



HEPATITIS A

CRUDE DATA	
Number of Cases	66
Annual Incidence ^a	
LA County	0.69
California ^b	0.49
United States ^b	0.56
Age at Diagnosis	
Mean	43
Median	38
Range	11–97 years

^aCases per 100,000 population

^bCalculated from: CDC. *Notice to Readers: Final 2016 Reports of Nationally Notifiable Infectious Diseases and Conditions Weekly* / January 6, 2018 / 65(52). Available at: https://www.cdc.gov/mmwr/volumes/65/wr/mm6552md.htm?s_cid=mm6552md_w

DESCRIPTION

Hepatitis A virus (HAV), an RNA virus, is a vaccine-preventable disease transmitted fecally, orally, person-to-person, or through vehicles such as food. In the US, among adults with identified risk factors, the majority of cases are among men who have sex with other men (MSM), persons who use illegal drugs, and international travelers. Sexual and household contacts of HAV-infected persons are also at increased risk of getting the disease.

The average incubation period is 28 days (range 15–50 days). Signs and symptoms of acute hepatitis A include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Many cases, especially in children, are mild or asymptomatic. Recovery usually occurs within one month. Infection confers life-long immunity.

Routine vaccination of children and adults at risk is an effective way to reduce hepatitis A incidence. In 1996, CDC's Advisory Committee on Immunization Practices (ACIP) recommended administration of hepatitis A vaccine to persons at increased risk for the disease including international travelers, men who have sex with men (MSM), non-injection and injection-drug users, and children living in communities with high rates of disease. In 1999, ACIP expanded recommendations for vaccination to children living in states, counties, and communities with consistently elevated hepatitis A rates including California. In 2006, ACIP expanded these recommendations to include routine vaccination of children in all 50 states.

Hepatitis A vaccination is currently recommended for:

- 1) All children between their first and second birthdays (12-23 months old),
- 2) Children and adolescents 2-18 years old who live in states or communities where routine vaccination has been implemented because of high disease incidence,
- 3) Anyone ≥ 1 years old traveling to or working in countries with high or intermediate prevalence of hepatitis A,
- 4) MSM,
- 5) People who use street drugs,
- 6) People with chronic liver disease,
- 7) People who are treated with clotting factor concentrates,
- 8) People who work with HAV-infected primates or HAV in research laboratories, and
- 9) Households adopting a child or caring for an adopted child from a country where hepatitis A is common.

LAC DPH uses the CDC Council of State and Territorial Epidemiologists (CSTE) 2012 case definition for acute hepatitis A to standardize surveillance of this infection. A case of hepatitis A is defined as a person with:

- 1) An acute illness with discrete onset of symptoms,
- 2) Jaundice or elevated alanine



aminotransferase (ALT) levels, and

- 3) Either IgM anti-HAV positive or an epidemiologic link to a person who has laboratory confirmed hepatitis A.

2016 TRENDS AND HIGHLIGHTS

- The 2016 incidence rate of acute hepatitis A was higher than the average for the last five years (0.7 per 100,000 versus 0.5 per 100,000, respectively) (Figure 1).
- In 2016, two large hepatitis A outbreaks were reported in the US—one in Hawaii and one in Virginia. LAC did not identify any cases associated with these outbreaks.
- In November 2016, San Diego County identified an outbreak among homeless and/or illicit drug users (IDU). In 2016, LAC identified no acute hepatitis A cases among the homeless.
- The incidence rate was highest among 45-54 year olds (1.1 per 100,000) followed by 35-44 year olds and 15-34 year olds (both 0.9 per 100,000) (Figure 2).
- In 2016, the highest incidence rate was seen in Whites (1.3 per 100,000) followed by Asians (0.6 per 100,000) (Figure 3).
- The male-to-female ratio was 3:1.2.
- A total of three SPAs had incidence rates greater than the overall county incidence rate of 0.7 per 100,000. These areas are SPA 5 (1.4 per 100,000), SPA 4 (0.8 per 100,000), and SPA 2 (0.8 per 100,000) (Figure 4).
- Risk factors were identified in 68% (n=45) of the 66 confirmed cases including some cases with multiple risk factors. Of the cases reporting risk factors, recent travel outside of the US (n=25, 56%) was the most frequently reported risk factor followed by household travel (n=13, 29%), consumption of raw shellfish (n=13, 29%), MSM (n=9, 20%), multiple sexual partners (n=5, 11%) and use of illicit drugs (n=5, 11%) (Figure 5).
- From 2015 to 2016 there was a significant increase in the number of MSM acute cases (2015: n=1, 3% of cases, 2016: n=9, 20% of cases).



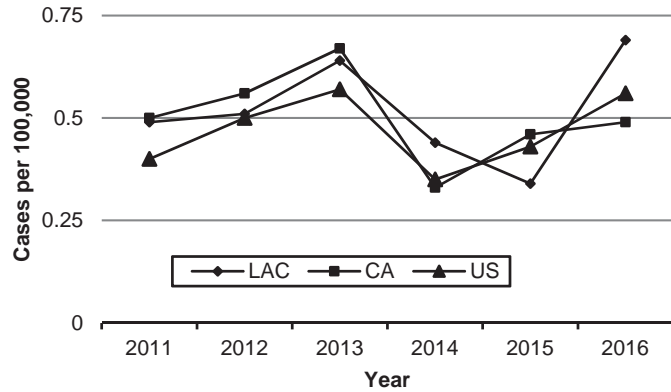
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
LAC, 2012-2016**

	2012 (N=47)			2013 (N=60)			2014 (N=42)			2015 (N=33)			2016 (N=66)		
	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	-	-
1-4	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
5-14	3	6.4	0.3	2	3.3	0.2	1	2.4	0.1	1	3.0	0.1	1	1.5	0.1
15-34	24	51.1	0.9	22	36.7	0.8	17	40.5	0.6	12	36.4	0.4	25	37.9	0.9
35-44	9	19.1	0.7	12	20.0	0.9	9	21.4	0.7	9	27.3	0.7	12	18.2	0.9
45-54	3	6.4	0.2	8	13.3	0.6	0	0.0	0.0	3	9.1	0.2	14	21.2	1.1
55-64	5	10.6	0.5	13	21.7	1.3	8	19.0	0.8	4	12.1	0.4	5	7.6	0.4
65+	3	6.4	0.3	3	5.0	0.3	7	16.7	0.6	4	12.1	0.3	9	13.6	0.7
Unknown	0	-	-	0	-	-	0	-	-	0	-	-			
Race/Ethnicity															
Asian	8	17.0	0.6	15	25.0	1.1	11	26.2	0.8	11	33.3	0.8	8	12.1	0.6
Black	0	0.0	0.0	1	1.7	0.1	4	9.5	0.5	1	3.0	0.1	2	3.0	0.3
Hispanic	20	42.6	0.4	18	30.0	0.4	14	33.3	0.3	11	33.3	0.2	21	31.8	0.4
White	14	29.8	0.5	26	43.3	1.0	12	28.6	0.5	9	27.3	0.3	35	53.0	1.3
Other	0	-	-	0	-	-	1	2.4	-	1	3.0	-	0	-	-
Unknown	5	10.6	-	0	-	-	0	-	-	0	-	-	0	-	-
SPA															
1	2	4.3	0.5	3	5.0	0.8	2	4.8	0.5	0	-	-	2	3.0	0.5
2	17	36.2	0.8	17	28.3	0.8	12	28.6	0.5	8	24.2	0.4	19	28.8	0.8
3	4	8.5	0.2	5	8.3	0.3	5	11.9	0.3	5	15.2	0.3	10	15.2	0.6
4	8	17.0	0.7	8	13.3	0.7	12	28.6	1.0	9	27.3	0.8	10	15.2	0.8
5	4	8.5	0.6	9	15.0	1.4	1	2.4	0.2	3	9.1	0.5	9	13.6	1.4
6	0	0.0	0.0	1	1.7	0.1	4	9.5	0.4	1	3.0	0.1	6	9.1	0.6
7	7	14.9	0.5	12	20.0	0.9	3	7.1	0.2	6	18.2	0.5	4	6.1	0.3
8	5	10.6	0.5	5	8.3	0.5	3	7.1	0.3	1	3.0	0.1	6	9.1	0.5
Unknown	0	-	-	0	-	-	0	-	-	0	-	-	-	-	-

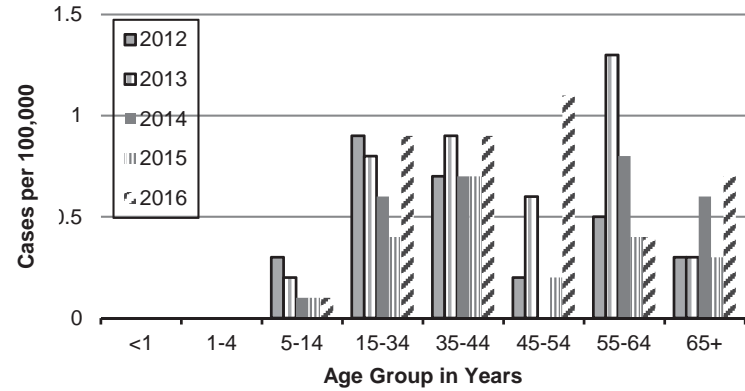
*Rates calculated based on less than 19 cases or events are considered unreliable.



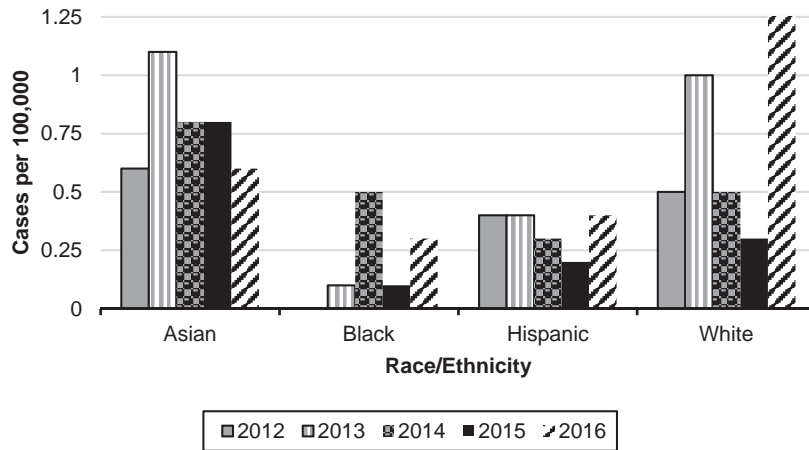
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA, and US, 2012- 2016**



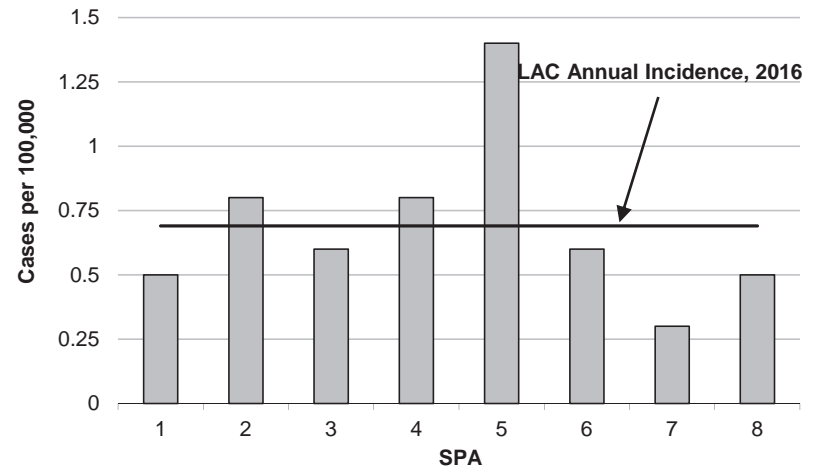
**Figure 2. Incidence Rates* of Hepatitis A by Age Group
LAC, 2012-2016**



**Figure 3. Hepatitis A Incidence Rates* by Race/Ethnicity
LAC, 2012-2016**



**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2016 (N=66)**

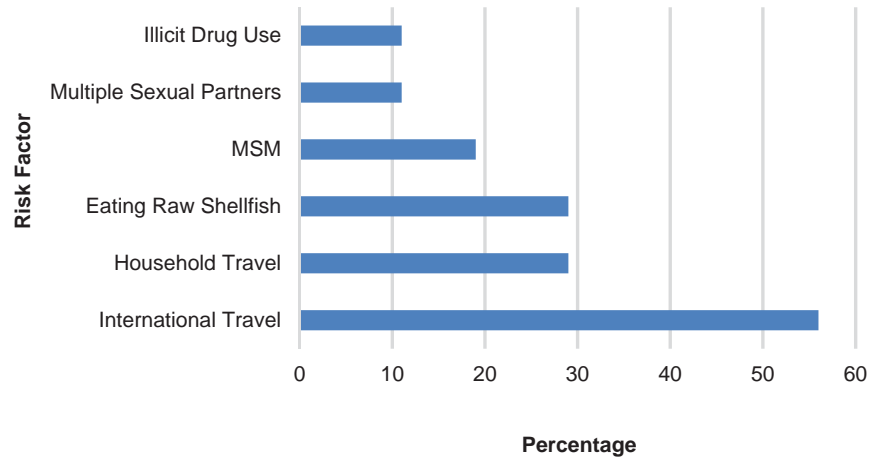


*Includes cases with multiple risk factors

* Rates based on fewer than 19 cases are unreliable

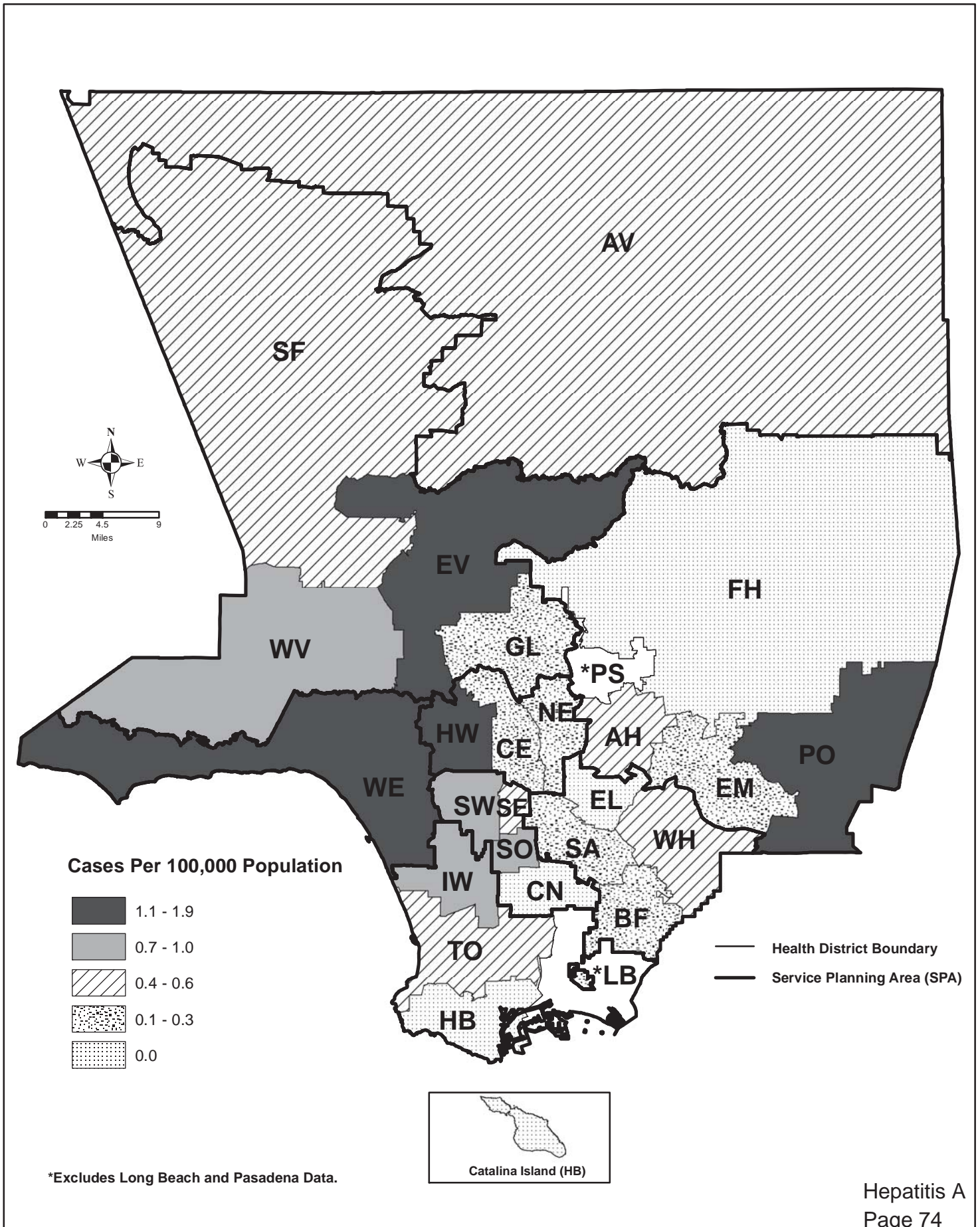


Figure 5. Hepatitis A Reported Risk Factors*
LAC, 2016 (N=45)



*Includes cases with multiple risk factors

Map 8. Hepatitis A Rates by Health District, Los Angeles County, 2016*





HEPATITIS A

CRUDE DATA	
Number of Cases	33
Annual Incidence ^a	
LA County	0.34
California ^b	0.46
United States ^b	0.43
Age at Diagnosis	
Mean	41
Median	39
Range	7–92 years

^aCases per 100,000 population

^b Calculated from: CDC. *Notice to Readers: Final 2015 Reports of Nationally Notifiable Infectious Diseases and Conditions Weekly* / November 25, 2016 / 65(46);1306–1321. Available at: www.cdc.gov/mmwr/volumes/65/wr/mm6546a9.htm

DESCRIPTION

Hepatitis A virus (HAV), an RNA virus, is a vaccine-preventable disease transmitted fecally, person-to-person, or through vehicles such as food. In the US, among adults with identified risk factors, the majority of cases are among men who have sex with other men (MSM), persons who use illegal drugs, and international travelers. Sexual and household contacts of HAV-infected persons are also at increased risk of getting the disease.

