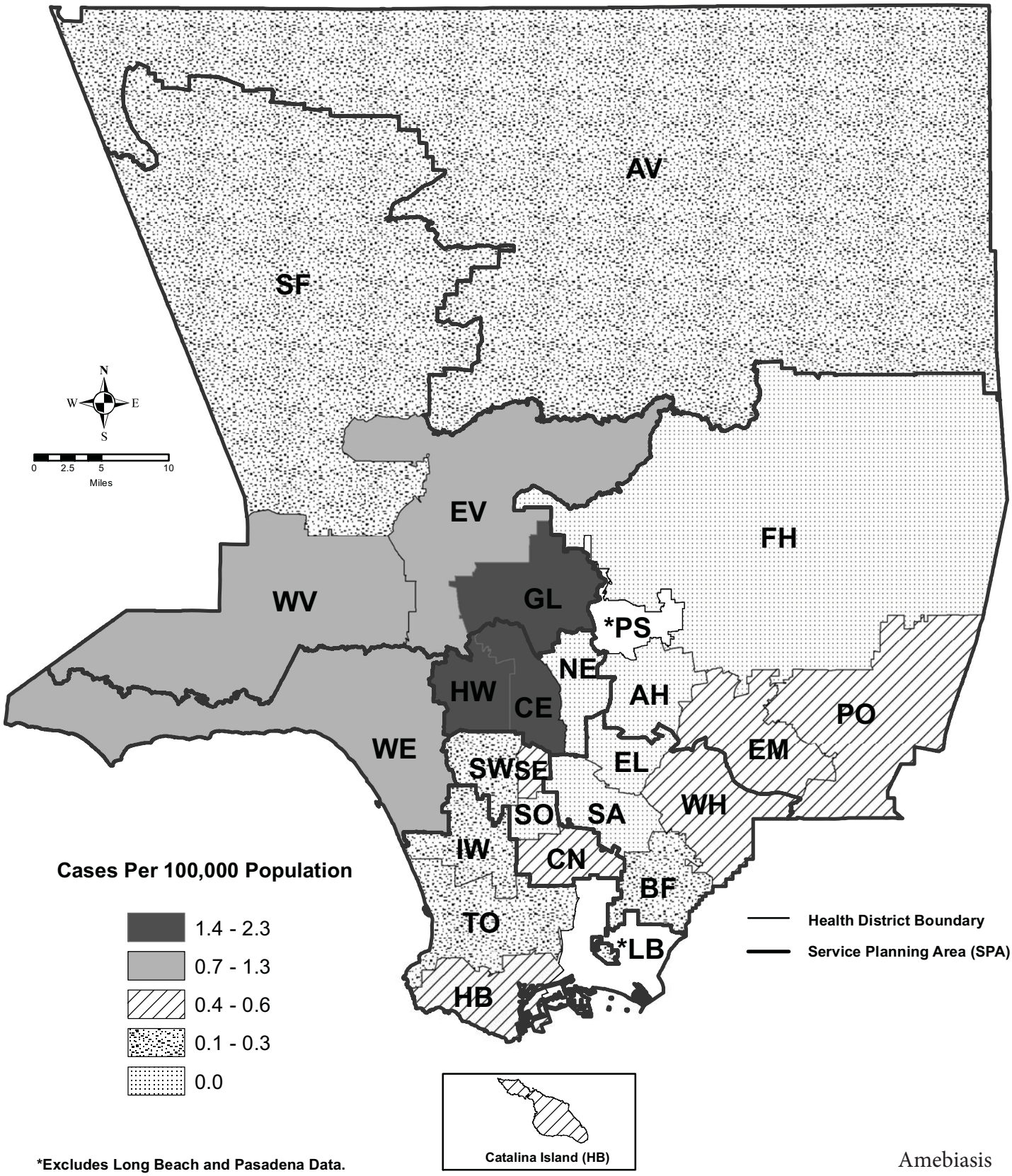


Figure 6. Amebiasis Incidence by Race/Ethnicity
LAC, 2006-2013, N=57



Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2013*



*Excludes Long Beach and Pasadena Data.

AMEBIASIS

CRUDE DATA	
Number of Cases	99
Annual Incidence[a]	
LA County	1.06
California[b]	--
United States	N/A
Age at Diagnosis	
Mean	40
Median	39
Range	4 - 96

[a]Cases per 100,000 population.

DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water or be transferred sexually, on hands, or fomites. Incubation period is 1 to 4 weeks. Recreational waters, such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. While intestinal disease is often asymptomatic, symptoms may range from acute abdominal pain, fever, chills, and bloody diarrhea to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colonic perforation. There is no vaccine.

Visual inspection of stool for ova and parasites in the microbiology laboratory cannot differentiate between pathogenic *E. histolytica* and non-pathogenic *E. dispar*. Many clinicians only obtain ova and parasite testing without pursuing more specific EIA stool antigen testing which can differentiate between *E. histolytic* and *E. dispar*. Many case reports lack complete testing with stool antigens, thus many infections may represent infection with the non-pathogenic *E. dispar*, thus leading to an overestimation of E. histolytic infection.

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands.

Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased.

2012 TRENDS AND HIGHLIGHTS

- From 2011 to 2012, the overall incidence rate of amebiasis increased slightly from 0.93 to 1.06 cases per 100,000 population.
- The largest proportion of cases was in the 15 to 34 year age group (33, 33%), consistent with previous years (Figure 2).
- Consistent with prior years, a greater proportion of cases were reported in Hispanics (39, 39%) compared to whites (33, 33%).
- Service Planning Area (SPA) 2 had the largest proportion of reported amebiasis cases (29, 29%) compared to other SPAs in 2012. SPA 4 had the second largest proportion of cases (25, 25%) and highest incidence rate of amebiasis (2.2 cases per 100,000) (Figure 4).
- The number of cases reported in 2012 peaked in March and July with fourteen and thirteen cases, respectively, in comparison to the previous five-year average cases peaked in March and October (Figure 5).
- Males comprised the majority of reported cases which is consistent with previous years. In 2012, the incidence rates were 1.5 per 100,000 for males and 0.6 per 100,000 for females compared to 1.1 per 100,000 for males and 0.7 per 100,000 for females in 2011.
- Risk factor information was available for 98% of the cases reported in 2012. The most frequently reported risk factor was immigration to the US (31, 31%). Of those, immigrants from Iraq (13, 42%) and Mexico (10, 32%) were the most frequently reported countries of origin. Twenty-two cases were reported to have travelled to another country. Mexico was the most frequently travelled destination (7, 32%).

Reported Amebiasis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2007-2012

	2008 (N=115)			2009 (N=107)			2010 (N=119)			2011 (N=86)			2012 (N=99)		
	No.	(%)	Rate/	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	0	0.0	0.0	0	0	0.0	0	0	0.0	1	1.1	0.7	0	0	0.0
1-4	1	0.9	0.2	1	0.9	0.2	5	4.2	0.9	1	1.1	0.2	1	1.0	0.2
5-14	8	7.0	0.6	6	5.6	0.4	8	6.7	0.6	4	4.7	0.3	5	5.1	0.4
15-34	37	32.2	1.3	33	30.	1.2	38	31.	1.3	26	30.	0.9	33	33.3	1.2
35-44	26	22.6	1.7	23	21.	1.5	25	21	1.7	17	19.	1.2	24	24.2	1.8
45-54	22	19.1	1.6	22	20.	1.6	25	21	1.8	15	17.	1.1	18	18.2	1.4
55-64	12	10.4	1.3	14	13.	1.5	11	9.2	1.1	9	10.	0.9	9	9.1	0.9
65+	9	7.8	0.9	8	7.5	0.8	7	5.9	0.7	13	15.	1.2	9	9.1	0.8
Race/ Ethnicity															
Asian	8	6.6	0.6	7	6.1	0.5	2	1.9	0.2	1	1.1	0.1	6	6.1	0.5
Black	10	8.2	1.2	3	2.6	0.4	0	0.0	0.0	7	8.1	0.8	4	4.0	0.5
Hispanic	44	36.1	1.0	36	31.	0.8	37	34.	0.8	40	46.	0.8	39	39.4	0.9
White	50	41.0	1.7	56	48.	1.9	43	40.	1.5	27	31.	0.9	33	33.3	1.2
Other	8	6.6	38.4	4	3.5	16.	1	0.9		2	2.3		0	0.0	
Unknown	2	1.6		9	7.8		24	22.		9	10.		17	17.2	
SPA															
1	6	4.9	1.7	1	0.9	0.3	2	1.9	0.5	0	0.0		1	1.0	0.3
2	51	41.8	2.4	52	45.	2.4	49	45.	2.2	25	29.	1.1	29	29.3	1.4
3	14	11.5	0.8	14	12.	0.8	9	8.4	0.5	7	8.1	0.4	4	4.0	0.2
4	16	13.1	1.3	17	14.	1.3	18	16.	1.4	20	23.	1.6	25	25.3	2.2
5	9	7.4	1.4	6	5.2	0.9	8	7.5	1.2	6	7.0	0.9	8	8.1	1.3
6	8	6.6	0.8	11	9.6	1.0	4	3.7	0.4	13	15.	1.2	13	13.1	1.3
7	11	9.0	0.8	7	6.1	0.5	12	11.	0.9		11.	0.7	15	15.2	1.2
8	6	4.9	0.5	7	6.1	0.6	3	2.8	0.3	4	4.7	0.4	4	4.0	0.4
Unknown	1	0.8		0	0.0		0	0.0		1	1.2	-	0	0.0	

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Amebiasis
CA and LAC, 2002 - 2012