The average incubation period is 28 days (range 15–50 days). Signs and symptoms of acute hepatitis A include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Many cases, especially in children, are mild or asymptomatic. Recovery usually occurs within one month. Infection confers life-long immunity.

Hepatitis A vaccination is the most effective means of preventing HAV transmission among persons at risk of infection. Hepatitis A vaccination is recommended for:

- 1) All children between their first and second birthdays (12–23 months old),
- 2) Anyone ≥ 1 year old traveling to or working in countries with high or intermediate prevalence of hepatitis A,
- 3) Children and adolescents 2–18 years old who live in states or communities where routine vaccination has been implemented because of high disease incidence,
- 4) MSM,
- 5) People who use street drugs,
- 6) People with chronic liver disease,
- 7) People who are treated with clotting factor concentrates,
- 8) People who work with HAV-infected primates or HAV in research laboratories, and
- 9) Households adopting a child or caring for an adopted child from a country where hepatitis A is common.

LAC DPH uses the CDC Council of State and Territorial Epidemiologists 2012 case definition for acute hepatitis A to standardize surveillance of this infection. A case of hepatitis A is defined as a person with:

- 1) An acute illness with discrete onset of symptoms,
- 2) Jaundice or elevated alanine aminotransferase (ALT) levels, and
- 3) Either IgM anti-HAV positive or an epidemiologic link to a person who has laboratory confirmed hepatitis A.

2015 TRENDS AND HIGHLIGHTS

- The 2015 incidence rate of acute hepatitis A was lower than that in 2014 (0.3 per 100,000 versus 0.4 per 100,000, respectively (Figure 1)).
- The incidence rate was highest among those between 35–44 year olds (0.7 per 100,000) followed by 15–34 year olds and 55–64 year olds (0.4 per 100,000), respectively (Figure 2).
- Similar to the previous years, in 2015, the highest incidence rate was seen in Asians (0.8 per 100,000) (Figure 3).
- The male-to-female ratio was 15:18.
- A total of four SPAs had incidence rates greater than the overall county incidence rate of 0.3 per 100,000. These areas are SPA 2 (0.4 per 100,000), SPA 4 (0.8 per 100,000),



SPA 5 (0.5 per 100,000), and SPA 7 (0.5 per 100,000) (Figure 4).

- Risk factors were identified in 70% (n=23) of the 33 confirmed cases including some cases with multiple risk factors. Recent travel

outside of the US (n=13, 39%) was the most frequently reported risk factor followed by household travel (n=6, 18%), consumption of raw shellfish (n=7, 21%), and MSM (n=1, 3%) (Figure 5).



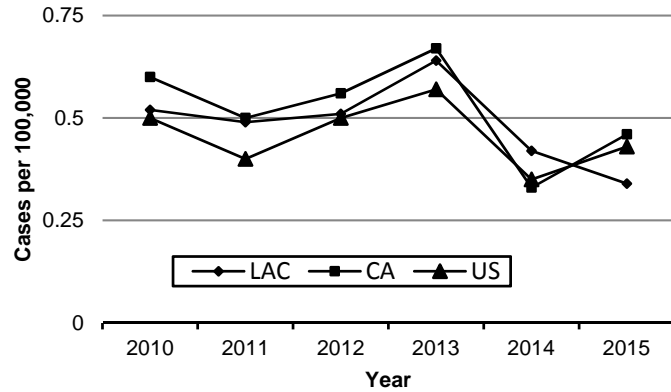
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
LAC, 2011-2015**

	2011 (N=45)			2012 (N=47)			2013 (N=60)			2014 (N=42)			2015 (N=33)		
	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	-	-
1-4	1	2.2	0.2	0	-	-	0	-	-	0	-	-	0	-	-
5-14	3	6.7	0.2	3	6.4	0.3	2	3.3	0.2	1	2.4	0.1	1	3.0	0.1
15-34	18	40.0	0.6	24	51.1	0.9	22	36.7	0.8	17	40.5	0.6	12	36.4	0.4
35-44	11	24.4	0.8	9	19.1	0.7	12	20.0	0.9	9	21.4	0.7	9	27.3	0.7
45-54	5	11.1	0.4	3	6.4	0.2	8	13.3	0.6	0	0.0	0.0	3	9.1	0.2
55-64	3	6.7	0.3	5	10.6	0.5	13	21.7	1.3	8	19.0	0.8	4	12.1	0.4
65+	4	8.9	0.4	3	6.4	0.3	3	5.0	0.3	7	16.7	0.6	4	12.1	0.3
Unknown	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Race/Ethnicity															
Asian	13	28.9	1.0	8	17.0	0.6	15	25.0	1.1	11	26.2	0.8	11	33.3	0.8
Black	2	4.4	0.3	0	0.0	0.0	1	1.7	0.1	4	9.5	0.5	1	3.0	0.1
Hispanic	8	17.8	0.2	20	42.6	0.4	18	30.0	0.4	14	33.3	0.3	11	33.3	0.2
White	22	48.9	0.8	14	29.8	0.5	26	43.3	1.0	12	28.6	0.5	9	27.3	0.3
Other	0	-	-	0	-	-	0	-	-	1	2.4	-	1	3.0	-
Unknown	0	-	-	5	10.6	-	0	-	-	0	-	-	0	-	-
SPA															
1	2	4.4	0.5	2	4.3	0.5	3	5.0	0.8	2	4.8	0.5	0	-	-
2	17	37.8	0.8	17	36.2	0.8	17	28.3	0.8	12	28.6	0.5	8	24.2	0.4
3	10	22.2	0.6	4	8.5	0.2	5	8.3	0.3	5	11.9	0.3	5	15.2	0.3
4	6	13.3	0.5	8	17.0	0.7	8	13.3	0.7	12	28.6	1.0	9	27.3	0.8
5	2	4.4	0.3	4	8.5	0.6	9	15.0	1.4	1	2.4	0.2	3	9.1	0.5
6	3	6.7	0.3	0	0.0	0.0	1	1.7	0.1	4	9.5	0.4	1	3.0	0.1
7	1	2.2	0.1	7	14.9	0.5	12	20.0	0.9	3	7.1	0.2	6	18.2	0.5
8	4	8.9	0.4	5	10.6	0.5	5	8.3	0.5	3	7.1	0.3	1	3.0	0.1
Unknown	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-

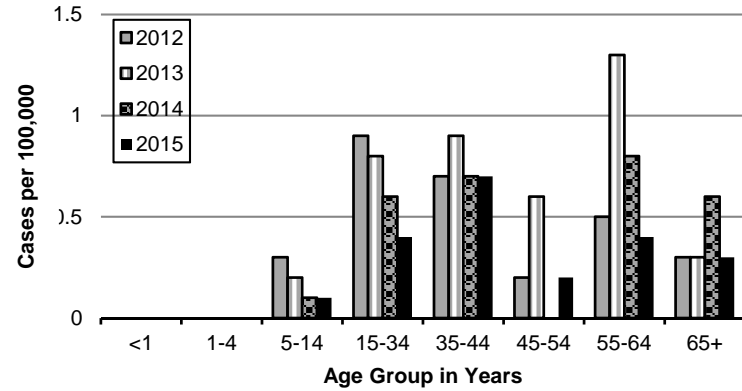
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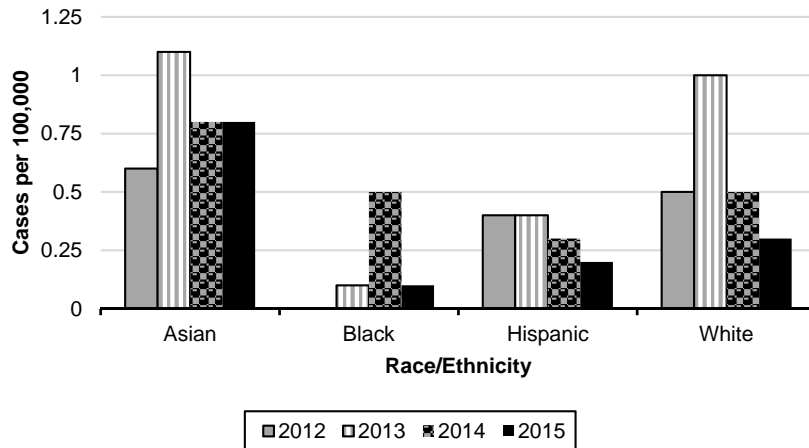
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA, and US, 2010- 2015**



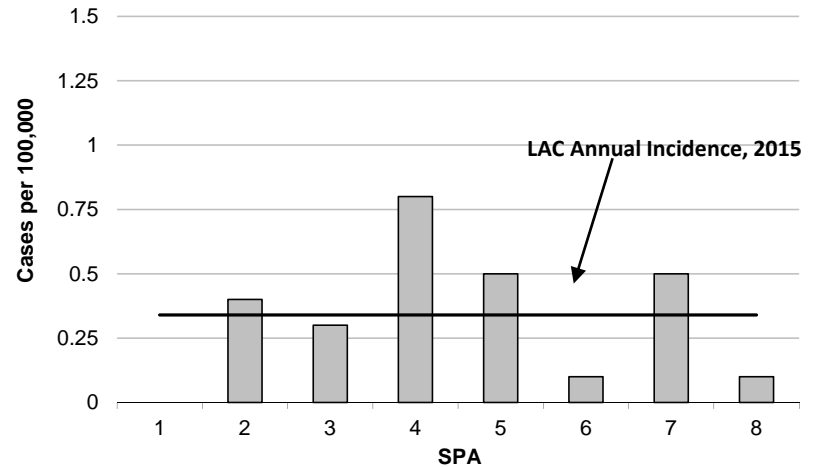
**Figure 2. Incidence Rates* of Hepatitis A by Age Group
LAC, 2012-2015**



**Figure 3. Hepatitis A Incidence Rates* by Race/Ethnicity
LAC, 2012-2015**



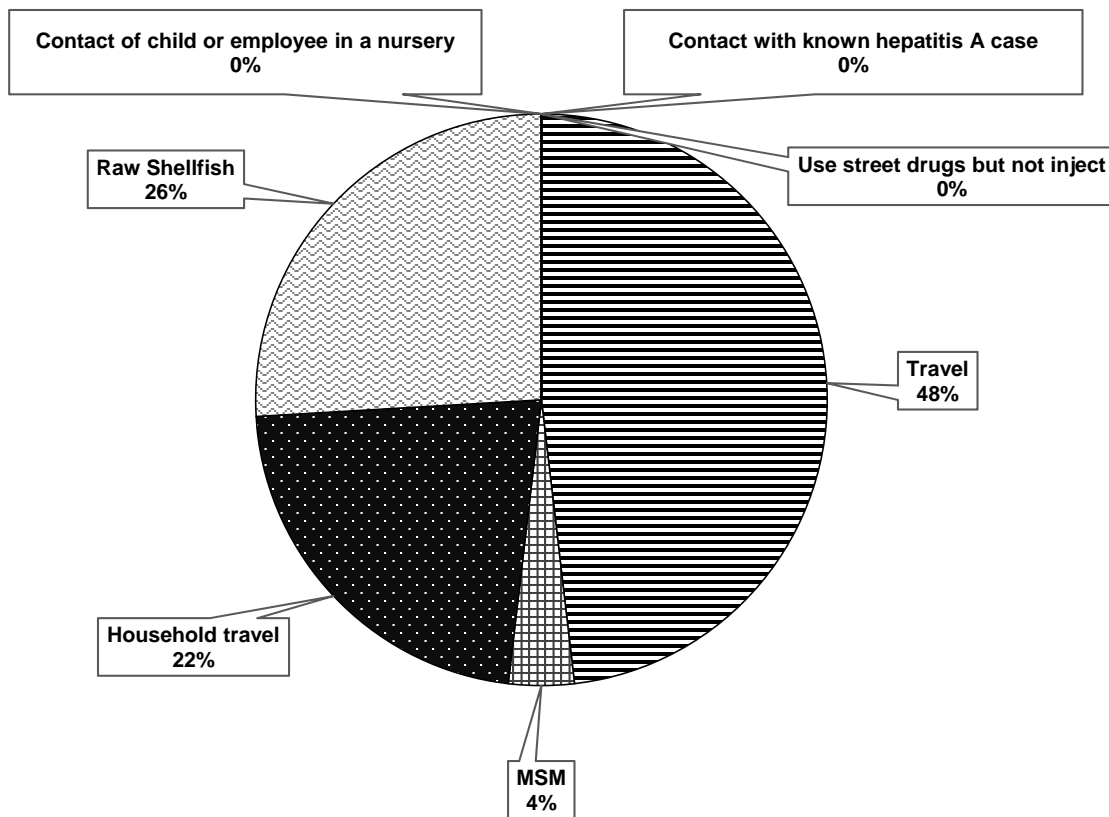
**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2015 (N=33)**



* Rates based on fewer than 19 cases are unreliable



**Figure 5. Hepatitis A Reported Risk Factors*
LAC, 2015 (N=23)**



*Includes cases with multiple risk factors





HEPATITIS A

CRUDE DATA	
Number of Cases	42
Annual Incidence ^a	
LA County	0.44
California ^b	0.37
United States ^b	0.39
Age at Diagnosis	
Mean	43
Median	37
Range	14–86 years

^aCases per 100,000 population

^bCalculated from Final 2014 Reports of Nationally Notifiable Infectious Diseases. MMWR 64(36):1019–1033.

DESCRIPTION

Hepatitis A virus (HAV), a RNA virus, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. In the US, among adults with identified risk factors, the majority of cases are among men who have sex with other men, persons who use illegal drugs, and international travelers. Sexual and household contacts of HAV-infected persons are also at increased risk for getting the disease.

The average incubation period is 28 days (range 15–50 days). Signs and symptoms of acute hepatitis A include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Many cases, especially in children, are mild or asymptomatic. Recovery usually occurs within one month. Infection confers life-long immunity.

Hepatitis A vaccination is the most effective means of preventing HAV transmission among persons at risk for infection. Hepatitis A vaccination is recommended for all children between their first and second birthdays (12 through 23 months of age), anyone 1 year of age and older traveling to or working in countries with high or intermediate prevalence of hepatitis A such as those located in Central or South

America, Mexico, Asia (except Japan), Africa, and eastern Europe, children and adolescents 2 through 18 years of age who live in states or communities where routine vaccination has been implemented because of high disease incidence, men who have sex with men, people who use street drugs, people with chronic liver disease, people who are treated with clotting factor concentrates, people who work with HAV-infected primates or who work with HAV in research laboratories, and members of households planning to adopt a child, or care for a newly arriving adopted child from a country where hepatitis A is common.