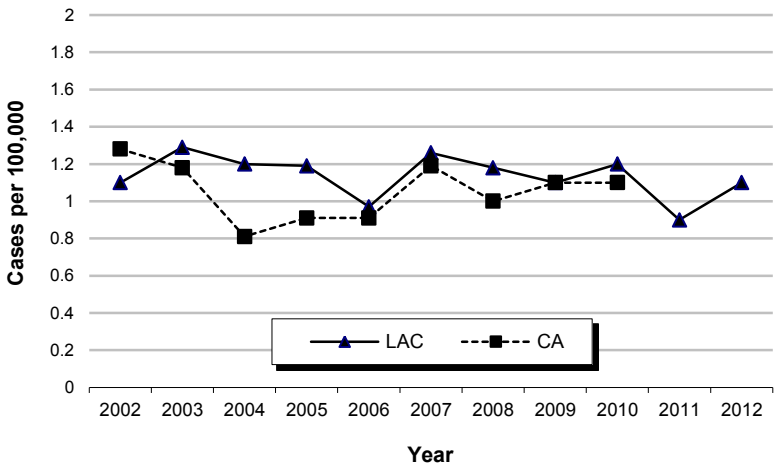


Figure 2. Proportion of Amebiasis Cases by Age Group
LAC, 2012, N=99

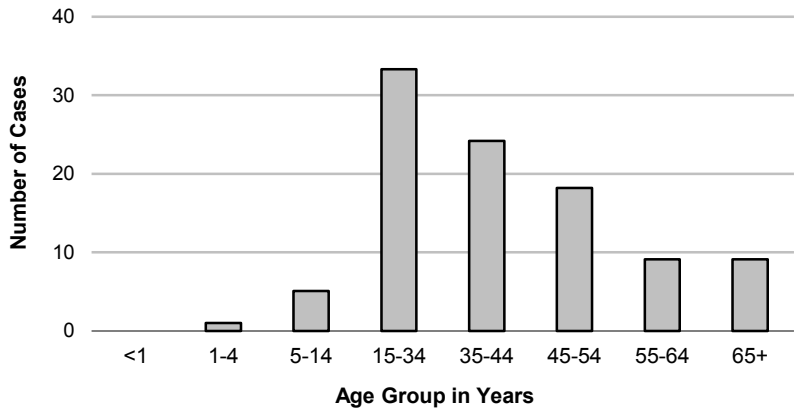


Figure 3. Percent Cases of Amebiasis by Race/Ethnicity
LAC, 2012, N=99

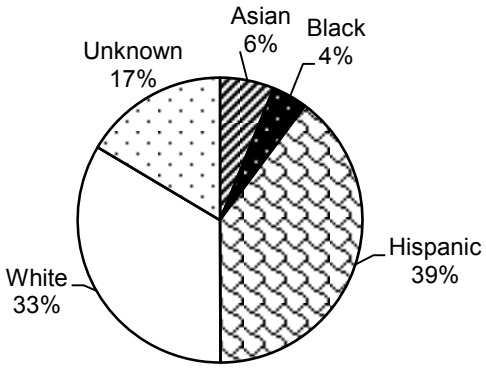
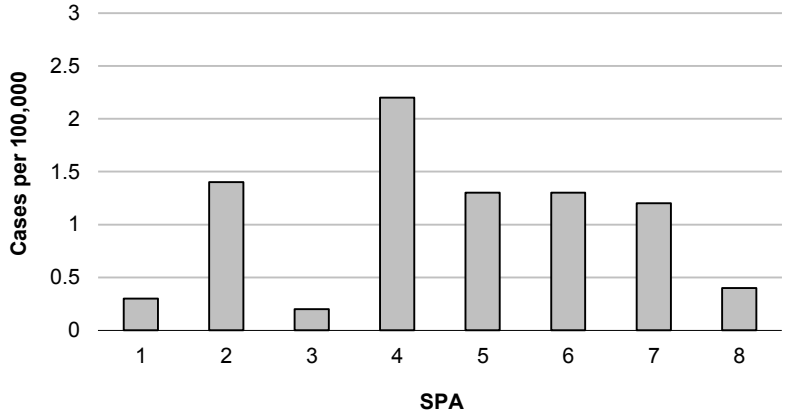


Figure 4. Incidence Rates of Amebiasis by SPA
LAC, 2012



* Other includes Native American and any additional racial/ethnic group that cannot be categorized as Asian, black, Hispanic, and white.

Figure 5. Reported Amebiasis Cases by Month of Onset
LAC, 2012, N=99

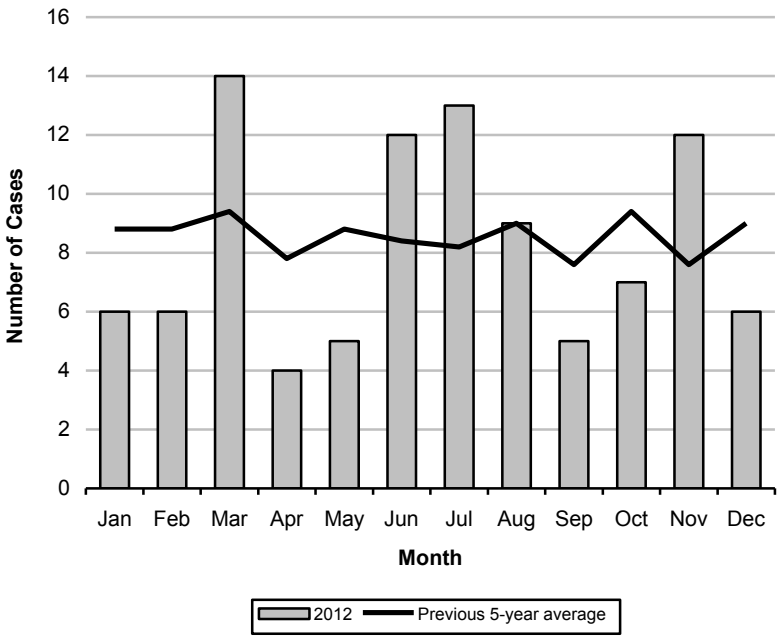
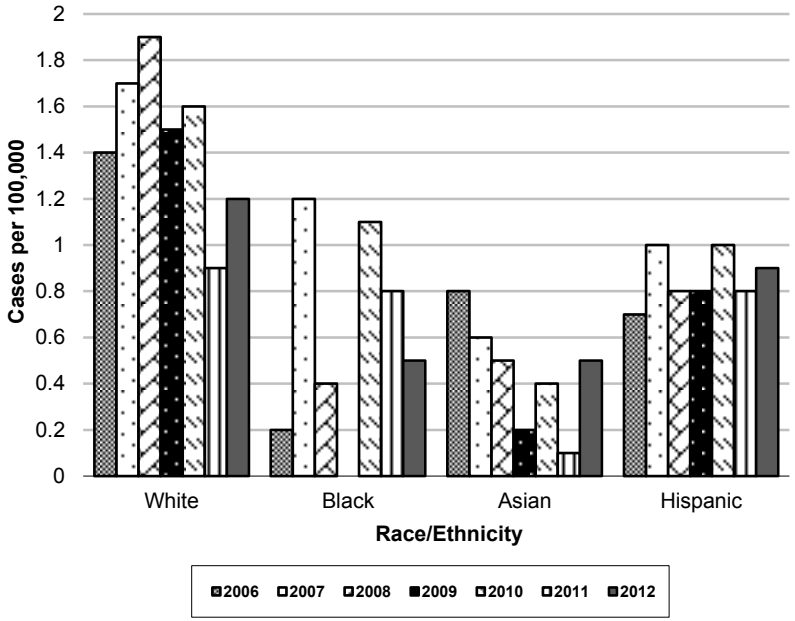
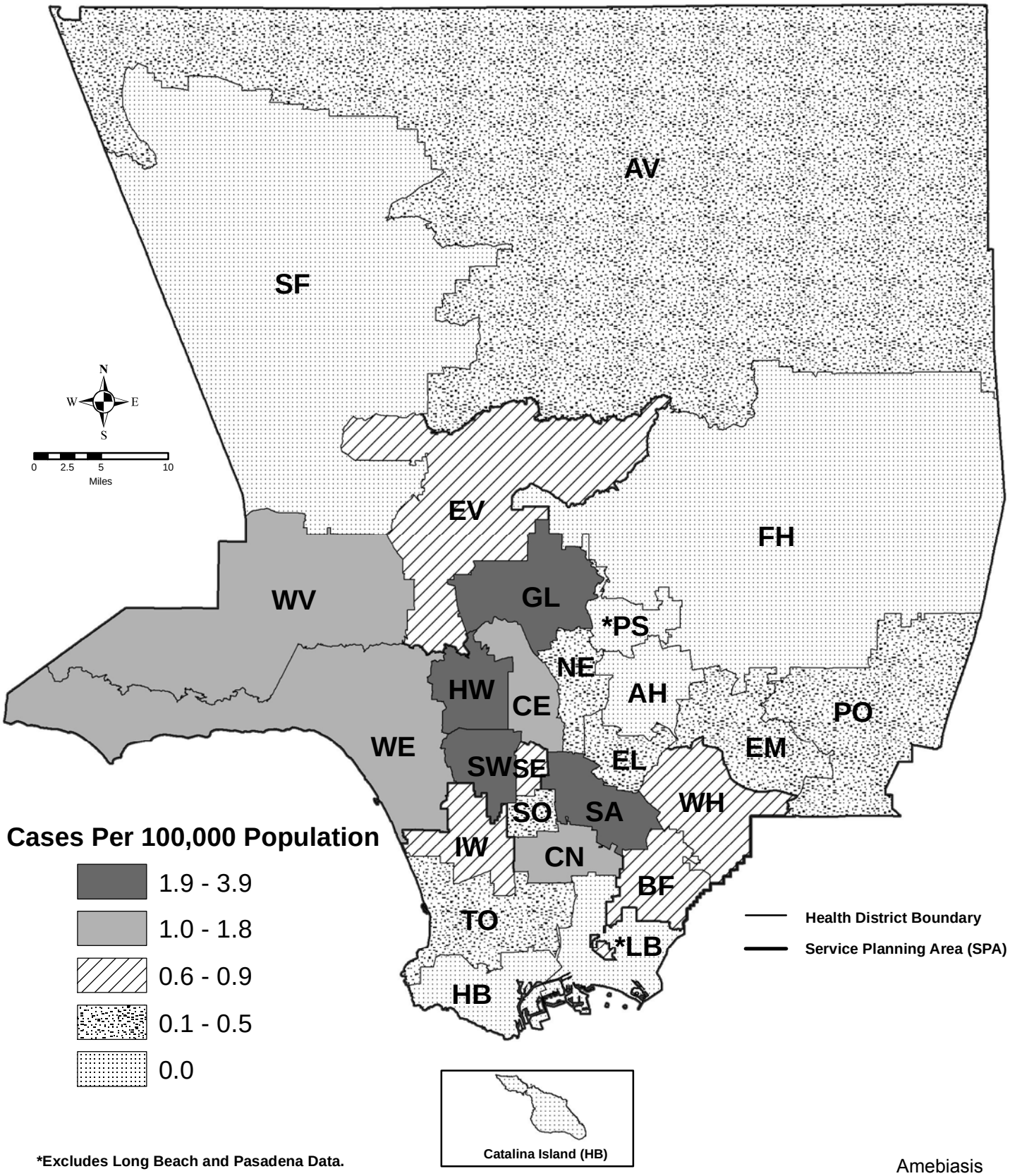


Figure 6. Amebiasis Incidence by Race/Ethnicity
LAC, 2006 - 2012, N=99



Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2012*



*Excludes Long Beach and Pasadena Data.

AMEBIASIS

CRUDE DATA	
Number of Cases	86
Annual Incidence[a]	
LA County	0.88
California[b]	--
United States	N/A
Age at Diagnosis	
Mean	42
Median	40
Range	0 - 83

[a]Cases per 100,000 population.

DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water or be transferred sexually, on hands, or fomites. Incubation period is 1 to 4 weeks. Recreational waters, such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. While intestinal disease is often asymptomatic, symptoms may range from acute abdominal pain, fever, chills, and bloody diarrhea to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colonic perforation. There is no vaccine.

Stool testing cannot differentiate *E. histolytica* and non-pathogenic *E. dispar*. Many case reports without foreign travel history may represent infection with the non-pathogenic *E. dispar*; but specific testing (EIA for stool antigen) is rarely performed.

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands.

Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased.

2011 TRENDS AND HIGHLIGHTS

- From 2010 to 2011, the overall incidence rate (IR) of amebiasis decreased from 1.2 to 0.88 cases per 100,000. This is the lowest incidence rate in the past ten years.
- The largest proportion of cases was in the 15 to 34 year age group, consistent with previous years (Figure 2).
- Hispanic cases accounted for the greatest proportion of cases in 2011 (40, 47%). In the previous five years, whites have had a slightly greater proportion of cases than Hispanics and this was reversed in 2011.
- Service Planning Area (SPA) 2 had the highest proportion of reported amebiasis cases of all the SPAs in 2011, with 25 cases (Figure 4). SPA 4 had the second highest proportion of cases (23%) and highest incidence rate of amebiasis (1.6 per 100,000).
- The number of cases reported in 2011 peaked in June and December with nine reported cases, differing from the previous five-year average in which cases peaked in August (Figure 5).
- Males comprised the majority of reported cases. Incidence rates were 1.1 per 100,000 for males and 0.7 per 100,000 for females.
- Risk factor information was available for 96% of the cases reported in 2011. The most frequently reported risk factor was immigration to the US (17, 21%); immigrants from Mexico (4, 24%) and Iran (6, 35%) were the most frequently reported countries of origin. Travel to another country (7, 9%), particularly to Mexico (4, 57%) was also reported in 2011.