LAC DPH uses the CDC Council of State and Territorial Epidemiologists 2012 criteria for acute hepatitis A to standardize surveillance of this infection. A case of hepatitis A is defined as a person with 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) either IgM anti-HAV positive, or an epidemiologic link to a person who has laboratory confirmed hepatitis A.

2014 TRENDS AND HIGHLIGHTS

- The 2014 incidence rate of acute hepatitis A was lower than 2013, 0.44 per 100,000 versus 0.64 per 100,000, respectively. This decrease was due to a multistate outbreak in 2013 (Figure 1). There were no hepatitis A outbreaks investigated in 2014.
- Similar to 2013, the incidence rate was highest among those between the ages of 55–64 years (0.8 per 100,000) (Figure 2).
- The male-to-female ratio was 1.6:1.
- Similar to previous years, in 2014 the highest incidence rate was seen in Asians (0.8 per 100,000) (Figure 3).
- Three Service Planning Areas (SPAs) had incidence rates greater than the overall county incidence rate of 0.44 per 100,000: SPA 4 (1.0 per 100,000), SPA 1 (0.5 per 100,000), and SPA 2 (0.5 per 100,000). The incidence rates were higher in these SPAs as they are more highly populated by Asian and Hispanic immigrants who travel abroad more frequently to visit relatives. The most frequently reported travel destinations for 2014 were South/Central America and Asia/South Pacific (Figure 4).



- Thirty-three percent of acute hepatitis A cases were hospitalized, and the remainder were managed as outpatients.
- Risk factors were identified in 67% (of the 42 confirmed cases (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=14, 50%) was the most frequently reported risk factor (Figure 5).



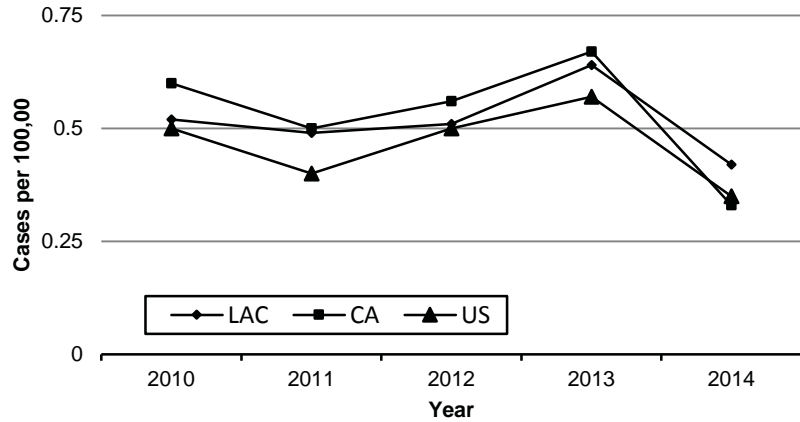
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2010-2014**

	2010 (N=51)			2011 (N=45)			2012 (N=47)			2013 (N=60)			2014 (N=42)		
	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	-	-
1-4	2	3.9	0.4	1	2.2	0.2	0	-	-	0	-	-	0	-	-
5-14	3	5.9	0.2	3	6.7	0.2	3	6.4	0.3	2	3.3	0.2	1	2.4	0.1
15-34	27	52.9	1.0	18	40.0	0.6	24	51.0	0.9	22	36.7	0.8	17	40.5	0.6
35-44	6	11.8	0.4	11	24.4	0.8	9	19.1	0.7	12	20.0	0.9	9	21.4	0.7
45-54	3	5.9	0.2	5	11.1	0.4	3	6.4	0.2	8	13.3	0.6	0	-	-
55-64	3	5.9	0.3	3	6.7	0.3	5	10.6	0.5	13	21.7	1.3	8	19.0	0.8
65+	7	13.7	0.7	4	8.9	0.4	3	6.4	0.3	3	5.0	0.3	7	16.7	0.6
Unknown	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Race/Ethnicity															
Asian	12	23.5	0.9	13	28.9	1.0	8	17.0	0.6	15	25.0	1.1	11	26.2	0.8
Black	3	5.9	0.4	2	4.4	0.3	0	0	0	1	1.7	0.1	4	9.5	0.5
Hispanic	22	43.1	0.5	8	17.8	0.2	20	42.6	0.4	18	30.0	0.4	14	33.3	0.3
White	14	27.4	0.5	22	48.9	0.8	14	29.8	0.5	26	43.3	1.0	12	28.6	0.5
Other	0	-	-	0	-	-	0	-	-	0	-	-	1	2.4	-
Unknown	0	-	-	0	-	-	5	10.6	-	0	-	-	0	-	-
SPA															
1	3	5.9	0.8	2	4.4	0.5	2	4.3	0.5	3	5.0	0.8	2	4.8	0.5
2	18	35.3	0.8	17	37.8	0.8	17	36.1	0.8	17	28.3	0.8	12	28.6	0.5
3	3	5.9	0.2	10	22.2	0.6	4	8.5	0.2	5	8.3	0.3	5	11.9	0.3
4	9	17.6	0.8	6	13.3	0.5	8	17.0	0.7	8	13.3	0.7	12	28.6	1.0
5	6	11.8	0.9	2	4.4	0.3	4	8.5	0.6	9	15.0	1.4	1	2.4	0.2
6	4	7.8	0.4	3	6.7	0.3	0	0	0	1	1.7	0.1	4	9.5	0.4
7	6	11.8	0.5	1	2.2	0.1	7	14.9	0.5	12	20.0	0.9	3	7.1	0.2
8	1	2.0	0.1	4	8.9	0.4	5	10.6	0.5	5	8.3	0.5	3	7.1	0.3
Unknown	1	2.0	-	0	-	-	0	-	-	0	-	-	0	-	-

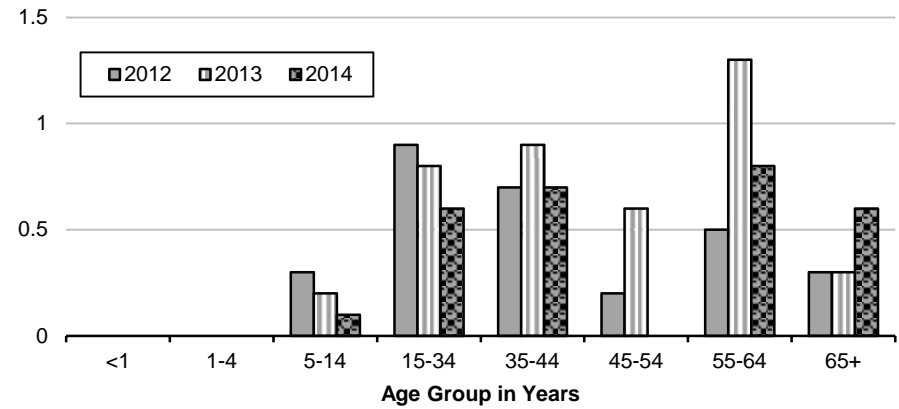
*Rates calculated based on less than 19 cases or events are considered unreliable.



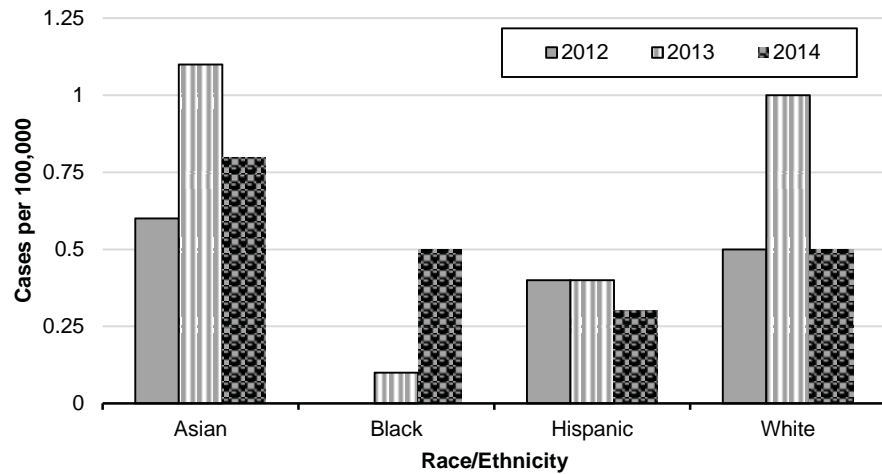
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 2010- 2014**



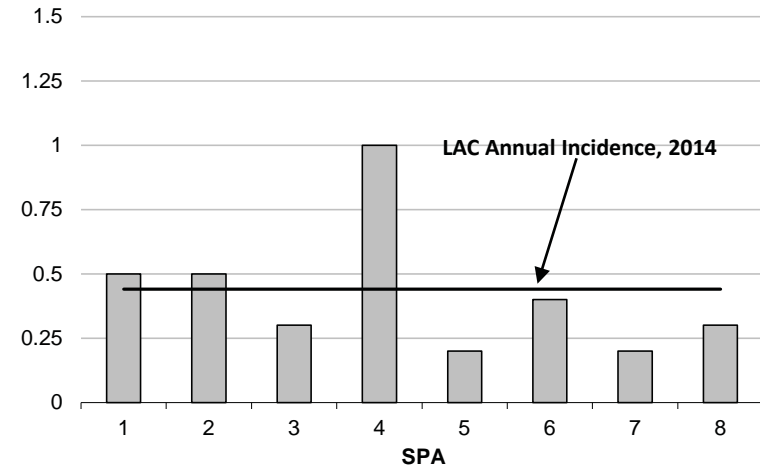
**Figure 2. Incidence Rates* of Hepatitis A by Age Group
LAC, 2012-2014**



**Figure 3. Hepatitis A Incidence Rates* by Race/Ethnicity
LAC, 2012-2014**



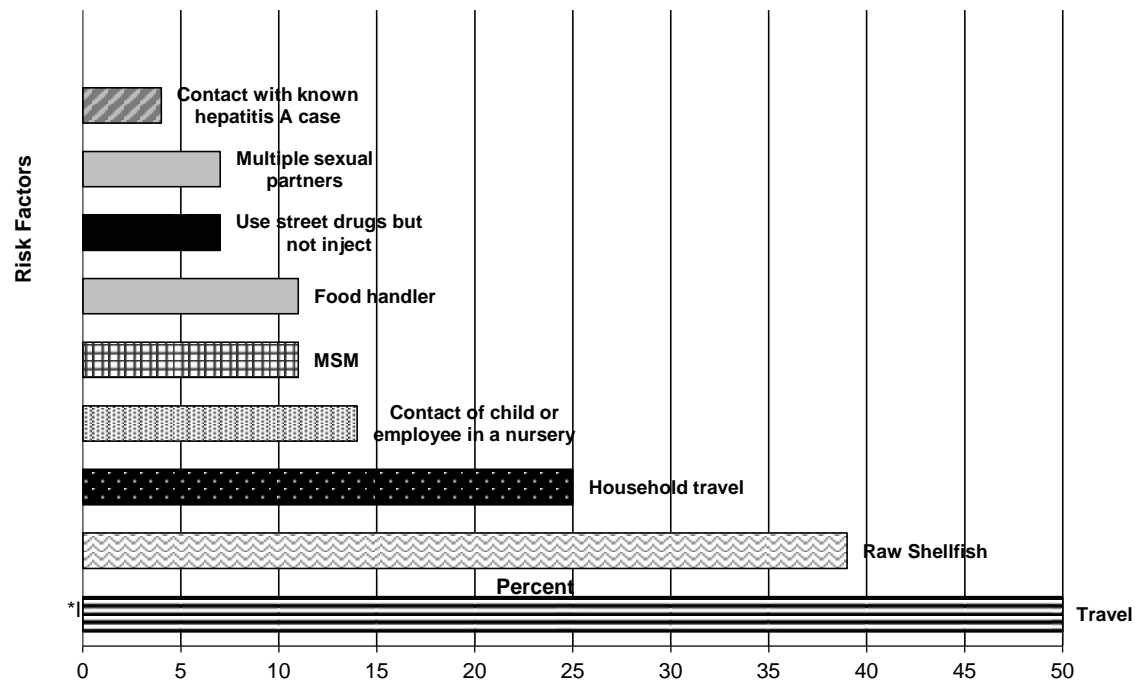
**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2014 (N=42)**



* Rates based on fewer than 19 cases are unreliable



Figure 5. Hepatitis A Reported Risk Factors*
LAC, 2014 (N=28)





HEPATITIS A

CRUDE DATA	
Number of Cases	60
Annual Incidence ^a	
LA County	0.64
California ^b	0.67
United States ^b	0.57
Age at Diagnosis	
Mean	41
Median	40
Range	6-83 years

^aCases per 100,000 population

^bCalculated from Final 2013 Reports of Nationally Notifiable Infectious Diseases. MMWR 63(32):702-716.

DESCRIPTION

Hepatitis A virus (HAV), a RNA virus, is a vaccine-preventable disease transmitted fecally, person-to-person, or through vehicles such as food. In the United States (US), among adults with identified risk factors, the majority of cases are among men who have sex with other men, persons who use illegal drugs, and international travelers. Sexual and household contacts of HAV-infected persons are also at increased risk for getting the disease.

The average incubation period is 28 days (range 15–50 days). Signs and symptoms of acute hepatitis A include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Many cases, especially in children, are mild or asymptomatic. Recovery usually occurs within one month. Infection confers life-long immunity.

Hepatitis A vaccination is the most effective means of preventing HAV transmission among persons at risk for infection. Hepatitis A vaccination is recommended for all children at age 1 year, for persons who are at increased risk for infection, for persons who are at increased risk for complications from hepatitis A, and for any person wishing to obtain immunity.

Los Angeles County (LAC) Department of Public Health uses the Centers for Disease Control and

Prevention/Council of State and Territorial Epidemiologists 2012 criteria for acute hepatitis A to standardize surveillance of this infection. A case of hepatitis A is defined as a person with 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) either IgM anti-HAV positive, or an epidemiologic link to a person who has laboratory confirmed hepatitis A.

2013 TRENDS AND HIGHLIGHTS

- ACDC participated in a multistate outbreak investigation associated with frozen berries. For more information see 2013 ACDC Special Studies Reports.
- The 2013 incidence rate of acute hepatitis A was higher than 2012, 0.64 per 100,000 versus 0.51 per 100,000, respectively. Without the outbreak cases the 2013 rate would have been lower. For instance, the incidence rate for the 55-64 age group in 2013 was 1.3 due to the outbreak compared with the 2012 rate which was 0.5 when there had been no outbreak within this age group. (Figure 1).
- The rate was highest among those between the ages of 55-64 years (1.3 per 100,000), unlike 2012 where the rate was highest among those in the 15-34 age group (0.9 per 100,000) (Figure 2).
- Similar to previous years, in 2013 the highest incidence rate was seen in Asians (1.1 per 100,000) (Figure 3).
- Five Service Planning Areas (SPAs) had incidence rates greater than the overall county incidence rate of 0.64 per 100,000: SPA 1 (0.8 per 100,000), SPA 2 (0.8 per 100,000), SPA 4 (0.7 per 100,000), SPA 5 (1.4 per 100,000) and SPA 7 (0.9 per 100,000). The incidence rates were higher in these SPAs as they are more highly populated by Asian and Hispanic immigrants who travel abroad more frequently to visit relatives. The most frequently reported travel destinations for 2013 were South/Central America and Asia/South Pacific. SPA 6 and 8 reported lower incidence rates as they are predominantly populated by African American populations that are less likely to travel internationally (Figure 4).
- Forty-seven percent (n=28) of acute hepatitis A cases were hospitalized, and the remainder were managed as outpatients.



- Risk factors were identified in 72% (n=43) of the 60 confirmed cases (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=20, 47%) was the most frequently reported risk factor, followed by being part of a common source outbreak (n=14, 33%), having a household member who traveled outside of the US in 3 months prior to onset of illness (n=10, 23%), eating raw shellfish (n=9, 21%), contact with a suspected or confirmed hepatitis A (n=5, 12%), close contact of child/employee at daycare center (n=1, 2%), using street drugs but not injecting (n=1, 2%) (Figure 5).



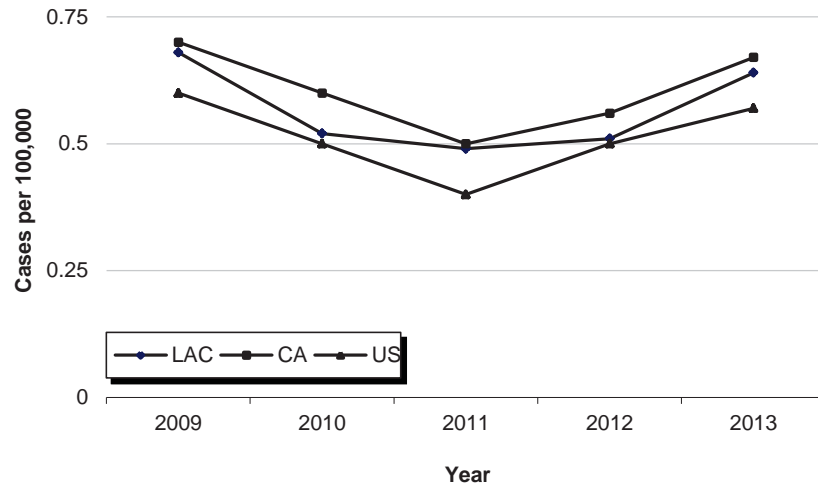
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2008-2013**

	2009 (N=66)			2010 (N=51)			2011 (N=45)			2012 (N=47)			2013 (N=60)		
	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
1-4	0	0	0.0	2	3.9	0.4	1	2.2	0.2	0	0	0	0	0	0
5-14	1	1.5	0.1	3	5.9	0.2	3	6.7	0.2	3	6.4	0.3	2	3.3	0.2
15-34	34	51.5	1.2	27	52.9	1.0	18	40.0	0.6	24	51.0	0.9	22	36.7	0.8
35-44	10	15.1	0.7	6	11.8	0.4	11	24.4	0.8	9	19.1	0.7	12	20.0	0.9
45-54	6	9.1	0.5	3	5.9	0.2	5	11.1	0.4	3	6.4	0.2	8	13.3	0.6
55-64	5	7.6	0.5	3	5.9	0.3	3	6.7	0.3	5	10.6	0.5	13	21.7	1.3
65+	10	15.1	1.0	7	13.7	0.7	4	8.9	0.4	3	6.4	0.3	3	5.0	0.3
Unknown	0	0		0	0	0	0	0	0	0	0	0	0	0	0
Race/Ethnicity															
Asian	18	27.3	1.4	12	23.5	0.9	13	28.9	1.0	8	17.0	0.6	15	25.0	1.1
Black	2	3.0	0.3	3	5.9	0.4	2	4.4	0.3	0	0	0	1	1.7	0.1
Hispanic	21	31.8	0.5	22	43.1	0.5	8	17.8	0.2	20	42.6	0.4	18	30.0	0.4
White	24	36.4	0.9	14	27.4	0.5	22	48.9	0.8	14	29.8	0.5	26	43.3	1.0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	1	1.5		0	0		0			5	10.6		0	0	0
SPA															
1	2	3.0	0.5	3	5.9	0.8	2	4.4	0.5	2	4.3	0.5	3	5.0	0.8
2	22	33.3	1.0	18	35.3	0.8	17	37.8	0.8	17	36.1	0.8	17	28.3	0.8
3	8	12.1	0.5	3	5.9	0.2	10	22.2	0.6	4	8.5	0.2	5	8.3	0.3
4	6	9.1	0.5	9	17.6	0.8	6	13.3	0.5	8	17.0	0.7	8	13.3	0.7
5	8	12.1	1.3	6	11.8	0.9	2	4.4	0.3	4	8.5	0.6	9	15.0	1.4
6	8	12.1	0.8	4	7.8	0.4	3	6.7	0.3	0	0	0	1	1.7	0.1
7	6	9.1	0.5	6	11.8	0.5	1	2.2	0.1	7	14.9	0.5	12	20.0	0.9
8	6	9.1	0.6	1	2.0	0.1	4	8.9	0.4	5	10.6	0.5	5	8.3	0.5
Unknown	0			1	2.0		0			0			0	0	

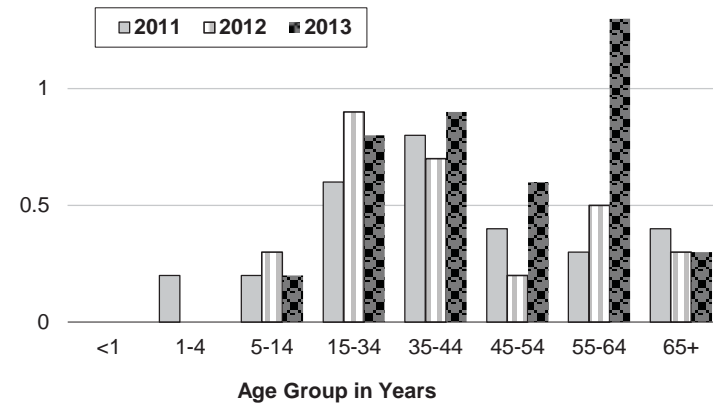
*Rates calculated based on less than 19 cases or events are considered unreliable.



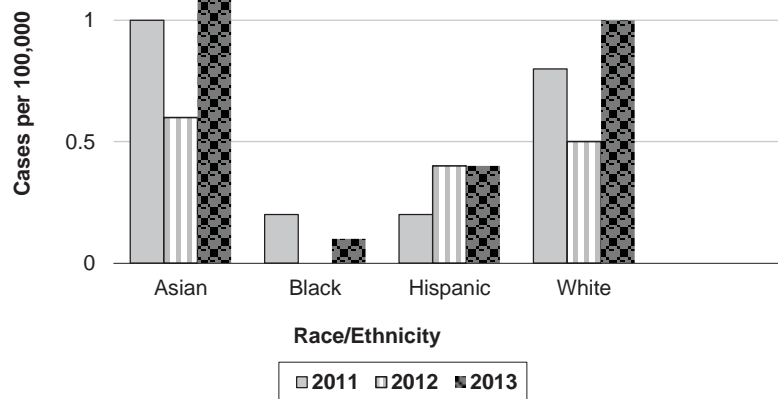
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 2009-2013**



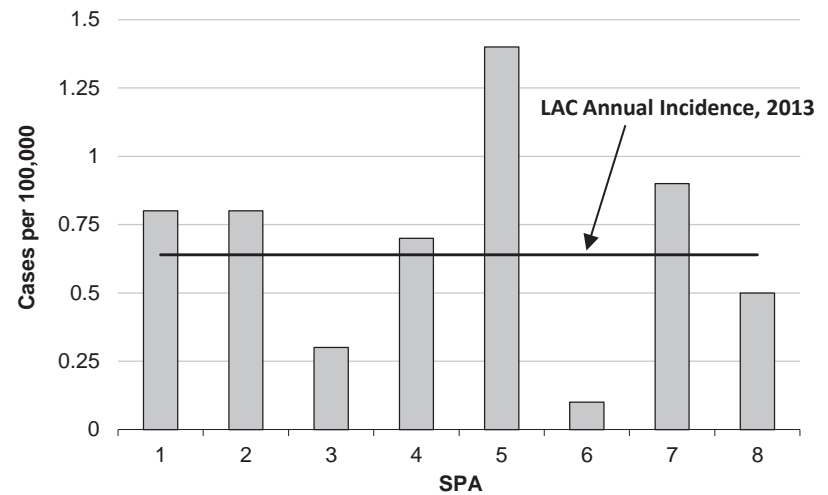
**Figure 2. Incidence Rates* of Hepatitis A by Age Group
LAC, 2011-2013**



**Figure 3. Hepatitis A Incidence Rates* by Race/Ethnicity
LAC, 2011-2013**



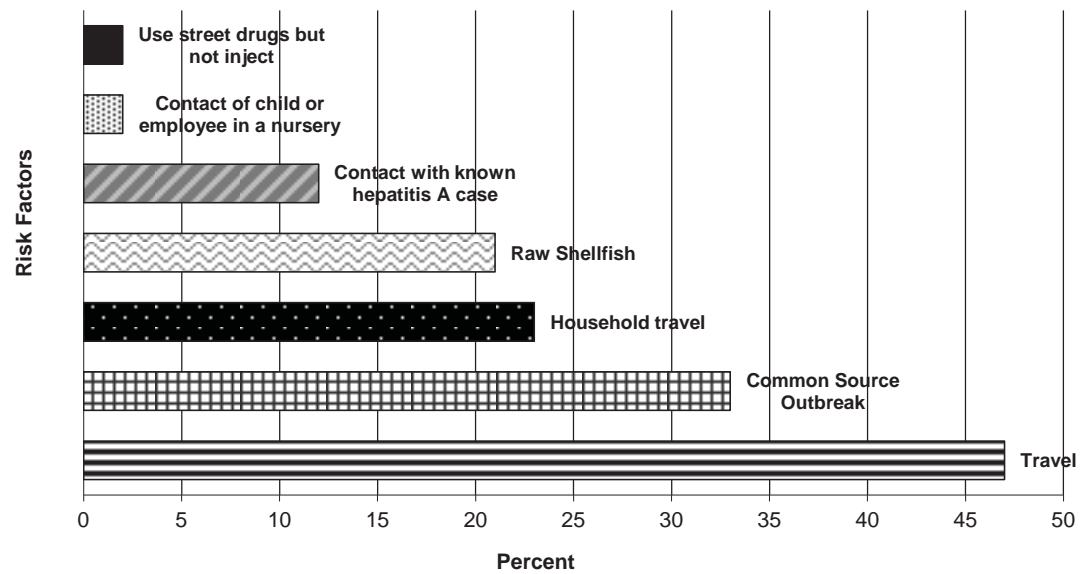
**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2013 (N=60)**



* Rates based on fewer than 19 cases are unreliable

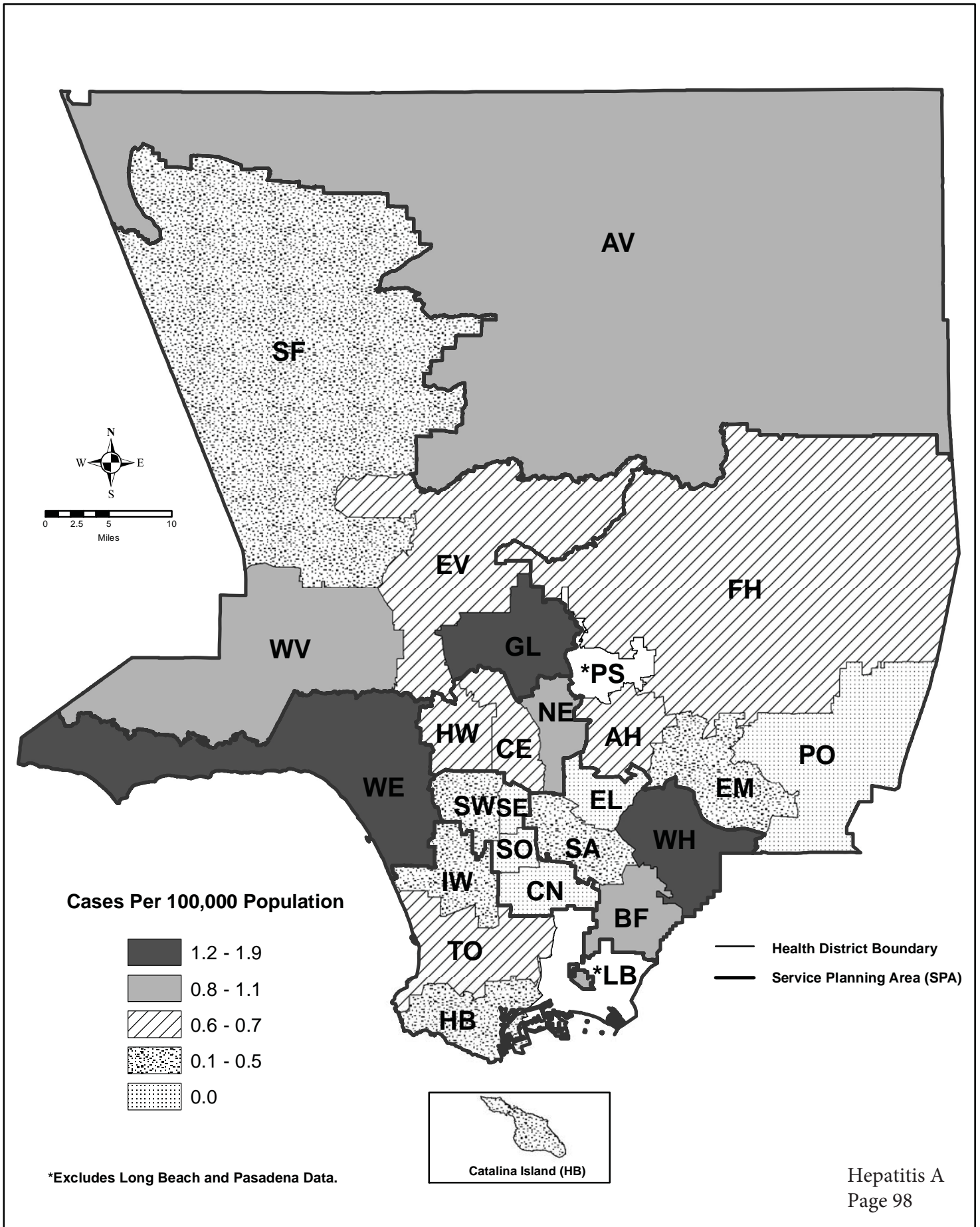


Figure 5. Hepatitis A Reported Risk Factors*
LAC, 2013 (N=60)



*Includes cases with multiple risk factors

Map 7. Hepatitis A Rates by Health District, Los Angeles County, 2013*





HEPATITIS A

CRUDE DATA	
Number of Cases	47
Annual Incidence ^a	
LA County	0.51
California ^b	0.56
United States ^c	0.5
Age at Diagnosis	
Mean	35
Median	31
Range	5-72 years

^aCases per 100,000 population

^b<http://www.cdph.ca.gov/programs/immunize/Documents/HAVByCounty2006-2012.pdf>.

^cCalculated from Final 2012 Reports of Nationally Notifiable Infectious Disease. MMWR 62(33);669-682.

DESCRIPTION

Hepatitis A virus (HAV), a RNA virus, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. In the United States (US), among adults with identified risk factors, the majority of cases are among men who have sex with other men, persons who use illegal drugs, and international travelers. Sexual and household contacts of HAV-infected persons are also at increased risk for getting the disease.

The average incubation period is 28 days (range 15–50 days). Signs and symptoms of acute hepatitis A include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Many cases, especially in children, are mild or asymptomatic. Recovery usually occurs within one month. Infection confers life-long immunity.

Hepatitis A vaccination is the most effective means of preventing HAV transmission among persons at risk for infection. Hepatitis A vaccination is recommended for all children at age 1 year, for persons who are at increased risk for infection, for persons who are at increased risk for complications from hepatitis A, and for any person wishing to obtain immunity.

Los Angeles County (LAC) Department of Public Health uses the Centers for Disease Control and Prevention/Council of State and Territorial Epidemiologists 2012 criteria for acute hepatitis A to standardize surveillance of this infection. A case of hepatitis A is defined as a person with 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) either IgM anti-HAV positive, or an epidemiologic link to a person who has laboratory confirmed hepatitis A.