Reported Amebiasis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2007-2011

	2007 (N=122)			2008 (N=115)			2009 (N=107)			2010 (N=119)			2011 (N=86)		
	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0	0.0	1	1.1	0.7
1-4	6	4.9	1.0	1	0.9	0.2	1	0.9	0.2	5	4.2	0.9	1	1.1	0.2
5-14	11	9.0	0.8	8	7.0	0.6	6	5.6	0.4	8	6.7	0.6	4	4.7	0.3
15-34	30	24.6	1.1	37	32.2	1.3	33	30.8	1.2	38	31.9	1.3	26	30.2	0.9
35-44	30	24.6	2.0	26	22.6	1.7	23	21.5	1.5	25	21	1.7	17	19.8	1.2
45-54	22	18.0	1.7	22	19.1	1.6	22	20.5	1.6	25	21	1.8	15	17.4	1.1
55-64	13	10.7	1.5	12	10.4	1.3	14	13.1	1.5	11	9.2	1.1	9	10.4	0.9
65+	9	7.4	0.9	9	7.8	0.9	8	7.5	0.8	7	5.9	0.7	13	15.1	1.2
Unknown	1	0.8		0	0.0										
Race/Ethnicity															
Asian	10	10.6	0.8	8	6.6	0.6	7	6.1	0.5	2	1.9	0.2	1	1.1	0.1
Black	2	2.1	0.2	10	8.2	1.2	3	2.6	0.4	0	0.0	0.0	7	8.1	0.8
Hispanic	32	34.0	0.7	44	36.1	1.0	36	31.3	0.8	37	34.6	0.8	40	46.5	0.8
White	39	41.5	1.4	50	41.0	1.7	56	48.7	1.9	43	40.2	1.5	27	31.5	0.9
Other	2	2.1	7.0	8	6.6	38.4	4	3.5	16.2	1	0.9		2	2.3	
Unknown	9	9.6		2	1.6		9	7.8		24	22.5		9	10.5	
SPA															
1	2	2.1	0.6	6	4.9	1.7	1	0.9	0.3	2	1.9	0.5	0	0.0	
2	39	41.5	1.8	51	41.8	2.4	52	45.2	2.4	49	45.8	2.2	25	29.0	1.1
3	6	6.4	0.3	14	11.5	0.8	14	12.2	0.8	9	8.4	0.5	7	8.1	0.4
4	17	18.1	1.3	16	13.1	1.3	17	14.8	1.3	18	16.8	1.4	20	23.3	1.6
5	12	12.8	1.9	9	7.4	1.4	6	5.2	0.9	8	7.5	1.2	6	7.0	0.9
6	4	4.3	0.4	8	6.6	0.8	11	9.6	1.0	4	3.7	0.4	13	15.1	1.2
7	7	7.4	0.5	11	9.0	0.8	7	6.1	0.5	12	11.2	0.9	10	11.6	0.7
8	7	7.4	0.6	6	4.9	0.5	7	6.1	0.6	3	2.8	0.3	4	4.7	0.4
Unknown	0	0.0		1	0.8		0	0.0		0	0.0		1	1.2	-

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Amebiasis
CA and LAC, 2002 - 2011

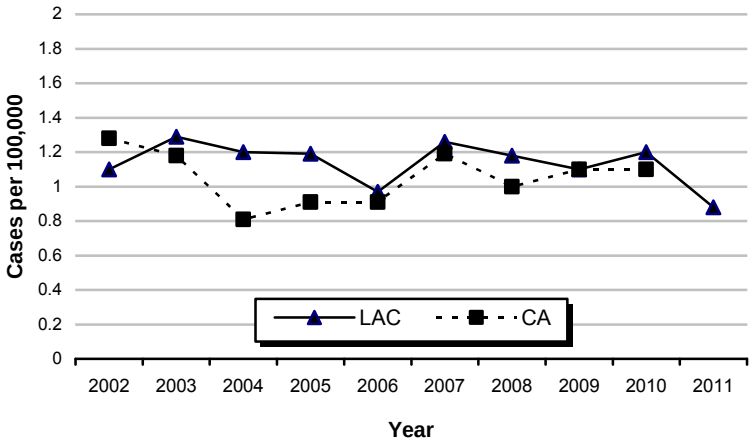


Figure 2. Incidence Rates of Amebiasis by Age Group
LAC, 2011

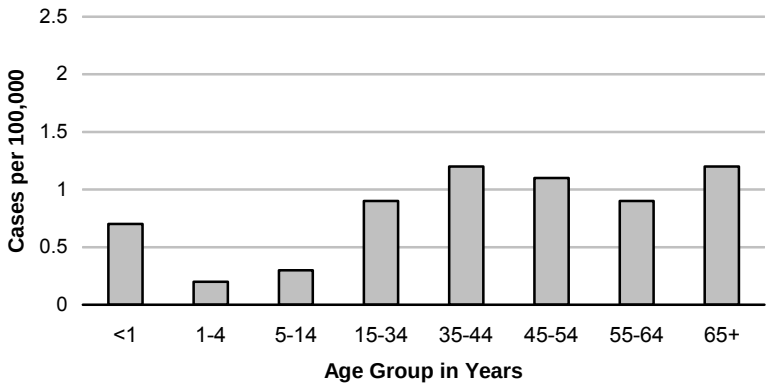


Figure 3. Percent Cases of Amebiasis by Race/Ethnicity
LAC, 2011

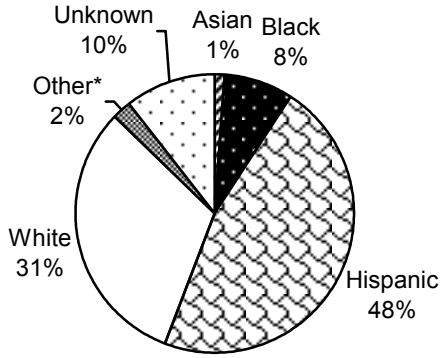
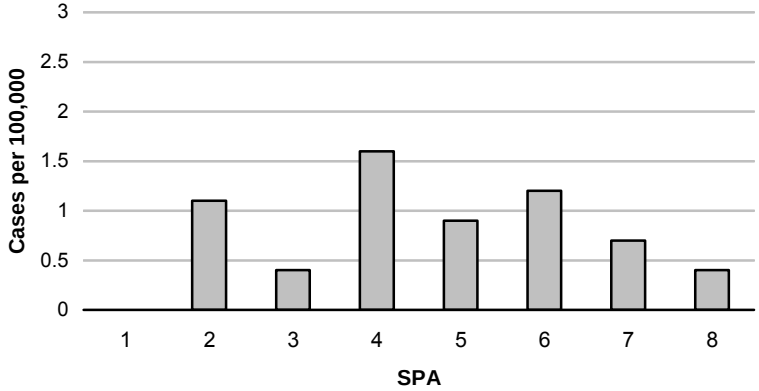


Figure 4. Incidence Rates of Amebiasis by SPA
LAC, 2011



* Other includes Native American and any additional racial/ethnic group that cannot be categorized as Asian, black, Hispanic, and white.

Figure 5. Reported Amebiasis Cases by Month of Onset
LAC, 2011

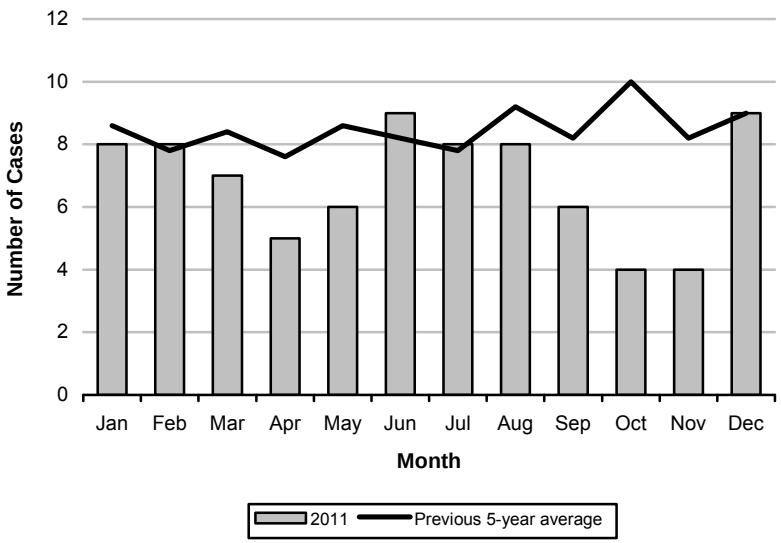
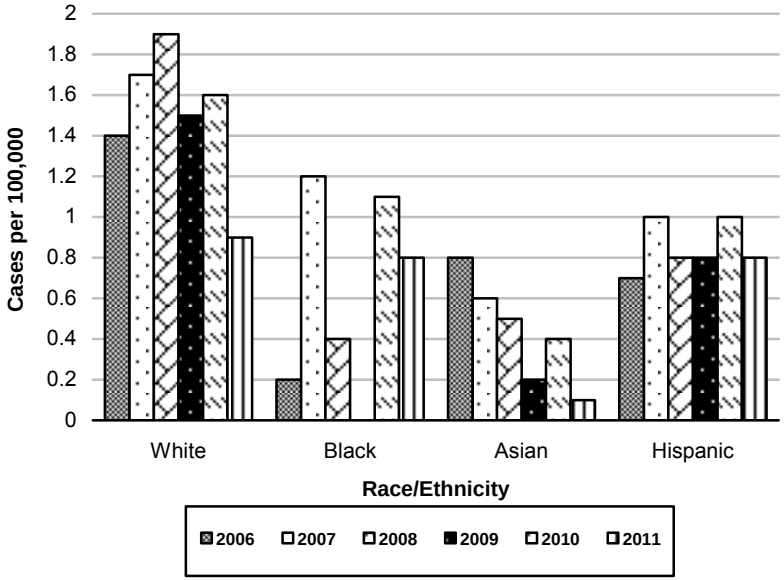
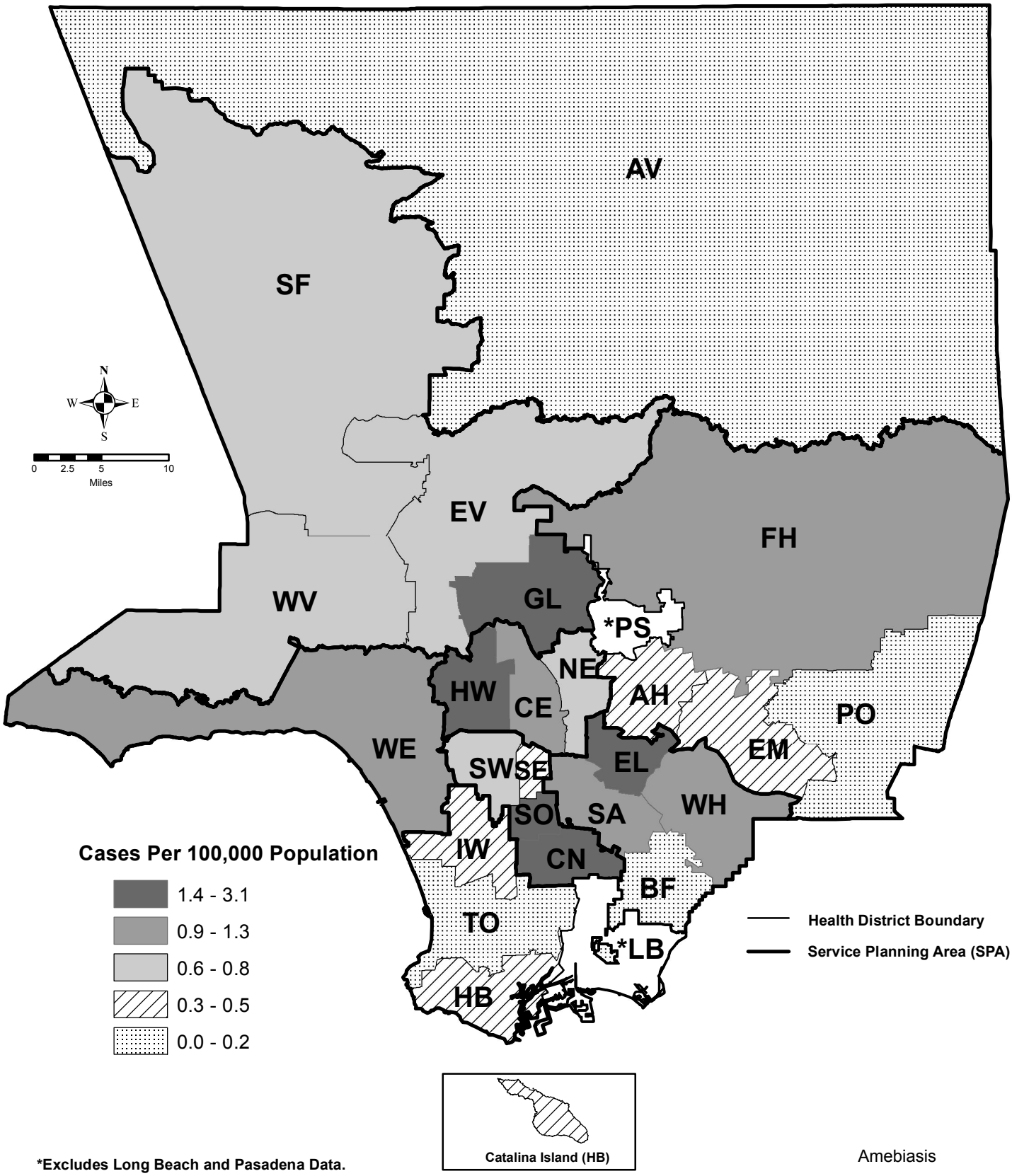


Figure 6. Amebiasis Incidence by Race/Ethnicity
LAC, 2006 - 2011



Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2011*



*Excludes Long Beach and Pasadena Data.

AMEBIASIS

CRUDE DATA	
Number of Cases	119
Annual Incidence[a]	
LA County	1.2
California[b]	1.1
United States[c]	N/A
Age at Diagnosis	
Mean	38
Median	37
Range	3-83

[a]Cases per 100,000 population.
[b]Calculated from Monthly Summary Report Selected Reportable Diseases. California Department of Public Health, December 2010.
[c]Not nationally reportable.

DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water or be transferred sexually, on hands, or fomites. Incubation period is 1 to 4 weeks. Recreational waters, such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. While intestinal disease is often asymptomatic, symptoms may range from acute abdominal pain, fever, chills, and bloody diarrhea to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colonic perforation. There is no vaccine.

Many case reports without foreign travel history may represent infection with the non-pathogenic *Entamoeba dispar*; specific testing is rarely performed.

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands. Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased.

2010 TRENDS AND HIGHLIGHTS

- The incidence rate of amebiasis did not change significantly in 2010, increasing slightly from 1.1 per 100,000 residents in 2009 to 1.2 in 2010.
- The largest proportion of cases was the 15 to 34 year age group, which is consistent with 2009 (Figure 2).
- Hispanic cases accounted for a slightly greater proportion of cases this year (48, 40%), with a smaller gap between the proportion of white and Hispanic cases. For the previous five years whites have had a slightly greater proportion of cases than Hispanics.
- Service Planning Area (SPA) 2 continued to have the highest incidence rate of all the SPAs in 2010, with 2.3 cases per 100,000 residents (Figure 4). SPA 4 had the second highest proportion of cases (16%) and incidence rate of amebiasis (1.5 per 100,000).
- The number of cases reported in 2010 peaked in March, differing from the previous five-year average in which cases peaked in August (Figure 5).
- The male to female ratio in 2010 was 2:1, as was the incidence rate ratio. Incidence rates were 1.6 per 100,000 for males and 0.8 per 100,000 for females.
- Risk factor information was available for 97% of the cases reported in 2010. The most frequently reported risk factor was immigration to the US (28, 25%); immigrants from Mexico (12, 43%) and India (12, 43%) were the most frequently reported countries of origin. Travel to another country (20, 17%), particularly to Mexico (10, 50%) was also commonly reported in 2010. This differs from previous years in which travel destination was more variable.

Reported Amebiasis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2006-2010

	2006 (N=94)			2007 (N=122)			2008 (N=115)			2009 (N=107)			2010 (N=119)		
	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0	0.0
1-4	0	0.0	0.0	6	4.9	1.0	1	0.9	0.2	1	0.9	0.2	5	4.2	0.9
5-14	5	5.3	0.3	11	9.0	0.8	8	7.0	0.6	6	5.6	0.4	8	6.7	0.6
15-34	28	29.8	1.0	30	24.6	1.1	37	32.2	1.3	33	30.8	1.2	38	31.9	1.3
35-44	26	27.7	1.7	30	24.6	2.0	26	22.6	1.7	23	21.5	1.5	25	21	1.7
45-54	18	19.1	1.4	22	18.0	1.7	22	19.1	1.6	22	20.5	1.6	25	21	1.8
55-64	9	9.6	1.0	13	10.7	1.5	12	10.4	1.3	14	13.1	1.5	11	9.2	1.1
65+	8	8.5	0.8	9	7.4	0.9	9	7.8	0.9	8	7.5	0.8	7	5.9	0.7
Unknown	0	0.0		1	0.8		0	0.0							
Race / Ethnicity															
Asian	10	10.6	0.8	8	6.6	0.6	7	6.1	0.5	2	1.9	0.2	5	4.2	0.4
Black	2	2.1	0.2	10	8.2	1.2	3	2.6	0.4	0	0.0	0.0	9	7.6	1.1
Hispanic	32	34.0	0.7	44	36.1	1.0	36	31.3	0.8	37	34.6	0.8	48	40.3	1.0
White	39	41.5	1.4	50	41.0	1.7	56	48.7	1.9	43	40.2	1.5	47	39.5	1.6
Other	2	2.1	7.0	8	6.6	38.4	4	3.5	16.2	1	0.9		1	0.8	
Unknown	9	9.6		2	1.6		9	7.8		24	22.5		9	7.6	
SPA															
1	2	2.1	0.6	6	4.9	1.7	1	0.9	0.3	2	1.9	0.5	3	2.5	0.8
2	39	41.5	1.8	51	41.8	2.4	52	45.2	2.4	49	45.8	2.2	52	42	2.3
3	6	6.4	0.3	14	11.5	0.8	14	12.2	0.8	9	8.4	0.5	7	5.9	0.4
4	17	18.1	1.3	16	13.1	1.3	17	14.8	1.3	18	16.8	1.4	19	16	1.5
5	12	12.8	1.9	9	7.4	1.4	6	5.2	0.9	8	7.5	1.2	7	5.9	1.1
6	4	4.3	0.4	8	6.6	0.8	11	9.6	1.0	4	3.7	0.4	12	10.1	1.1
7	7	7.4	0.5	11	9.0	0.8	7	6.1	0.5	12	11.2	0.9	9	7.6	0.7
8	7	7.4	0.6	6	4.9	0.5	7	6.1	0.6	3	2.8	0.3	10	8.4	0.9
Unknown	0	0.0		1	0.8		0	0.0		0	0.0		0	0.0	

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Amebiasis
CA and LAC, 2000-2010

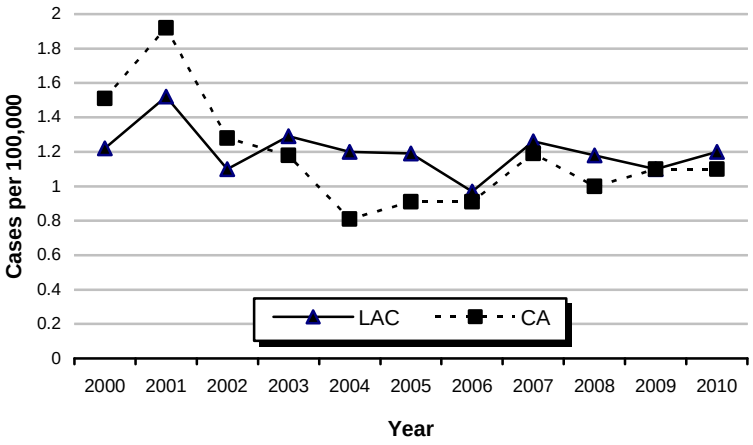


Figure 2. Incidence Rates of Amebiasis by Age Group
LAC, 2010

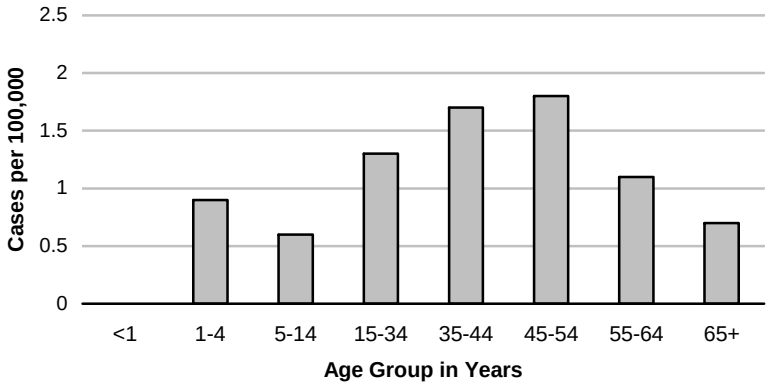


Figure 3. Percent Cases of Amebiasis by Race/Ethnicity
LAC, 2010

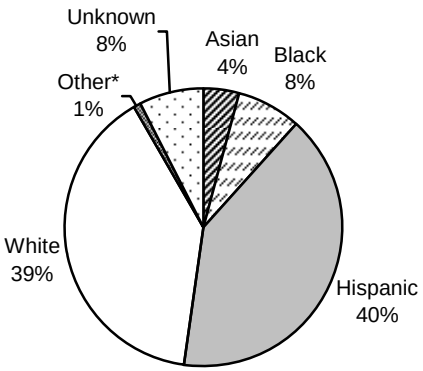
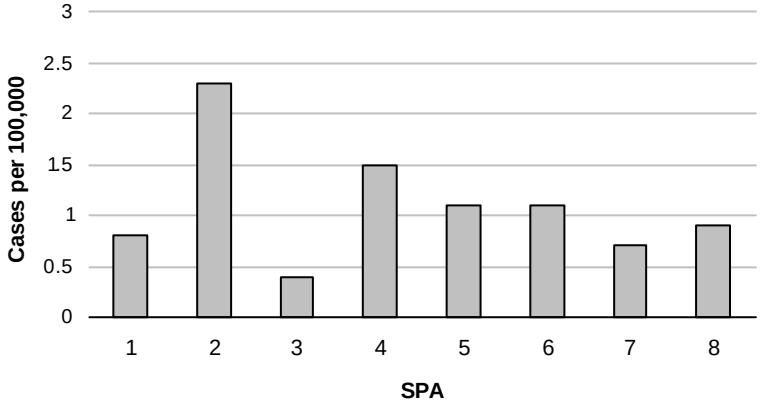


Figure 4. Incidence Rates of Amebiasis by SPA
LAC, 2010



* Other includes Native American and any additional racial/ethnic group that cannot be categorized as Asian, black, Hispanic, and white.