2012 TRENDS AND HIGHLIGHTS

- The 2012 incidence rate of acute hepatitis A in LAC was slightly higher than 2011, 0.51 per 100,000 versus 0.49 per 100,000, respectively (Figure 1).
- The rate was highest among those between the ages of 15-34 years (0.9 per 100,000), followed by the 35-44 year old age group (0.7 per 100,000) (Figure 2).
- In 2012, the highest incidence rate was seen in Asians (0.6 per 100,000) followed by whites (0.5 per 100,000), and Hispanics (0.4 per 100,000). There were no black cases for 2012 (Figure 3).
- The male:female ratio was 1:0.74.
- Forty percent (n=19) of acute hepatitis A cases were hospitalized, and the remainder were managed as outpatients.
- Three Service Planning Areas (SPA) had incidence rates greater than the overall county incidence rate of 0.51 per 100,000—to include: SPA 2 (0.8 per 100,000), SPA 4 (0.7 per 100,000), and SPA 5 (0.6 per 100,000) (Figure 4).
- Of the 46 cases with complete investigations, 63% reported at least one risk factor. Recent travel outside of the US (n=20, 43%) was the most frequently reported risk factor reported, followed by eating raw shellfish (n=10, 21%), having a household member who traveled outside of the US in 3 months prior to onset of illness (n=10, 21%), MSM (n=2, 7% of males), close contact of child/employee at daycare center (n=1, 2%), using street drugs but not injecting (n=1, 2%), having multiple sexual partners (n=1, 2%) and contact with a suspected or confirmed hepatitis A (n=1, 2%) (Figure 5).



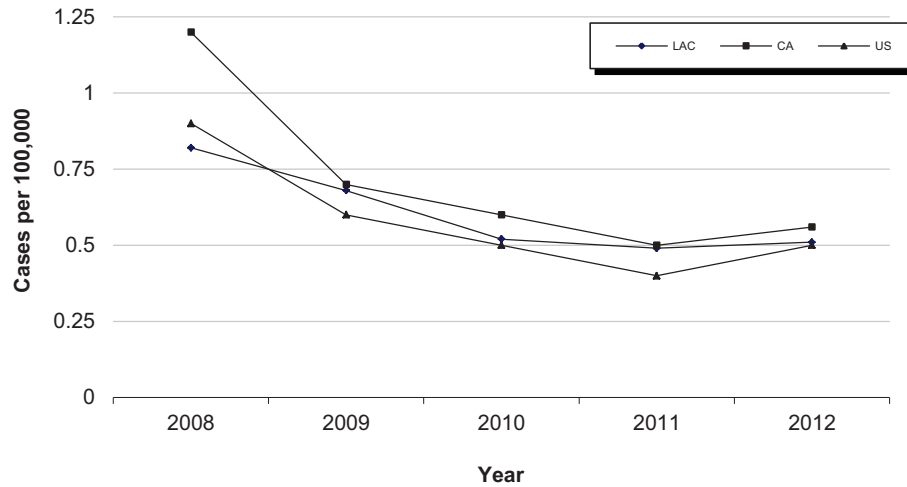
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2008-2012**

	2008 (N=80)			2009 (N=66)			2010 (N=51)			2011 (N=45)			2012 (N=47)		
	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
1-4	0	0.0	0.0	0	0	0	2	3.9	0.3	1	2.2	0.2	0	0	0
5-14	7	8.8	0.5	1	1.5	0.1	3	5.9	0.2	3	6.7	0.2	3	6.4	0.3
15-34	34	42.5	1.2	34	51.5	1.2	27	52.9	0.9	18	40.0	0.6	24	51.0	0.9
35-44	14	17.5	0.9	10	15.1	0.7	6	11.8	0.4	11	24.4	0.8	9	19.1	0.7
45-54	9	11.3	0.7	6	9.1	0.4	3	5.9	0.2	5	11.1	0.4	3	6.4	0.2
55-64	7	8.8	0.8	5	7.6	0.5	3	5.9	0.3	3	6.7	0.3	5	10.6	0.5
65+	9	11.3	0.9	10	15.1	0.9	7	13.7	0.7	4	8.9	0.4	3	6.4	0.3
Unknown	0	0		0	0	0	0	0	0	0	0	0	0	0	0
Race/Ethnicity															
Asian	14	17.5	1.1	18	27.3	1.4	12	23.5	0.9	13	28.9	1.0	8	17.0	0.6
Black	6	7.5	0.7	2	3.0	0.2	3	5.9	0.4	2	4.4	0.3	0	0	0
Hispanic	36	45.0	0.8	21	31.8	0.4	22	43.1	0.5	8	17.8	0.2	20	42.6	0.4
White	23	28.8	0.8	24	36.4	0.8	14	27.4	0.5	22	48.9	0.8	14	29.8	0.5
Other	1	1.3	4.1	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0.0		1	1.5		0	0		0			5	10.6	
SPA															
1	3	3.8	0.8	2	3.0	0.5	3	5.9	0.8	2	4.4	0.5	2	4.3	0.5
2	17	21.3	0.8	22	33.3	1.0	18	35.3	0.8	17	37.8	0.8	17	36.1	0.8
3	17	21.3	1.0	8	12.1	0.5	3	5.9	0.2	10	22.2	0.6	4	8.5	0.2
4	7	8.8	0.5	6	9.1	0.5	9	17.6	0.7	6	13.3	0.5	8	17.0	0.7
5	10	12.5	1.5	8	12.1	1.2	6	11.8	0.9	2	4.4	0.3	4	8.5	0.6
6	2	2.5	0.2	8	12.1	0.8	4	7.8	0.4	3	6.7	0.3	0	0	0
7	15	18.8	1.1	6	9.1	0.4	6	11.8	0.4	1	2.2	0.1	7	14.9	0.5
8	7	8.8	0.6	6	9.1	0.5	1	2.0	0.1	4	8.9	0.4	5	10.6	0.5
Unknown	2	2.5		0			1	2.0		0			0		

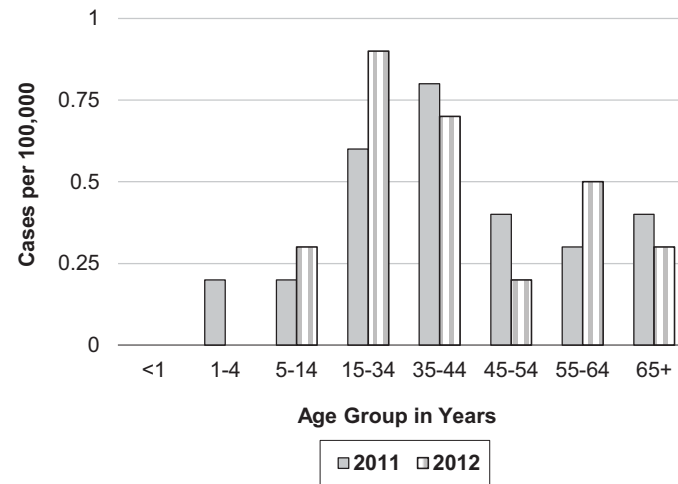
*Rates calculated based on less than 19 cases or events are considered unreliable.



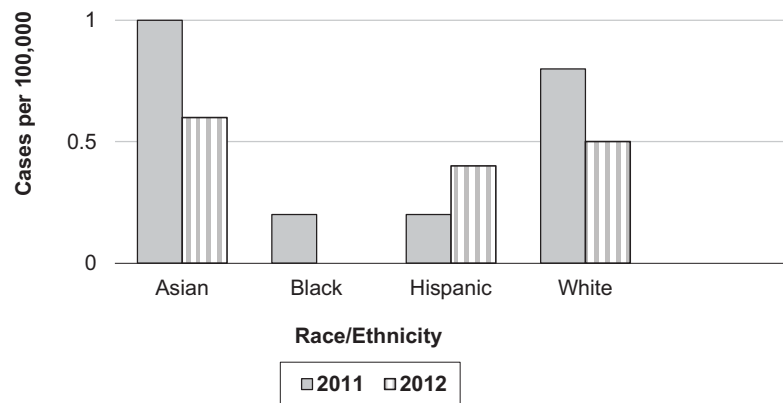
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 2008-2012**



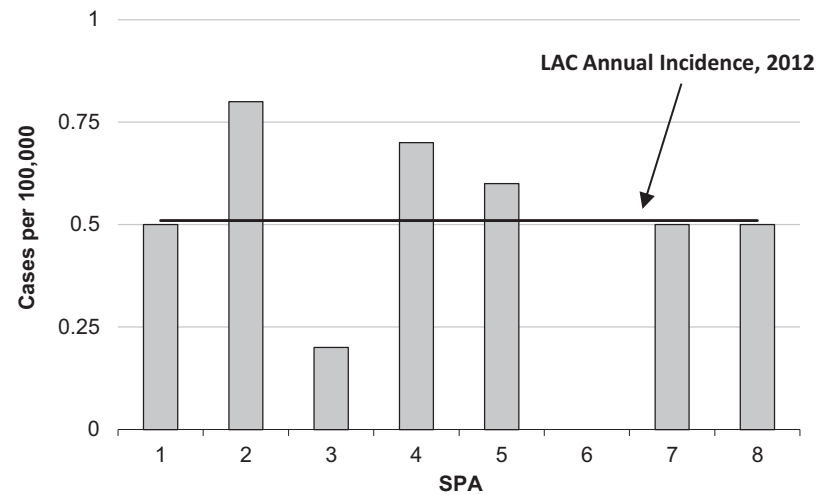
**Figure 2. Incidence Rates* of Hepatitis A by Age Group
LAC, 2011-2012**



**Figure 3. Hepatitis A Incidence Rates* by Race/Ethnicity
LAC, 2011-2012**



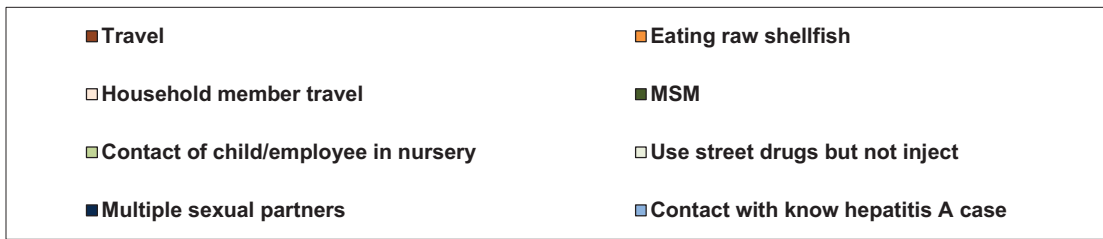
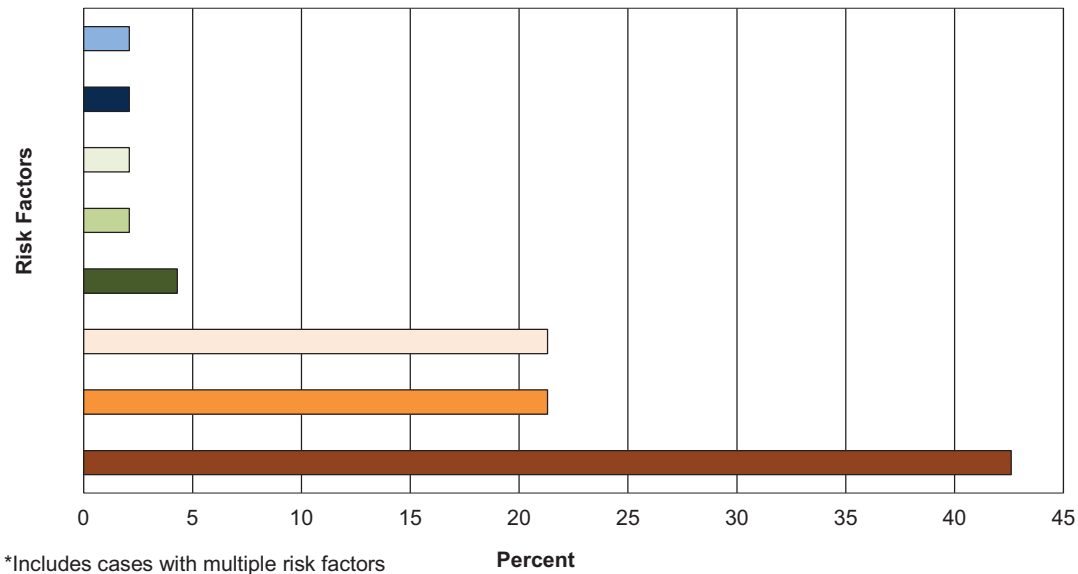
**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2012 (N=47)**



* Rates based on fewer than 19 cases are unreliable



Figure 5. Hepatitis A Reported Risk Factors*
LAC, 2012 (N=47)





HEPATITIS A

CRUDE DATA	
Number of Cases	45
Annual Incidence ^a	
LA County	0.46
California ^b	0.49
United States ^b	0.45
Age at Diagnosis	
Mean	38
Median	35
Range	3-89 years

^aCases per 100,000 population.

^bCalculated from Final 2011 Reports of Nationally Notifiable Infectious Disease. MMWR 61(32);625-637.

DESCRIPTION

Hepatitis A virus (HAV), a RNA virus, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. In the United States (US), among adults with identified risk factors, the majority of cases are among men who have sex with other men, persons who use illegal drugs, and international travelers. Sexual and household contacts of HAV-infected persons are also at increased risk for getting the disease.

The average incubation period is 28 days (range 15–50 days). Signs and symptoms of acute hepatitis A include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Many cases, especially in children, are mild or asymptomatic. Recovery usually occurs within one month. Infection confers life-long immunity.

Hepatitis A vaccination is the most effective means of preventing HAV transmission among persons at risk for infection. Hepatitis A vaccination is recommended for all children at age 1 year, for persons who are at increased

risk for infection, for persons who are at increased risk for complications from hepatitis A, and for any person wishing to obtain immunity.

LAC DPH uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. A case of hepatitis A is defined as a person with 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) either IgM anti-HAV positive, or an epidemiologic link to a person who has laboratory confirmed hepatitis A

2011 TRENDS AND HIGHLIGHTS

- The 2011 incidence rate of acute hepatitis A in Los Angeles County (LAC) was lower than the previous year (0.46 per 100,000 versus 0.52 per 100,000) (Figure 1).
- The rate was highest in those between the ages of 35-44 (0.8 per 100,000), followed by the 15-34 age group (0.6 per 100,000) (Figure 2).
- The highest rate was seen in Asians (1.0 per 100,000) followed by whites (0.8 per 100,000), blacks (0.2 per 100,000), and Hispanics (0.2 per 100,000) (Figure 3).
- Four Service Planning Areas (SPA) had rates greater than the overall county mean rate of 0.46 per 100,000—SPA 2 (0.8 per 100,000), SPA 3 (0.6 per 100,000), SPA 1 (0.5 per 100,000) and SPA 4 (0.5 per 100,000) (Figure 4).
- Risk factors were identified in 70% (n=31) of the 44 confirmed interviewed cases (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=21, 68%) was the most common risk factor reported, followed by eating raw shellfish (n=12, 39%), having a household member who traveled outside of the US in 3 months prior to onset of illness (n=12, 39%), and contact with a suspected or confirmed hepatitis A (n=2, 6%) (Figure 5).
- Forty-two percent (n=19) of acute hepatitis A cases were hospitalized.



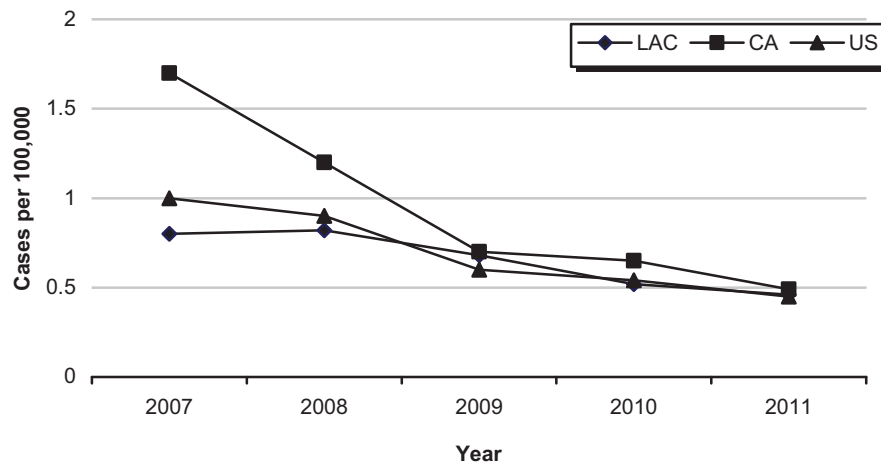
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2007-2011**

	2007 (N=78)			2008 (N=80)			2009 (N=66)			2010 (N=51)			2011 (N=45)		
	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
1-4	1	1.3	0.2	0	0.0	0.0	0	0	0	2	3.9	0.3	1	2.2	0.2
5-14	6	7.7	0.4	7	8.8	0.5	1	1.5	0.1	3	5.9	0.2	3	6.7	0.2
15-34	32	41.0	1.1	34	42.5	1.2	34	51.5	1.2	27	52.9	0.9	18	40.0	0.6
35-44	16	20.5	1.1	14	17.5	0.9	10	15.1	0.7	6	11.8	0.4	11	24.4	0.8
45-54	13	16.7	1.0	9	11.3	0.7	6	9.1	0.4	3	5.9	0.2	5	11.1	0.4
55-64	5	6.4	0.6	7	8.8	0.8	5	7.6	0.5	3	5.9	0.3	3	6.7	0.3
65+	5	6.4	0.5	9	11.3	0.9	10	15.1	0.9	7	13.7	0.7	4	8.8	0.4
Unknown	0	0.0		0	0		0	0	0	0	0	0	0	0	0
Race/Ethnicity															
Asian	15	19.2	1.2	14	17.5	1.1	18	27.3	1.4	12	23.5	0.9	13	28.9	1.0
Black	5	6.4	0.6	6	7.5	0.7	2	3.0	0.2	3	5.9	0.4	2	4.4	0.2
Hispanic	33	42.3	0.7	36	45.0	0.8	21	31.8	0.4	22	43.1	0.5	8	17.8	0.2
White	24	30.8	0.8	23	28.8	0.8	24	36.4	0.8	14	27.4	0.5	22	48.9	0.8
Other	0	0.0	0.0	1	1.3	4.1	0	0	0	0	0	0	0	0	0
Unknown	1	1.3		0	0.0	0	1	1.5		0	0	0	0	0	0
SPA															
1	5	6.4	1.4	3	3.8	0.8	2	3.0	0.5	3	5.9	0.8	2	4.4	0.5
2	16	20.5	0.7	17	21.3	0.8	22	33.3	1.0	18	35.3	0.8	17	37.8	0.8
3	17	21.8	1.0	17	21.3	1.0	8	12.1	0.5	3	5.9	0.2	10	22.2	0.6
4	9	11.5	0.7	7	8.8	0.5	6	9.1	0.5	9	17.6	0.7	6	13.3	0.5
5	5	6.4	0.8	10	12.5	1.5	8	12.1	1.2	6	11.8	0.9	2	4.4	0.3
6	8	10.3	0.8	2	2.5	0.2	8	12.1	0.8	4	7.8	0.4	3	6.7	0.3
7	12	15.4	0.9	15	18.8	1.1	6	9.1	0.4	6	11.8	0.4	1	2.2	0.1
8	5	6.4	0.4	7	8.8	0.6	6	9.1	0.5	1	2.0	0.1	4	8.8	0.4
Unknown	1	1.3		2	2.5					1	2.0				

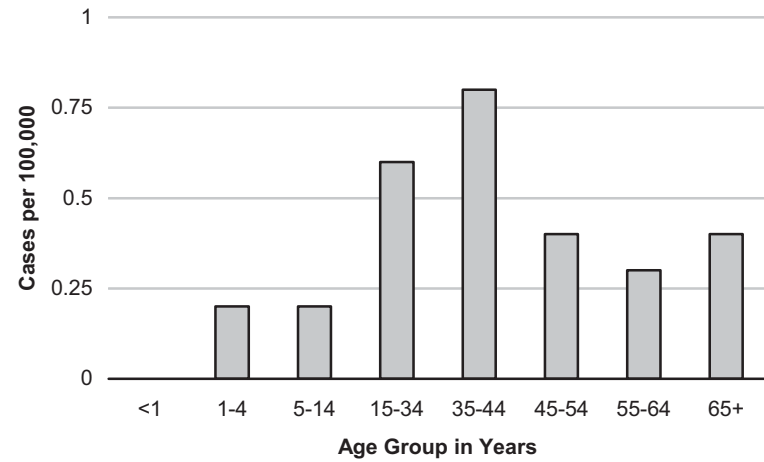
*Rates calculated based on less than 19 cases or events are considered unreliable.



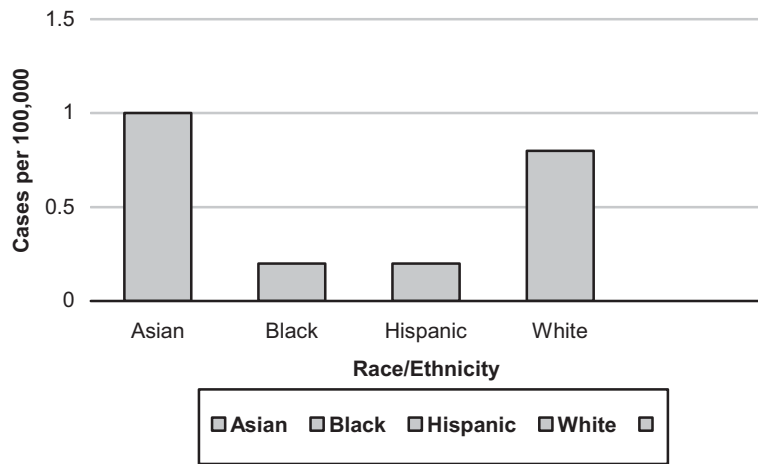
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 2007-2011**



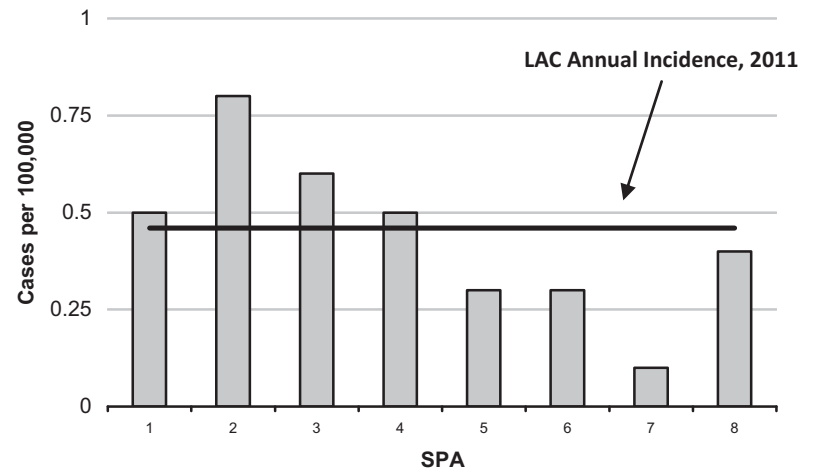
**Figure 2. Incidence Rates* of Hepatitis A by Age Group
LAC, 2011 (N=45)**



**Figure 3. Hepatitis A Incidence Rates* by Race/Ethnicity
LAC, 2011 (N=45)**



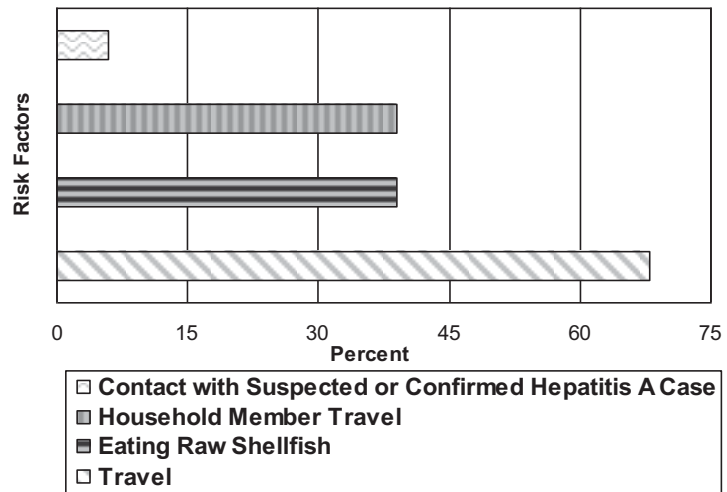
**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2011 (N=45)**



* Rates based on fewer than 19 cases are unreliable



**Figure 5. Hepatitis A Reported Risk Factors*
LAC, 2011 (n=31)**



*Includes cases with multiple risk factors



HEPATITIS A

CRUDE DATA	
Number of Cases	51
Annual Incidence ^a	
LA County	0.52
California ^b	--
United States ^b	--
Age at Diagnosis	
Mean	37
Median	30
Range	2-94 years

^aCases per 100,000 population.

^bSee Final Summary of Nationally Notifiable Infectious Diseases, United States on MMWR website
http://www.cdc.gov/mmwr/mmwr_nd/index.html.

DESCRIPTION

Hepatitis A virus (HAV), a RNA virus, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity.

LAC DPH uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. A case of hepatitis A is defined as a person with 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) either IgM anti-HAV positive, or an epidemiologic link to a person who has laboratory confirmed hepatitis A

2010 TRENDS AND HIGHLIGHTS

- The 2010 incidence rate of acute hepatitis A in Los Angeles County (LAC) was lower than the previous year (0.52 per 100,000 versus 0.68 per 100,000) (Figure 1).
- The rate was highest in those between the ages of 15-34 (0.9 per 100,000), followed by the 65+ age group (0.7 per 100,000) and the 35-44 age group (0.4 per 100,000) (Figure 2).
- The highest rate was seen in Asians (0.9 per 100,000) followed by Hispanics (0.5 per 100,000), whites (0.5 per 100,000), and blacks (0.4 per 100,000) (Figure 3).
- Four Service Planning Areas (SPA) had rates greater than the overall county mean rate of 0.52 per 100,000—SPA 5 (0.9 per 100,000), SPA 1 (0.8 per 100,000), SPA 2 (0.8 per 100,000) and SPA 4 (0.7 per 100,000) (Figure 4).
- Historically, there is an increase of hepatitis A cases in summer and autumn, and in 2010 this pattern was noted with an increase in cases in the summer and fall (Figure 5).
- Risk factors were identified in 60% (n=29) of the 48 confirmed cases interviewed (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=20, 69%) was the most common risk factor reported, followed by eating raw shellfish (n=10, 35%), having a household member who traveled outside of the US in 3 months prior to onset of illness (n=9, 31%), being part of a common source outbreak (n=5, 17%), and contact with anyone with hepatitis A infection (n=5, 17%) (Figure 6).
- Thirty-nine percent (n=20) of acute hepatitis A cases were hospitalized.
- One common source outbreak involving 6 cases was investigated in 2010. No definitive source of infection was identified.



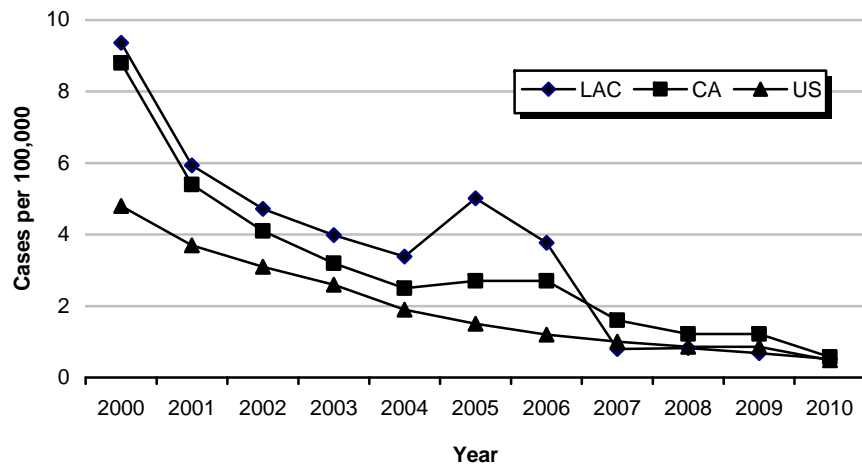
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2006-2010**

	2006 (N=364)			2007 (N=78)			2008 (N=80)			2009 (N=66)			2010 (N=51)		
	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
1-4	5	1.4	0.9	1	1.3	0.2	0	0.0	0.0	0	0	0	2	3.9	0.3
5-14	20	5.5	1.4	6	7.7	0.4	7	8.8	0.5	1	1.5	0.1	3	5.9	0.2
15-34	114	31.3	4.1	32	41.0	1.1	34	42.5	1.2	34	51.5	1.2	27	52.9	0.9
35-44	83	22.8	5.5	16	20.5	1.1	14	17.5	0.9	10	15.1	0.7	6	11.8	0.4
45-54	73	20.1	5.6	13	16.7	1.0	9	11.3	0.7	6	9.1	0.4	3	5.9	0.2
55-64	33	9.1	3.8	5	6.4	0.6	7	8.8	0.8	5	7.6	0.5	3	5.9	0.3
65+	36	9.9	3.7	5	6.4	0.5	9	11.3	0.9	10	15.1	0.9	7	13.7	0.7
Unknown	0	0.0		0	0.0		0	0.0		0	0	0	0	0	0
Race/Ethnicity															
Asian	25	6.9	2.0	15	19.2	1.2	14	17.5	1.1	18	27.3	1.4	12	23.5	0.9
Black	64	17.6	7.6	5	6.4	0.6	6	7.5	0.7	2	3.0	0.2	3	5.9	0.4
Hispanic	124	34.1	2.7	33	42.3	0.7	36	45.0	0.8	21	31.8	0.4	22	43.1	0.5
White	125	34.3	4.3	24	30.8	0.8	23	28.8	0.8	24	36.4	0.8	14	27.4	0.5
Other	1	0.3	3.5	0	0.0	0.0	1	1.3	4.1	0	0	0	0	0	0
Unknown	25	6.9		1	1.3		0	0.0	0	1	1.5		0	0	0
SPA															
1	3	0.8	0.9	5	6.4	1.4	3	3.8	0.8	2	3.0	0.5	3	5.9	0.8
2	58	15.9	2.7	16	20.5	0.7	17	21.3	0.8	22	33.3	1.0	18	35.3	0.8
3	57	15.7	3.3	17	21.8	1.0	17	21.3	1.0	8	12.1	0.5	3	5.9	0.2
4	79	21.7	6.3	9	11.5	0.7	7	8.8	0.5	6	9.1	0.5	9	17.6	0.7
5	24	6.6	3.8	5	6.4	0.8	10	12.5	1.5	8	12.1	1.2	6	11.8	0.9
6	37	10.2	3.6	8	10.3	0.8	2	2.5	0.2	8	12.1	0.8	4	7.8	0.4
7	33	9.1	2.4	12	15.4	0.9	15	18.8	1.1	6	9.1	0.4	6	11.8	0.4
8	45	12.4	4.0	5	6.4	0.4	7	8.8	0.6	6	9.1	0.5	1	2.0	0.1
Unknown	28	7.7		1	1.3		2	2.5					1	2.0	

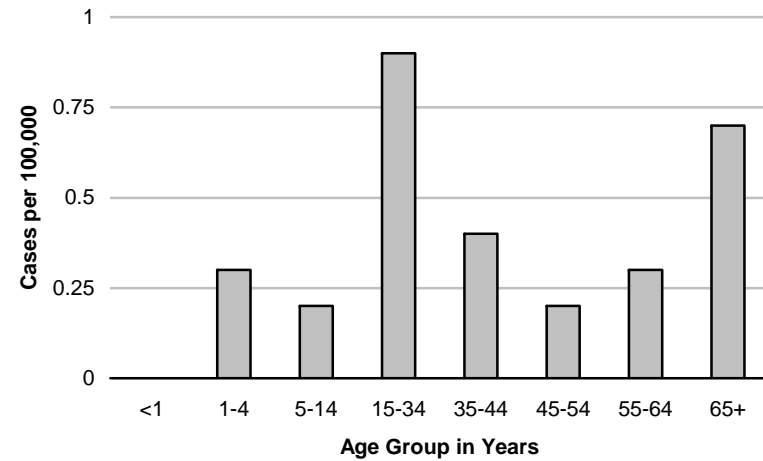
*Rates calculated based on less than 19 cases or events are considered unreliable.