Figure 5. Reported Amebiasis Cases by Month of Onset
LAC, 2010

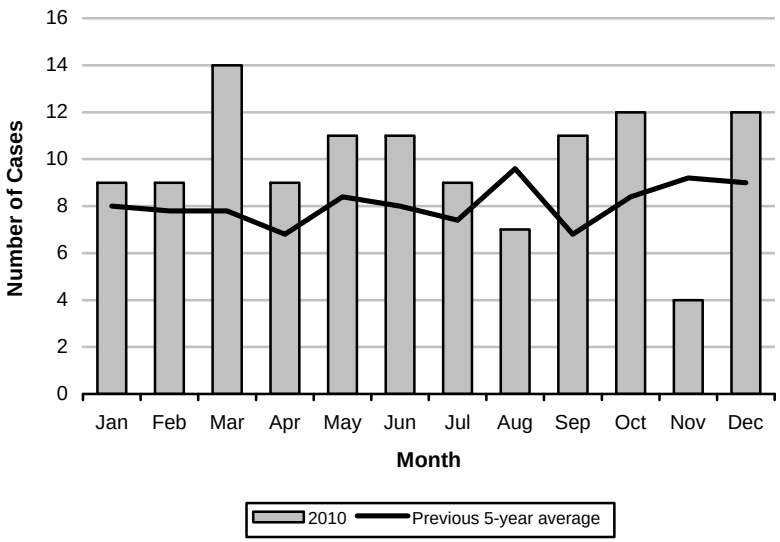
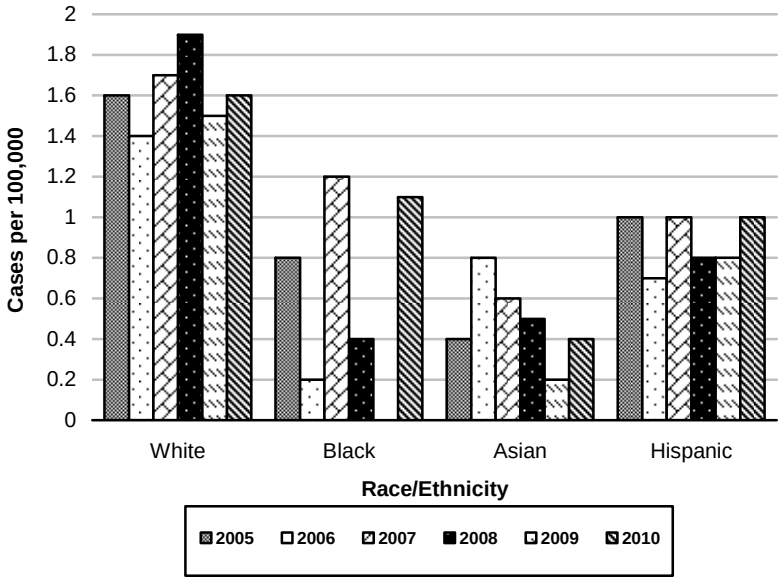
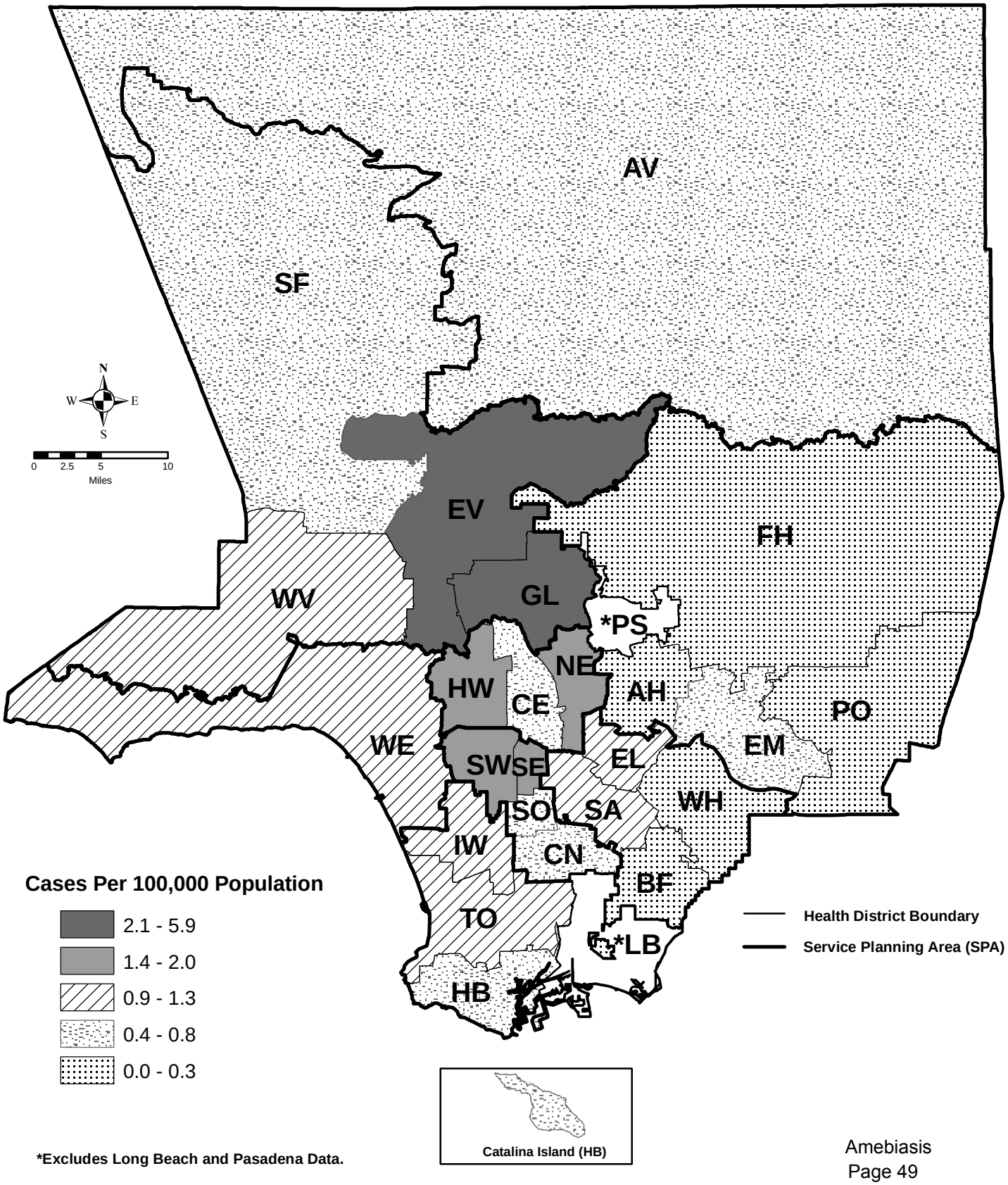


Figure 6. Amebiasis Incidence by Race/Ethnicity
LAC, 2006-2010



Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2010*



*Excludes Long Beach and Pasadena Data.

AMEBIASIS

CRUDE DATA	
Number of Cases	107
Annual Incidence[a]	
LA County	1.1
California[b]	1.1
United States[c]	N/A
Age at Diagnosis	
Mean	40
Median	40
Range	2-78

[a]Cases per 100,000 population.
[b]Calculated from Monthly Summary Report Selected Reportable Diseases. California Department of Public Health, December 2009.
[c]Not notifiable.

DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water or be transferred sexually, on hands, or fomites. Incubation period is 1 to 4 weeks. Recreational waters, such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. While intestinal disease is often asymptomatic, symptoms may range from acute abdominal pain, fever, chills, and bloody diarrhea to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colonic perforation. There is no vaccine.

Many case reports without foreign travel history may represent infection with the non-pathogenic *Entamoeba dispar*; specific testing is rarely performed.

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands. Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased.

2009 TRENDS AND HIGHLIGHTS

- The incidence rate of amebiasis remained relatively stable in 2009 with 1.1 cases per 100,000 population in 2009 and 1.2 cases per 100,000 reported in 2008.
- The 45-54 year old age group had the highest incidence rate, 1.6 cases per 100,000 and the 15 to 34 year old group had the largest proportion of cases (33, 31%) reported (Figure 2).
- Consistent with past years, white cases accounted for the greatest proportion of cases (43, 40%) (Figure 3).
- Service Planning Area (SPA) 2 had the highest incidence rate of all the SPAs, 2.2 per 100,000 residents followed by SPA 4, 1.4 per 100,000) (Figure 4).
- The peak case reporting occurred in November, differing from the previous five-year average in which cases peaked in August (Figure 5).
- The male to female case ratio in 2009 was 2:1. Incidence rates were 1.5 per 100,000 for males and 0.7 per 100,000 for females.
- The most frequently reported risk factor included: immigration to the US (53, 50%), swimming in recreational waters (17, 16%), and travel to another country (17, 16%), particularly to Latin American countries (13, 76%).

Reported Amebiasis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2005-2009

	2005 (N=114)			2006 (N=94)			2007 (N=122)			2008 (N=115)			2009 (N=107)		
	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0.0
1-4	2	1.8	0.3	0	0.0	0.0	6	4.9	1.0	1	0.9	0.2	1	0.9	0.2
5-14	14	12.3	0.9	5	5.3	0.3	11	9.0	0.8	8	7.0	0.6	6	5.6	0.4
15-34	31	27.2	1.1	28	29.8	1.0	30	24.6	1.1	37	32.2	1.3	33	30.8	1.2
35-44	31	27.2	2.1	26	27.7	1.7	30	24.6	2.0	26	22.6	1.7	23	21.5	1.5
45-54	26	22.8	2.0	18	19.1	1.4	22	18.0	1.7	22	19.1	1.6	22	20.5	1.6
55-64	5	4.4	0.6	9	9.6	1.0	13	10.7	1.5	12	10.4	1.3	14	13.1	1.5
65+	5	4.4	0.5	8	8.5	0.8	9	7.4	0.9	9	7.8	0.9	8	7.5	0.8
Unknown	0	0.0		0	0.0		1	0.8		0	0.0				
Race / Ethnicity															
Asian	5	4.4	0.4	10	10.6	0.8	8	6.6	0.6	7	6.1	0.5	2	1.9	0.2
Black	7	6.1	0.8	2	2.1	0.2	10	8.2	1.2	3	2.6	0.4	0	0.0	0.0
Hispanic	46	40.4	1.0	32	34.0	0.7	44	36.1	1.0	36	31.3	0.8	37	34.6	0.8
White	47	41.2	1.6	39	41.5	1.4	50	41.0	1.7	56	48.7	1.9	43	40.2	1.5
Other	2	1.8	7.1	2	2.1	7.0	8	6.6	38.4	4	3.5	16.2	1	0.9	
Unknown	7	6.1		9	9.6		2	1.6		9	7.8		24	22.5	
SPA															
1	0	0.0	0.0	2	2.1	0.6	6	4.9	1.7	1	0.9	0.3	2	1.9	0.5
2	30	26.3	1.4	39	41.5	1.8	51	41.8	2.4	52	45.2	2.4	49	45.8	2.2
3	6	5.3	0.4	6	6.4	0.3	14	11.5	0.8	14	12.2	0.8	9	8.4	0.5
4	37	32.5	3.0	17	18.1	1.3	16	13.1	1.3	17	14.8	1.3	18	16.8	1.4
5	17	14.9	2.7	12	12.8	1.9	9	7.4	1.4	6	5.2	0.9	8	7.5	1.2
6	9	7.9	0.9	4	4.3	0.4	8	6.6	0.8	11	9.6	1.0	4	3.7	0.4
7	9	7.9	0.7	7	7.4	0.5	11	9.0	0.8	7	6.1	0.5	12	11.2	0.9
8	6	5.3	0.5	7	7.4	0.6	6	4.9	0.5	7	6.1	0.6	3	2.8	0.3
Unknown	0	0.0		0	0.0		1	0.8		0	0.0		0	0.0	

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Amebiasis CA and LAC, 1999-2009 (N=107)

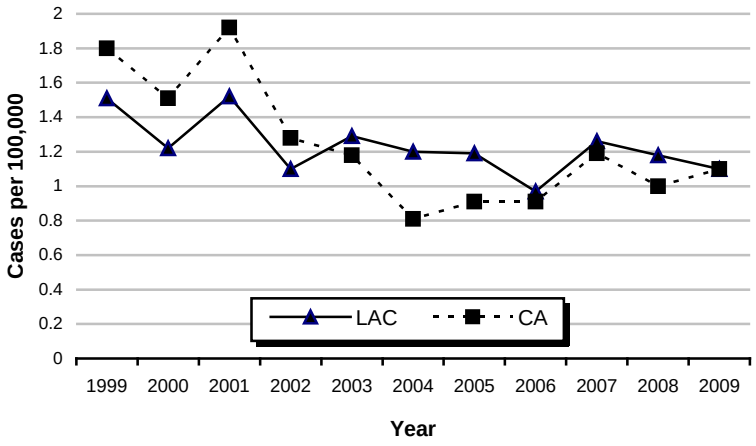


Figure 2. Incidence Rates of Amebiasis by Age Group LAC, 2009 (N=107)