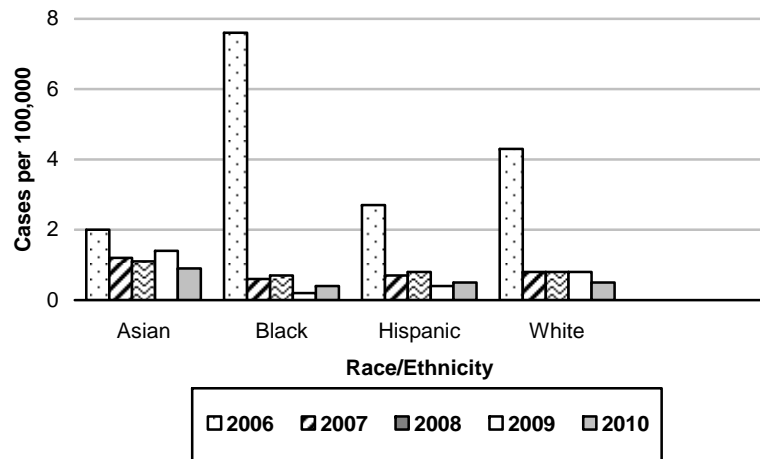
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 2000-2010**



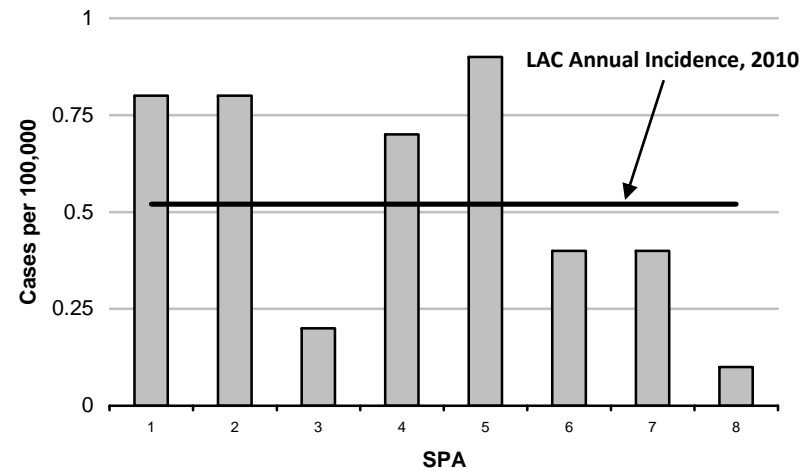
**Figure 2. Incidence Rates* of Hepatitis A by Age Group
LAC, 2010 (N=51)**



**Figure 3. Hepatitis A Incidence Rates* by Race/Ethnicity
LAC, 2006-2010**



**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2010 (N=51)**



* Rates based on fewer than 19 cases are unreliable



Figure 5. Reported Hepatitis A Cases by Month of Onset
LAC, 2010 (N=51)

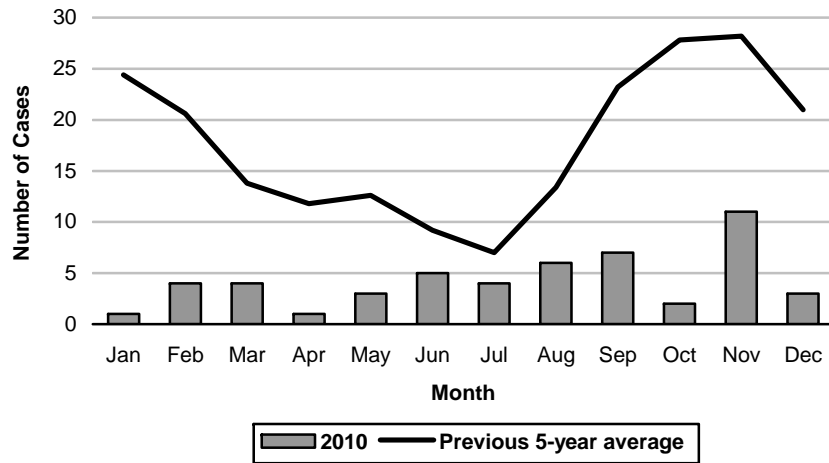
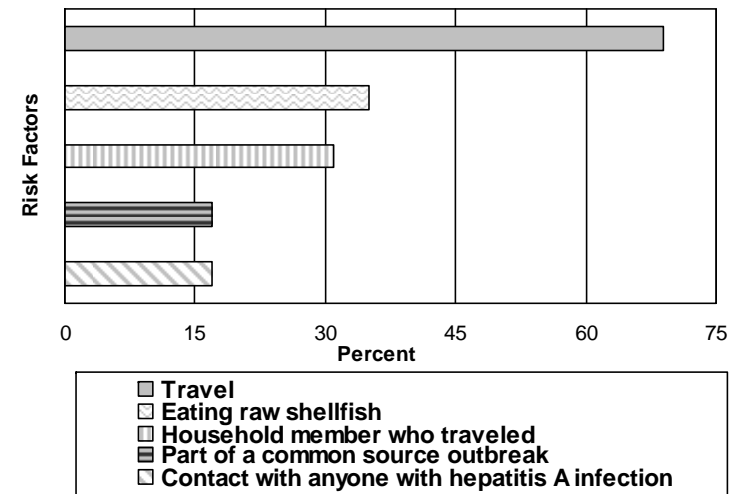


Figure 6. Hepatitis A Reported Risk Factors*
LAC, 2010 (n=29)



*Includes cases with multiple risk factors



HEPATITIS A

CRUDE DATA	
Number of Cases	66
Annual Incidence ^a	
LA County	0.68
California ^b	1.22
United States ^b	0.86
Age at Diagnosis	
Mean	39
Median	34
Range	14-90 years

^aCases per 100,000 population.

^bCalculated from Final 2008 Reports of Nationally Notifiable Infectious Disease. MMWR 58(31);856-857;859-869.

DESCRIPTION

Hepatitis A virus (HAV), a RNA virus, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity.

ACDC uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. The criteria include: 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm laboratory criteria for acute hepatitis A diagnosis: IgM anti-HAV positive, or a case meets the clinical case definition and has an epidemiologic link with a person who has laboratory confirmed hepatitis A

(i.e., a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).

2009 TRENDS AND HIGHLIGHTS

- The 2009 incidence rate of acute hepatitis A in Los Angeles County (LAC) was lower than the previous year (0.68 per 100,000 versus 0.82 per 100,000) (Figure 1).
- The 2009 incidence rate of acute hepatitis A in LAC was highest in those between the ages of 15-34 (1.2 per 100,000), followed by the 65+ age group (0.9 per 100,000) and the 35-44 age group (0.7 per 100,000) (Figure 2).
- The 2009 incidence rate of acute hepatitis A in LAC was highest in Asians (1.4 per 100,000) followed by whites (0.8 per 100,000), Hispanics (0.4 per 100,000) and blacks (0.2 per 100,000) (Figure 3).
- Of the eight Service Planning Areas (SPAs), three SPAs in 2009 had rates greater than the overall county mean rate of (0.68)--SPA 5 (1.2 per 100,000), SPA 2 (1.0 per 100,000) and SPA 6 (0.8 per 100,000) (Figure 4).
- Historically, there is an increase of hepatitis A cases in summer and autumn, and in 2009 there was also an increase in August, September and October (Figure 5).
- Risk factors were identified in 56% (n=34) of the 61 confirmed cases interviewed (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=27, 79%) was the most common risk factor reported, followed by eating raw shellfish (n=13, 38%), having a household member who traveled outside of the US in 3 months prior to onset of illness (n=11, 31%) and having contact with anyone who had hepatitis A viral infection (Figure 6).
- Twenty-four percent (n=16) of hepatitis A cases were hospitalized. The median age of those hospitalized was 37 years.



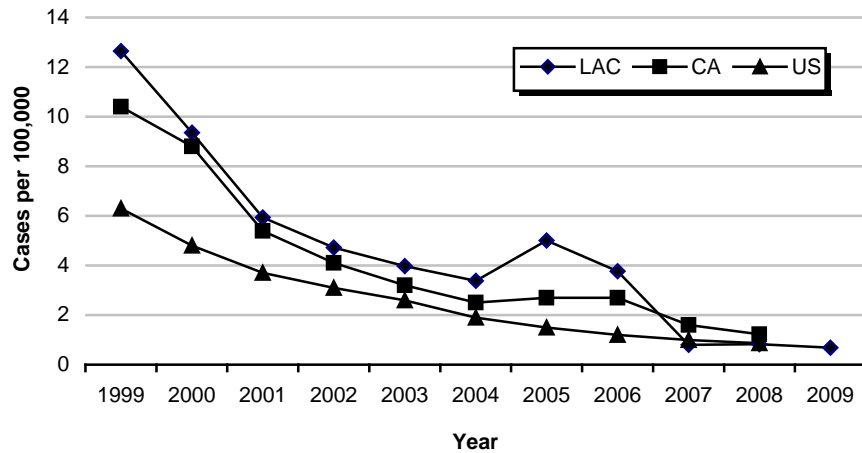
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
 Los Angeles County, 2005-2009**

	2005 (N=480)			2006 (N=364)			2007 (N=78)			2008 (N=80)			2009 (N=66)		
	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	7	1.5	1.2	5	1.4	0.9	1	1.3	0.2	0	0.0	0.0	0	0	0
5-14	24	5.0	1.6	20	5.5	1.4	6	7.7	0.4	7	8.8	0.5	1	1.5	0.1
15-34	198	41.3	7.1	114	31.3	4.1	32	41.0	1.1	34	42.5	1.2	34	51.5	1.2
35-44	88	18.3	5.8	83	22.8	5.5	16	20.5	1.1	14	17.5	0.9	10	15.1	0.7
45-54	88	18.3	6.9	73	20.1	5.6	13	16.7	1.0	9	11.3	0.7	6	9.1	0.4
55-64	44	9.2	5.3	33	9.1	3.8	5	6.4	0.6	7	8.8	0.8	5	7.6	0.5
65+	30	6.3	3.1	36	9.9	3.7	5	6.4	0.5	9	11.3	0.9	10	15.1	0.9
Unknown	1	0.2		0	0.0		0	0.0		0	0.0		0	0	0
Race/Ethnicity															
Asian	42	8.8	3.3	25	6.9	2.0	15	19.2	1.2	14	17.5	1.1	18	27.3	1.4
Black	49	10.2	5.8	64	17.6	7.6	5	6.4	0.6	6	7.5	0.7	2	3.0	0.2
Hispanic	135	28.1	3.0	124	34.1	2.7	33	42.3	0.7	36	45.0	0.8	21	31.8	0.4
White	203	42.3	7.0	125	34.3	4.3	24	30.8	0.8	23	28.8	0.8	24	36.4	0.8
Other	13	2.7	46.0	1	0.3	3.5	0	0.0	0.0	1	1.3	4.1	0	0	0
Unknown	38	7.9		25	6.9		1	1.3		0	0.0		1	1.5	
SPA															
1	11	2.3	3.2	3	0.8	0.9	5	6.4	1.4	3	3.8	0.8	2	3.0	0.5
2	78	16.3	3.7	58	15.9	2.7	16	20.5	0.7	17	21.3	0.8	22	33.3	1.0
3	56	11.7	3.3	57	15.7	3.3	17	21.8	1.0	17	21.3	1.0	8	12.1	0.5
4	130	27.1	10.4	79	21.7	6.3	9	11.5	0.7	7	8.8	0.5	6	9.1	0.5
5	45	9.4	7.1	24	6.6	3.8	5	6.4	0.8	10	12.5	1.5	8	12.1	1.2
6	30	6.3	2.9	37	10.2	3.6	8	10.3	0.8	2	2.5	0.2	8	12.1	0.8
7	50	10.4	3.6	33	9.1	2.4	12	15.4	0.9	15	18.8	1.1	6	9.1	0.4
8	58	12.1	5.2	45	12.4	4.0	5	6.4	0.4	7	8.8	0.6	6	9.1	0.5
Unknown	22	4.6		28	7.7		1	1.3		2	2.5				

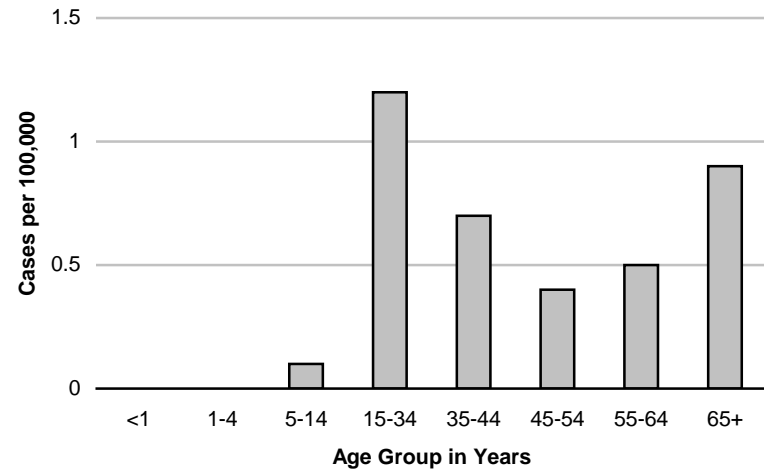
*Rates calculated based on less than 19 cases or events are considered unreliable.



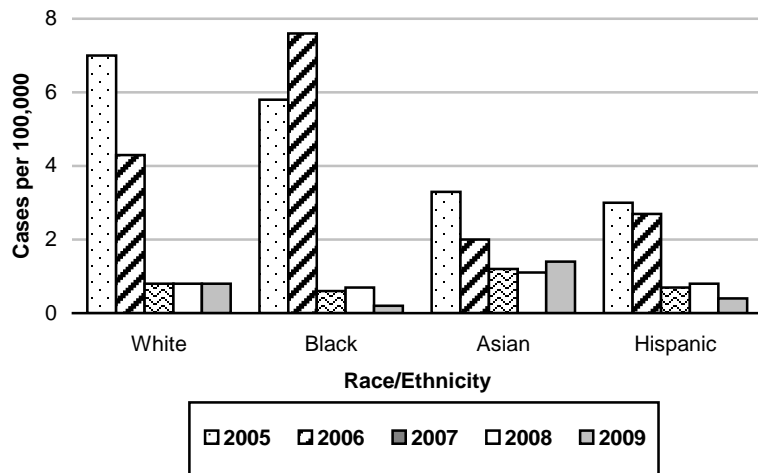
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 1999-2009**



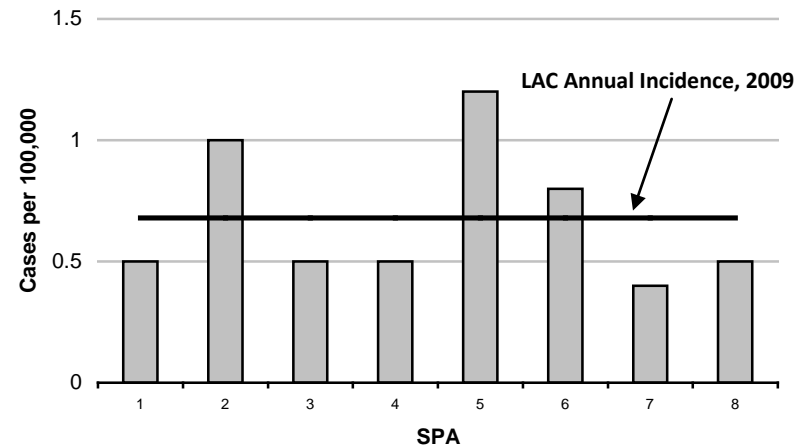
**Figure 2. Incidence Rates of Hepatitis A by Age Group
LAC, 2009 (N=66)**



**Figure 3. Hepatitis A Incidence Rates by Race/Ethnicity
LAC, 2005-2009**



**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2009 (N=66)**



* Rates based on fewer than 19 cases are unreliable



Figure 5. Reported Hepatitis A Cases by Month of Onset
LAC, 2009 (N=66)