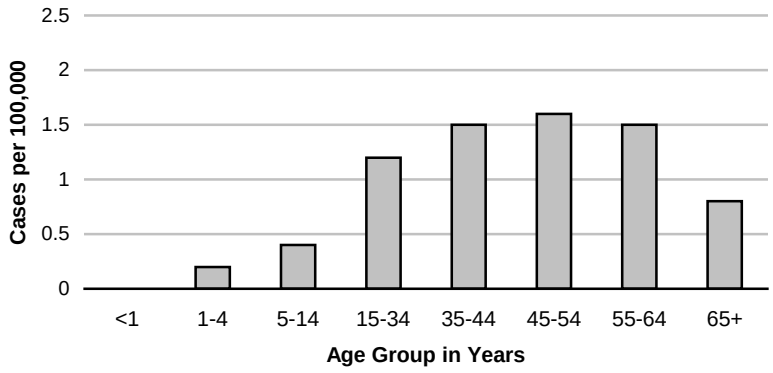
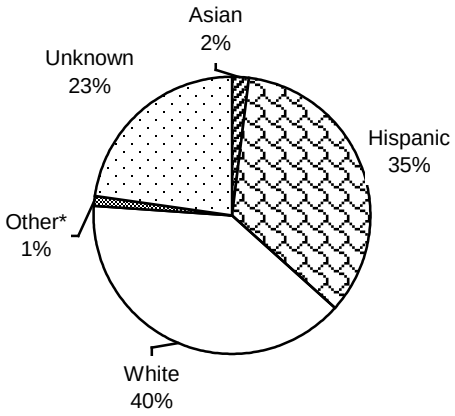


Figure 3. Percent Cases of Amebiasis by Race/Ethnicity LAC, 2009 (N=107)



* Other includes Native American and any additional racial/ethnic group that cannot be categorized as Asian, black, Hispanic, and white.

Figure 4. Incidence Rates of Amebiasis by SPA LAC, 2009 (N=107)

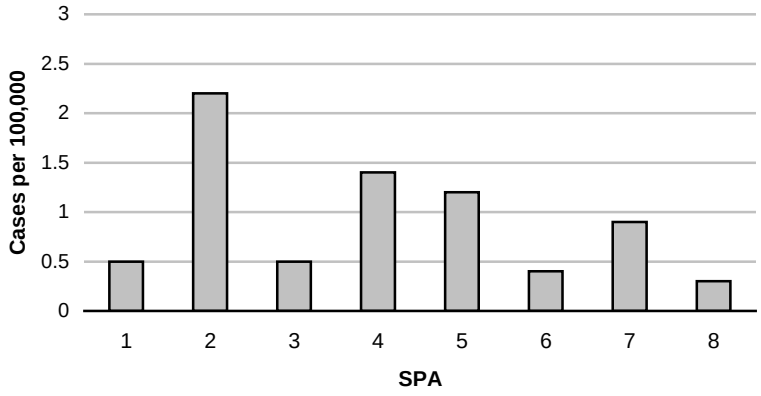
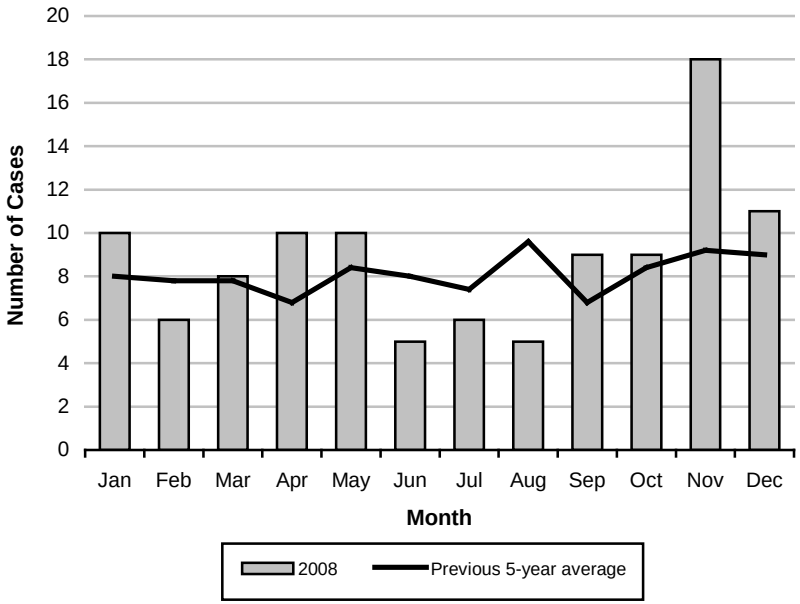
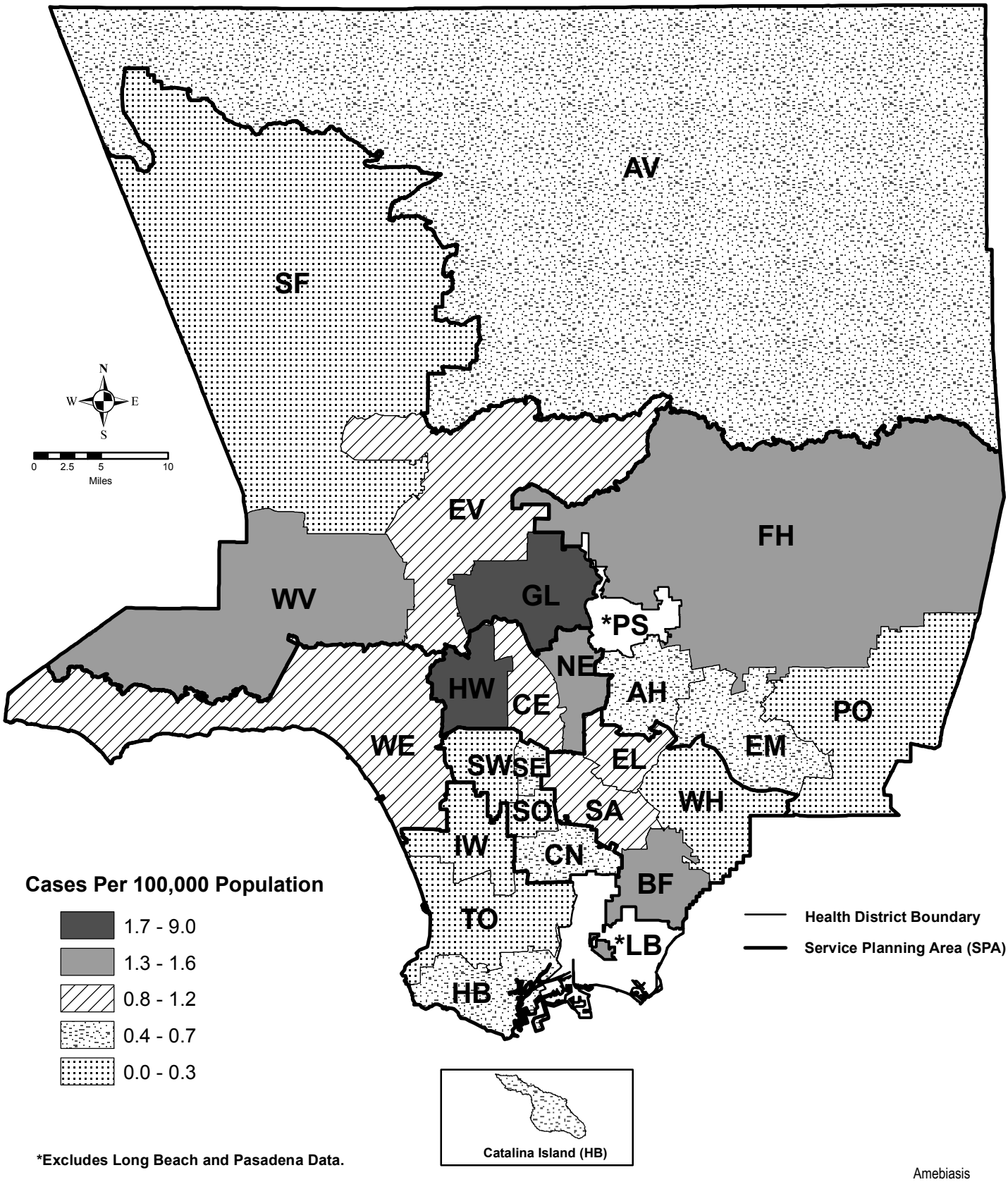


Figure 5. Reported Amebiasis Cases by Month of Onset
LAC, 2009 (N=107)



Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2009*



*Excludes Long Beach and Pasadena Data.

AMEBIASIS

CRUDE DATA	
Number of Cases	115
Annual Incidence[a]	
LA County	1.2
California[b]	1.0
United States	N/A
Age at Diagnosis	
Mean	39
Median	37
Range	4-84

[a]Cases per 100,000 population.
[b]Calculated from Monthly Summary Report Selected Reportable Diseases. California Department of Public Health, December 2008.

DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water or be transferred sexually, on hands, or fomites. Incubation period is 1 to 4 weeks. Recreational waters, such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. While intestinal disease is often asymptomatic, symptoms may range from acute abdominal pain, fever, chills, and bloody diarrhea to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colonic perforation. There is no vaccine.

Many case reports without foreign travel history may represent infection with the non-pathogenic *Entamoeba dispar*; specific testing is rarely performed.

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands. Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased.

2008 TRENDS AND HIGHLIGHTS

- The incidence rate of amebiasis decreased in 2008 to 1.18 per 100,000 residents from 1.26 in 2007.
- The age group with the largest proportion of cases was the 35 to 44 year age group; 2008 showed a slightly more even age distribution than previous years (Figure 2).
- White cases accounted for nearly half of cases this year (56, 49%), with a wider gap between the proportion of white and Hispanic cases (Figure 3).
- Service Planning Area (SPA) 2 continued to have the highest incidence rate of all the SPAs in 2008 as previous reporting periods, with 2.4 per 100,000 residents (Figure 4).
- In 2008, the month with the highest number of cases reported was January, differing from the previous five-year average in which cases peaked in August (Figure 5).
- 2008 cases were equally distributed among males (60, 52%) and females (55, 48%).
- Risk factor information was available for all cases reported in 2008. The most frequently reported risk factor was immigration to the US (77, 67%); immigrants from Iran were the most frequently reported (25, 33%). Other frequently reported risk factors were travel (23, 20%) and contact with pets at home (22, 19%).

Reported Amebiasis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2004-2008

	2004 (N=114)			2005 (N=114)			2006 (N=94)			2007 (N=122)			2008 (N=115)		
	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	1	0.9	0.7	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
1-4	3	2.6	0.5	2	1.8	0.3	0	0.0	0.0	6	4.9	1.0	1	0.9	0.2
5-14	19	16.7	1.3	14	12.3	0.9	5	5.3	0.3	11	9.0	0.8	8	7.0	0.6
15-34	35	30.7	1.2	31	27.2	1.1	28	29.8	1.0	30	24.6	1.1	37	32.2	1.3
35-44	22	19.3	1.5	31	27.2	2.1	26	27.7	1.7	30	24.6	2.0	26	22.6	1.7
45-54	17	14.9	1.4	26	22.8	2.0	18	19.1	1.4	22	18.0	1.7	22	19.1	1.6
55-64	6	5.3	0.8	5	4.4	0.6	9	9.6	1.0	13	10.7	1.5	12	10.4	1.3
65+	10	8.8	1.1	5	4.4	0.5	8	8.5	0.8	9	7.4	0.9	9	7.8	0.9
Unknown	1	0.9		0	0.0		0	0.0		1	0.8		0	0.0	
Race / Ethnicity															
Asian	3	2.6	0.2	5	4.4	0.4	10	10.6	0.8	8	6.6	0.6	7	6.1	0.5
Black	13	11.4	1.5	7	6.1	0.8	2	2.1	0.2	10	8.2	1.2	3	2.6	0.4
Hispanic	53	46.5	1.2	46	40.4	1.0	32	34.0	0.7	44	36.1	1.0	36	31.3	0.8
White	37	32.5	1.3	47	41.2	1.6	39	41.5	1.4	50	41.0	1.7	56	48.7	1.9
Other	5	4.4	18.0	2	1.8	7.1	2	2.1	7.0	8	6.6	38.4	4	3.5	16.2
Unknown	3	2.6		7	6.1		9	9.6		2	1.6		9	7.8	
SPA															
1	4	3.5	1.2	0	0.0	0.0	2	2.1	0.6	6	4.9	1.7	1	0.9	0.3
2	30	26.3	1.4	30	26.3	1.4	39	41.5	1.8	51	41.8	2.4	52	45.2	2.4
3	13	11.4	0.8	6	5.3	0.4	6	6.4	0.3	14	11.5	0.8	14	12.2	0.8
4	20	17.5	1.6	37	32.5	3.0	17	18.1	1.3	16	13.1	1.3	17	14.8	1.3
5	19	16.7	3.0	17	14.9	2.7	12	12.8	1.9	9	7.4	1.4	6	5.2	0.9
6	12	10.5	1.2	9	7.9	0.9	4	4.3	0.4	8	6.6	0.8	11	9.6	1.0
7	10	8.8	0.7	9	7.9	0.7	7	7.4	0.5	11	9.0	0.8	7	6.1	0.5
8	6	5.3	0.5	6	5.3	0.5	7	7.4	0.6	6	4.9	0.5	7	6.1	0.6
Unknown	0	0.0		0	0.0		0	0.0		1	0.8		0	0.0	

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Amebiasis CA and LAC, 1999-2008

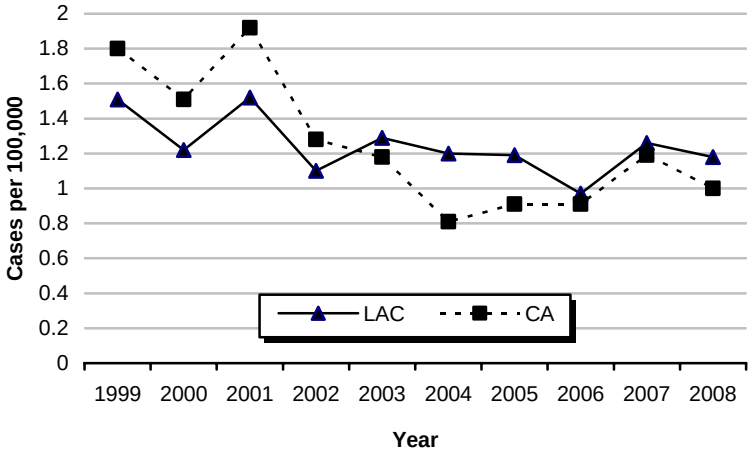


Figure 2. Incidence Rates of Amebiasis by Age Group LAC, 2008

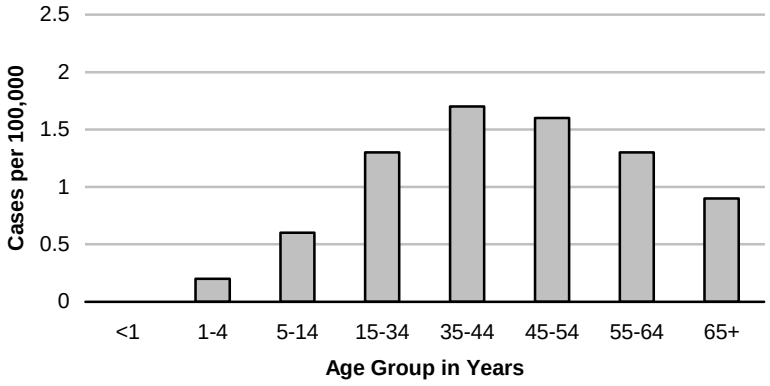


Figure 3. Percent Cases of Amebiasis by Race/Ethnicity LAC, 2008

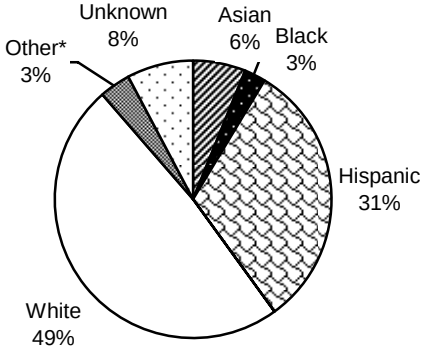
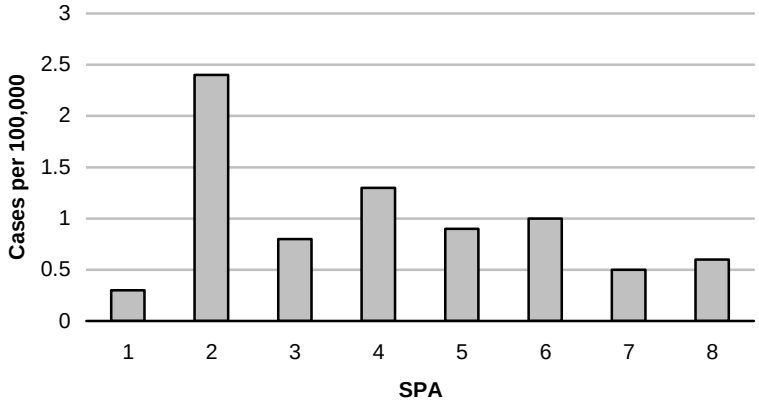


Figure 4. Incidence Rates of Amebiasis by SPA LAC, 2008



* Other includes Native American and any additional racial/ethnic group that cannot be categorized as Asian, black, Hispanic, and white.

Figure 5. Reported Amebiasis Cases by Month of Onset
LAC, 2008

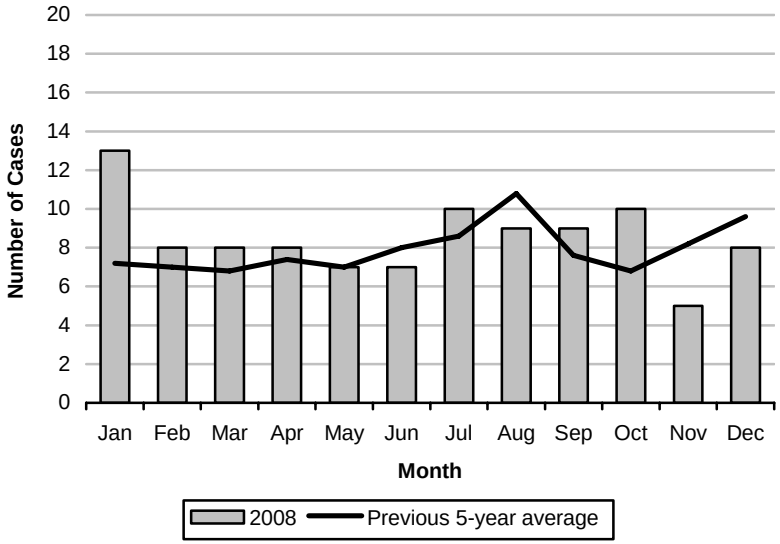
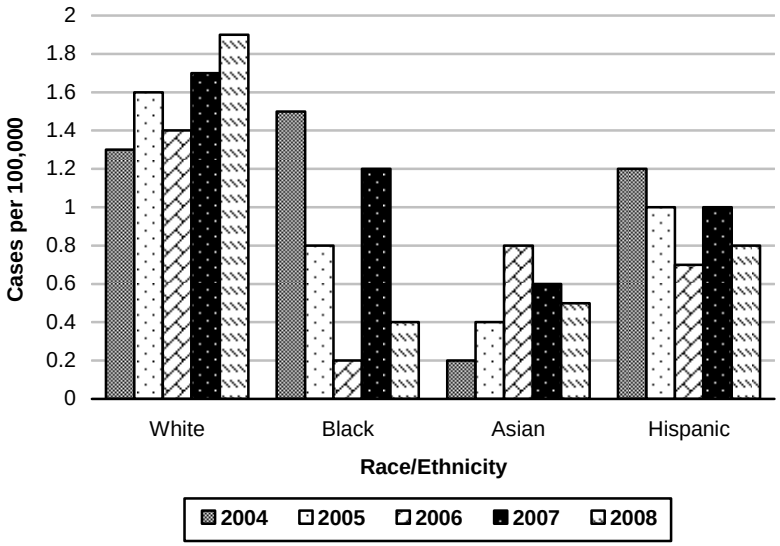
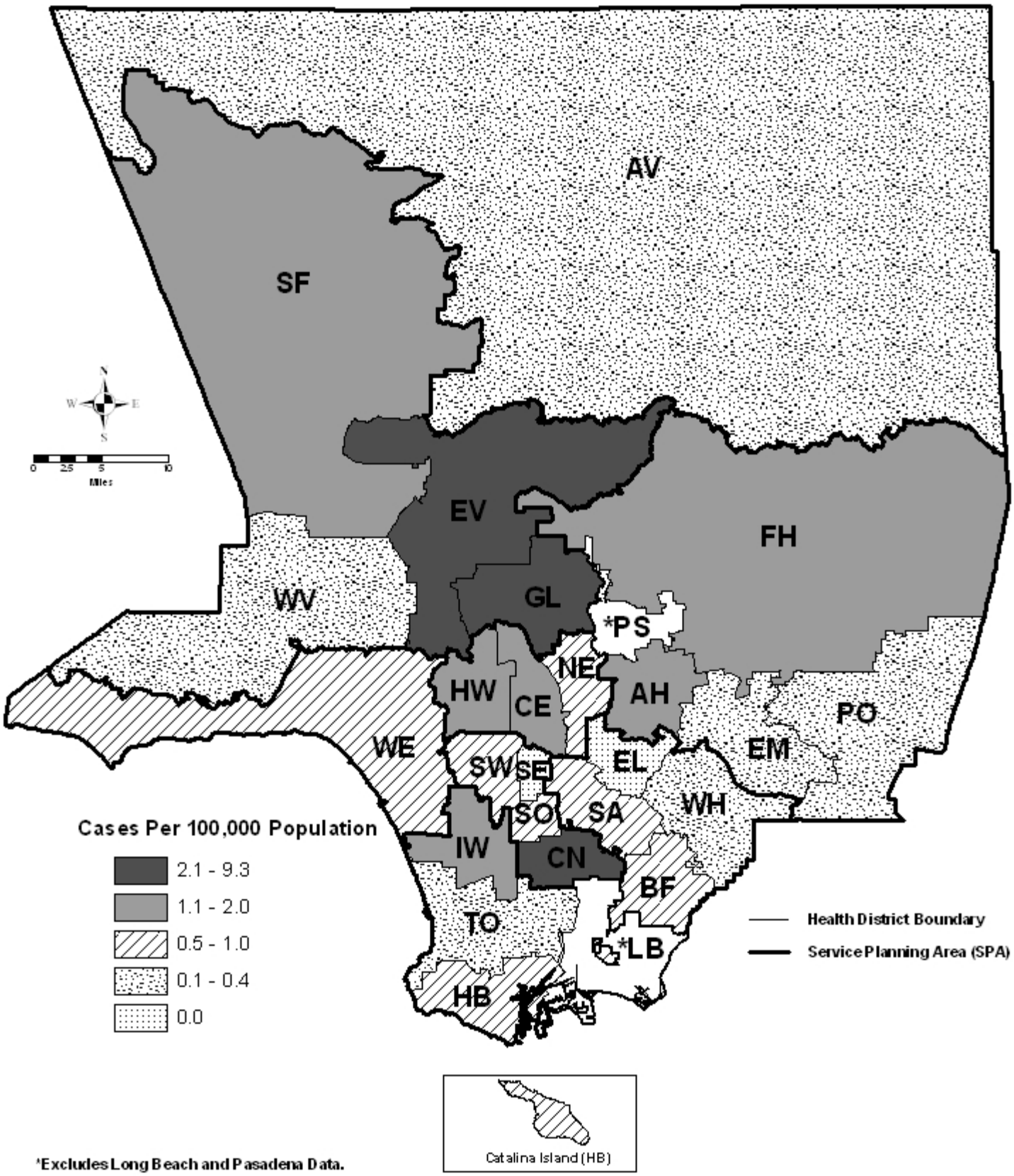


Figure 6. Amebiasis Incidence by Race/Ethnicity
LAC, 2004-2008



Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2008*



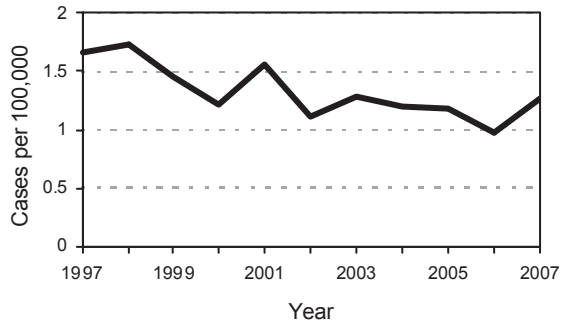
*Excludes Long Beach and Pasadena Data.

AMEBIASIS

CRUDE DATA	
Number of Cases	122
Annual Incidence[a]	
LA County	1.26
United States	N/A
Age at Diagnosis	
Mean	37
Median	40
Range	1-72 years

[a] Cases per 100,000 population.

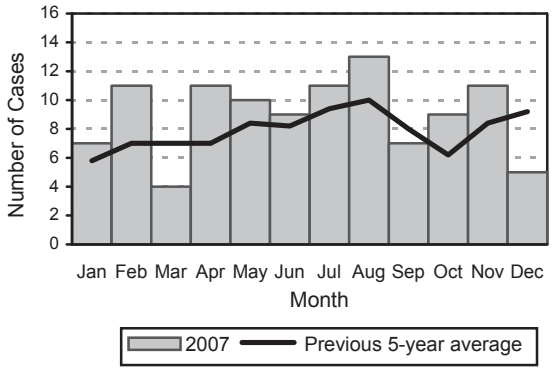
Figure 1
Amebiasis
Incidence Rates by Year
LAC, 1997–2007



DESCRIPTION

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*. Cysts shed in human feces may contaminate food or drinking water or be transferred sexually, on hands, or fomites. Incubation period is 1 to 4 weeks. Recreational waters, such as pools, may also serve as transmission vehicles, since cysts are relatively chlorine-resistant. While intestinal disease is often asymptomatic, symptoms may range from acute abdominal pain, fever, chills, and bloody diarrhea to mild abdominal discomfort with diarrhea alternating with constipation. Extraintestinal infection occurs when organisms become bloodborne, leading to amebic abscesses in the liver, lungs or brain. Complications include colonic perforation. There is no vaccine.

Figure 2
Amebiasis
Cases by Month of Onset
LAC, 2007 (N=122)



DISEASE ABSTRACT

- Amebiasis incidence had decreased substantially over the past several years. However, this year there was a 30% increase in the incidence rate, from 0.97 per 100,000 in 2006 to 1.26 per 100,000 in 2007.
- Increasing numbers of refugees and recent immigrants from endemic regions and an increase in testing may account for the increase in cases.

STRATIFIED DATA

Trends: The 2007 amebiasis incidence rate increased 30% to 1.26 per 100,000 (Figure 1).

Seasonality: Amebiasis incidence usually peaks in the summer months. In 2007, the incidence rate rose in the summer months and decreased through December (Figure 2).

Age: While amebiasis is ubiquitous, it is a disease more often diagnosed among adults (Figure 3). About half of the cases reported in LAC during 2007 were among those aged 15–44 (n=60, 49%).

Sex: Slightly more males (56%) were diagnosed with amebiasis than females, with a ratio of 1.3:1.

Race/Ethnicity: In 2007, whites had the highest rate (Figure 4). The rate for blacks increased six-fold from 0.2 per 100,000 in 2006 to 1.2 per 100,000 in 2007. The cause of this increase is unknown.

Location: The two SPAs with the highest incidence rates were SPA 2 (2.4 per 100,000), and SPA 1 (1.7 per 100,000).

Risk factors: Twelve cases did not have complete risk factor information documented. Of the cases who did have complete risk factor information, immigration into the US less than 6 months prior to diagnosis (n=52, 47%) was the most frequently reported risk factor. Foreign travel (n=33, 30%) and contact with animals (n=29, 26%) were two other frequently reported risk factors.

Prevention: Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure that they properly wash their hands. Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased.

Figure 3
Amebiasis
Incidence Rates by Age Group
LAC, 2007

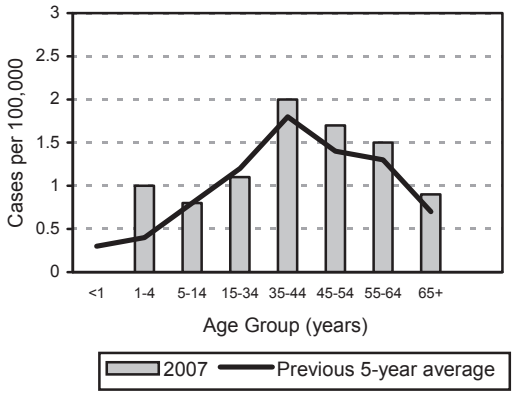
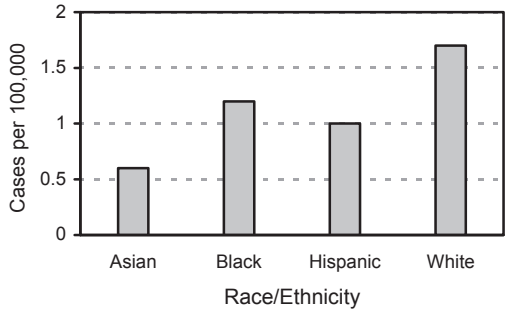


Figure 4
Amebiasis
Incidence Rates by Race/Ethnicity
LAC, 2007



COMMENTS

Amebiasis is no longer nationally reportable, so there are no current national rates for comparison. The disease remains reportable in California because a large proportion of the population travels to endemic countries in Asia and Central America. The impact of tests that distinguish the pathogenic organism *E. histolytica* from the non-pathogenic *E. dispar* is unknown since such tests are rarely ordered. It is believed that many reported amebiasis cases are actually not infected with pathogenic *E. histolytica*.

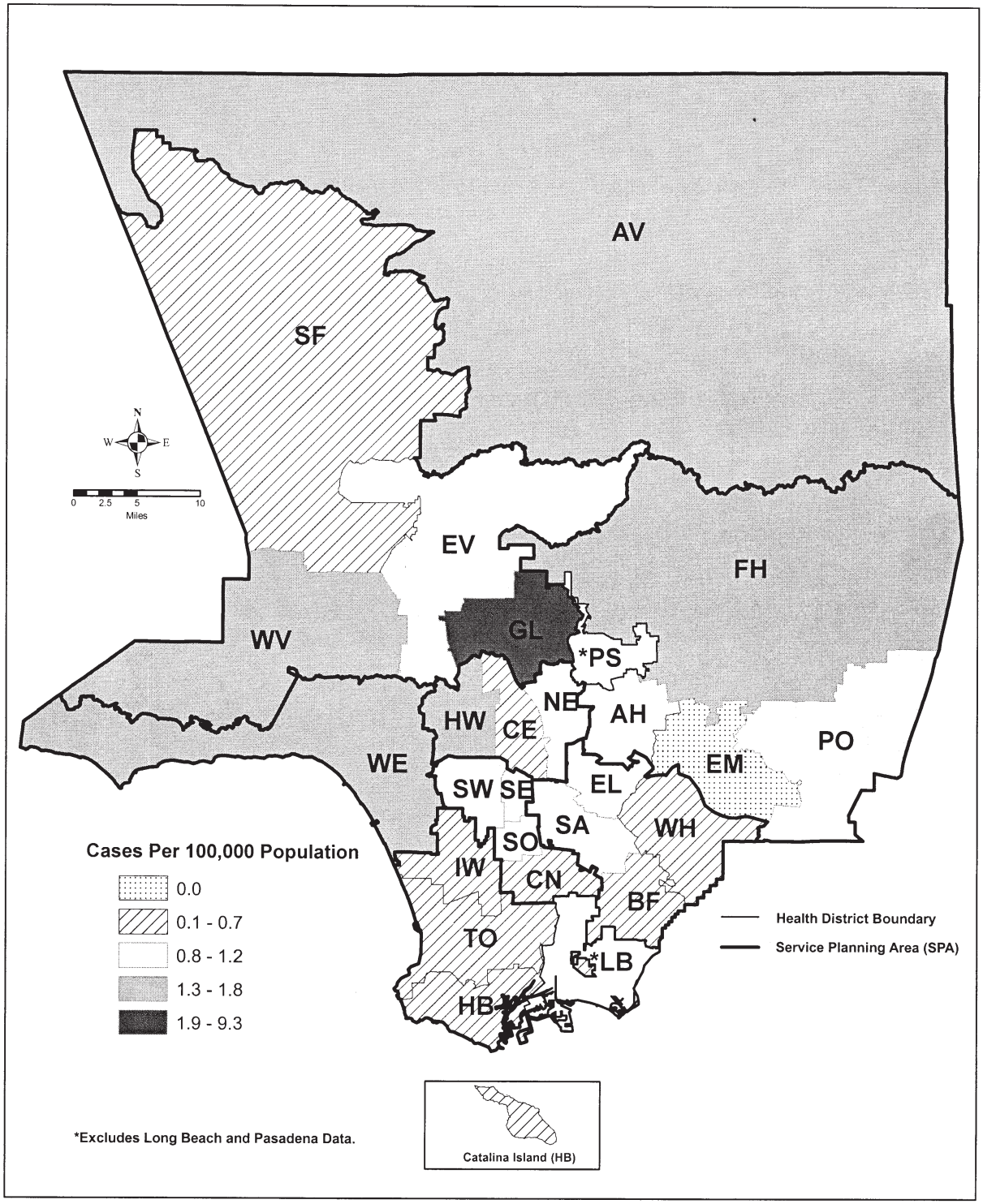
PREVENTION

Proper hand hygiene before meals and after using the restroom is a major way to prevent infection and transmission of amebiasis. Persons who care for diapered/incontinent children and adults should ensure

that they properly wash their hands. Individuals with diarrheal illness should avoid swimming in recreational waters for at least two weeks after symptoms have ceased.

RESOURCES

Centers for Disease Control and Prevention (2008). Amebiasis - Health Information for International Travel. Retrieved October 9, 2008, from the CDC Web site: http://wwwn.cdc.gov/travel/contentDiseases.aspx#ameb

Centers for Disease Control and Prevention (2008). Parasitic Disease Information: Amebiasis. Retrieved October 9, 2008, from the CDC Web site: www.cdc.gov/ncidod/dpd/parasites/amebiasis/default.htm

Map 1. Amebiasis
Rates by Health District, Los Angeles County, 2007*