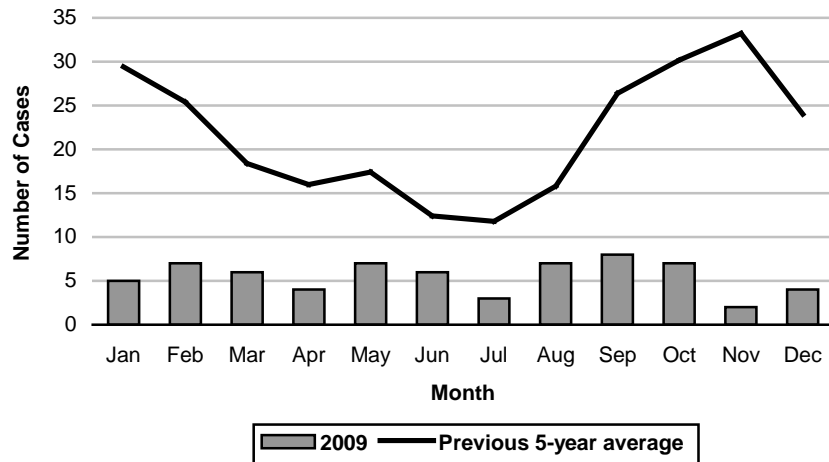
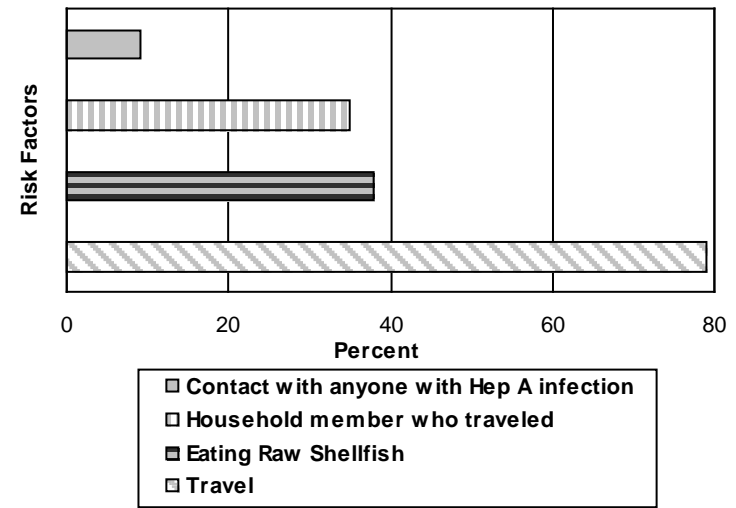
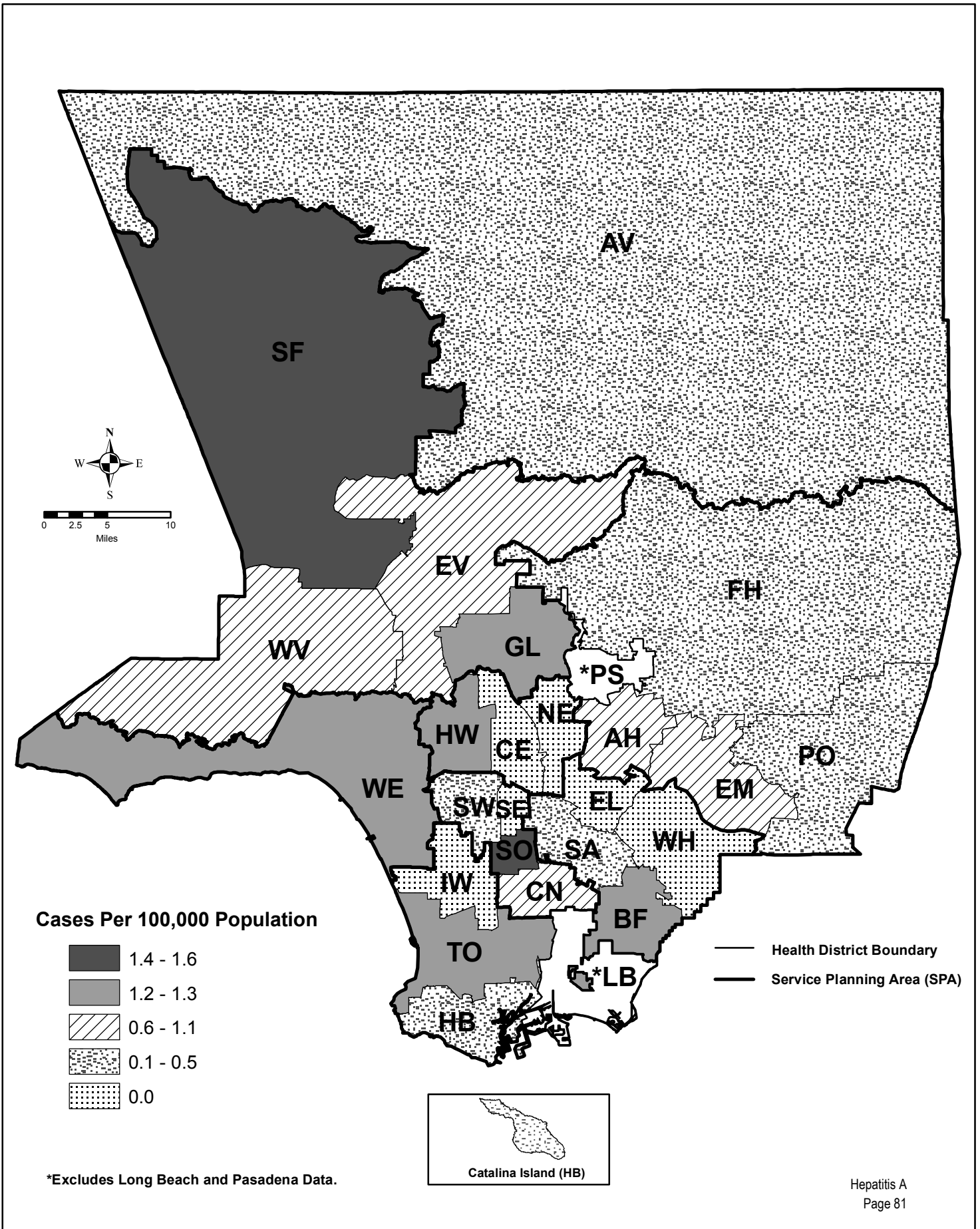


Figure 6. Hepatitis A Reported Risk Factors*
LAC, 2009 (n=36)



*Includes cases with multiple risk factors

Map 6. Hepatitis A Rates by Health District, Los Angeles County, 2009*





HEPATITIS A

CRUDE DATA	
Number of Cases	80
Annual Incidence ^a	
LA County	0.82
California ^b	1.22
United States ^b	0.86
Age at Diagnosis	
Mean	38
Median	34
Range	5-92 years

^aCases per 100,000 population.

^bCalculated from Final 2008 Reports of Nationally Notifiable Infectious Disease. MMWR 58(31);856-857;859-869.

DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity.

ACDC uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. The criteria include: 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm laboratory criteria for acute hepatitis A diagnosis: IgM anti-HAV positive, or a case meets the clinical case definition and has an epidemiologic link with a person who has laboratory confirmed hepatitis A

(i.e., a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).

2008 TRENDS AND HIGHLIGHTS

- The 2008 incidence rate of acute hepatitis A in Los Angeles County (LAC) has remained relatively the same as the previous year (0.82 per 100,000 vs 0.80 per 100,000) (Figure 1).
- The 2008 incidence rate of acute hepatitis A in LAC is highest in those between the ages of 15-34 (1.2 per 100,000), followed by the 35-44 age group (0.9 per 100,000) and the 65+ age group (0.9 per 100,000) (Figure 2).
- The 2008 incident rate of acute hepatitis A in LAC is highest in Asians (1.1 per 100,000) followed by Hispanics (0.8 per 100,000), whites (0.8 per 100,000) and blacks (0.7 per 100,000) (Figure 3).
- Of the eight Service Planning Areas (SPAs) across LAC, three SPAs had rates greater than the overall county mean rate for this disease: SPA 3 (1.0 per 100,000), SPA 5 (1.5 per 100,000) and SPA 7 (1.1 per 100,000) (Figure 4).
- Historically, there is an increase of hepatitis A cases in summer to early autumn, and in 2008 there was an increase in the fall. There was also an increase in April (Figure 5).
- Risk factors were identified in 53% (n=41) of the 78 confirmed cases interviewed by a public health nurse (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=31, 76%) was the most common risk factor reported, followed by eating raw shellfish (n=13, 32%) and having a household contact who traveled outside of the US in 3 months prior to onset of illness (n=13, 32%) (Figure 6).
- Thirty-three percent (n=26) of hepatitis A cases were hospitalized. The median age was 34 years.



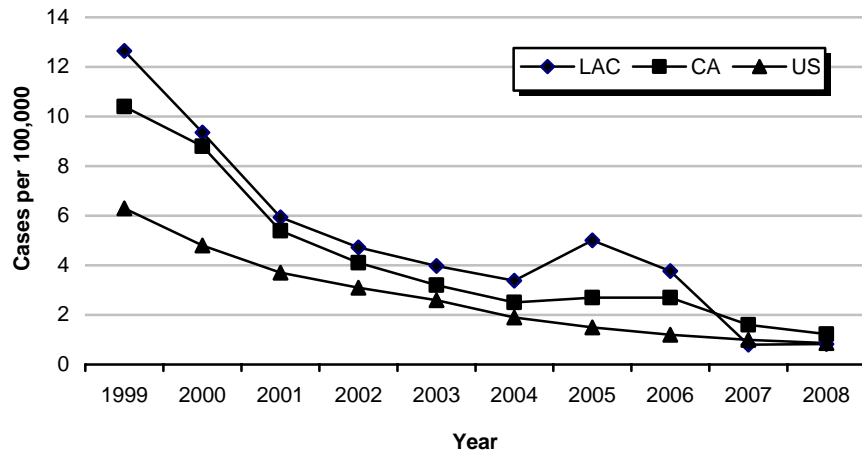
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
 Los Angeles County, 2004-2008**

	2004 (N=321)			2005 (N=480)			2006 (N=364)			2007 (N=78)			2008 (N=80)		
	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	0.0
1-4	2	0.6	0.3	7	1.5	1.2	5	1.4	0.9	1	1.3	0.2	0	0.0	0.0
5-14	26	8.1	1.7	24	5.0	1.6	20	5.5	1.4	6	7.7	0.4	7	8.8	0.5
15-34	86	26.8	3.1	198	41.3	7.1	114	31.3	4.1	32	41.0	1.1	34	42.5	1.2
35-44	44	13.7	2.9	88	18.3	5.8	83	22.8	5.5	16	20.5	1.1	14	17.5	0.9
45-54	39	12.1	3.1	88	18.3	6.9	73	20.1	5.6	13	16.7	1.0	9	11.3	0.7
55-64	33	10.3	4.1	44	9.2	5.3	33	9.1	3.8	5	6.4	0.6	7	8.8	0.8
65+	91	28.3	9.6	30	6.3	3.1	36	9.9	3.7	5	6.4	0.5	9	11.3	0.9
Unknown	0	0.0		1	0.2		0	0.0		0	0.0		0	0.0	
Race/Ethnicity															
Asian	58	18.1	4.7	42	8.8	3.3	25	6.9	2.0	15	19.2	1.2	14	17.5	1.1
Black	15	4.7	1.8	49	10.2	5.8	64	17.6	7.6	5	6.4	0.6	6	7.5	0.7
Hispanic	95	29.6	2.1	135	28.1	3.0	124	34.1	2.7	33	42.3	0.7	36	45.0	0.8
White	107	33.3	3.7	203	42.3	7.0	125	34.3	4.3	24	30.8	0.8	23	28.8	0.8
Other	3	0.9	10.8	13	2.7	46.0	1	0.3	3.5	0	0.0	0.0	1	1.3	4.1
Unknown	43	13.4		38	7.9		25	6.9		1	1.3		0	0.0	
SPA															
1	8	2.5	2.4	11	2.3	3.2	3	0.8	0.9	5	6.4	1.4	3	3.8	0.8
2	73	22.7	3.5	78	16.3	3.7	58	15.9	2.7	16	20.5	0.7	17	21.3	0.8
3	50	15.6	2.9	56	11.7	3.3	57	15.7	3.3	17	21.8	1.0	17	21.3	1.0
4	58	18.1	4.7	130	27.1	10.4	79	21.7	6.3	9	11.5	0.7	7	8.8	0.5
5	16	5.0	2.5	45	9.4	7.1	24	6.6	3.8	5	6.4	0.8	10	12.5	1.5
6	39	12.1	3.8	30	6.3	2.9	37	10.2	3.6	8	10.3	0.8	2	2.5	0.2
7	55	17.1	4.0	50	10.4	3.6	33	9.1	2.4	12	15.4	0.9	15	18.8	1.1
8	22	6.9	2.0	58	12.1	5.2	45	12.4	4.0	5	6.4	0.4	7	8.8	0.6
Unknown	0	0.0		22	4.6		28	7.7		1	1.3		2	2.5	

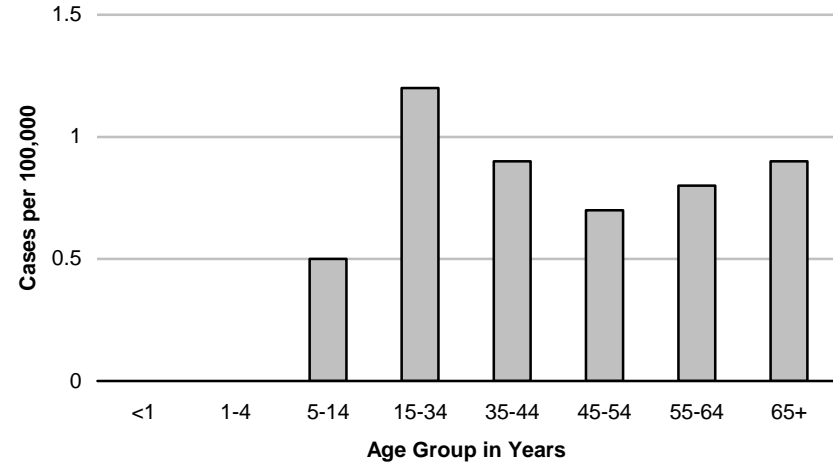
*Rates calculated based on less than 19 cases or events are considered unreliable



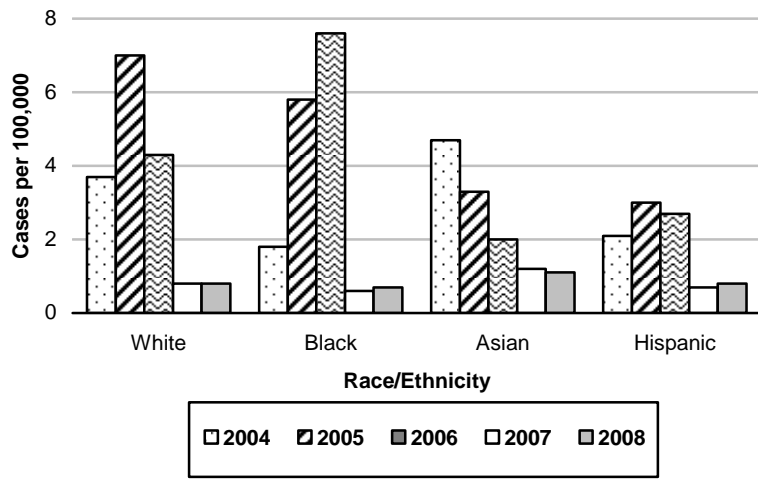
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 1999-2008**



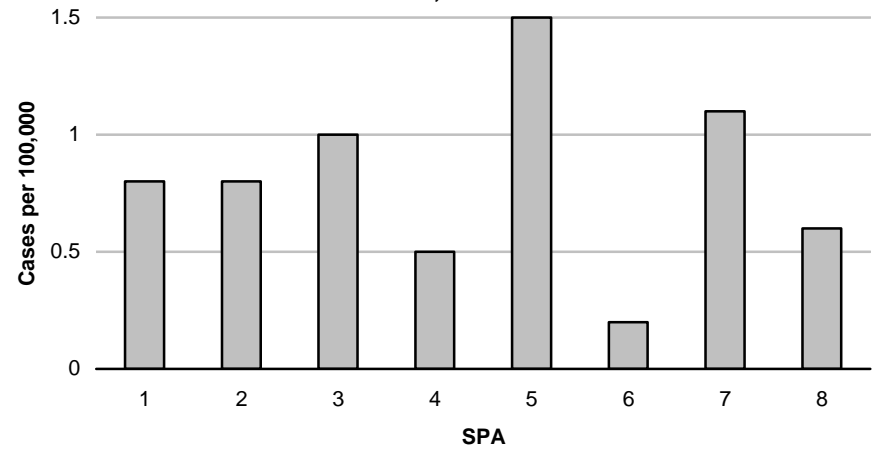
**Figure 2. Incidence Rates of Hepatitis A by Age Group
LAC, 2008**



**Figure 3. Hepatitis A Incidence by Race/Ethnicity
LAC, 2004-2008**



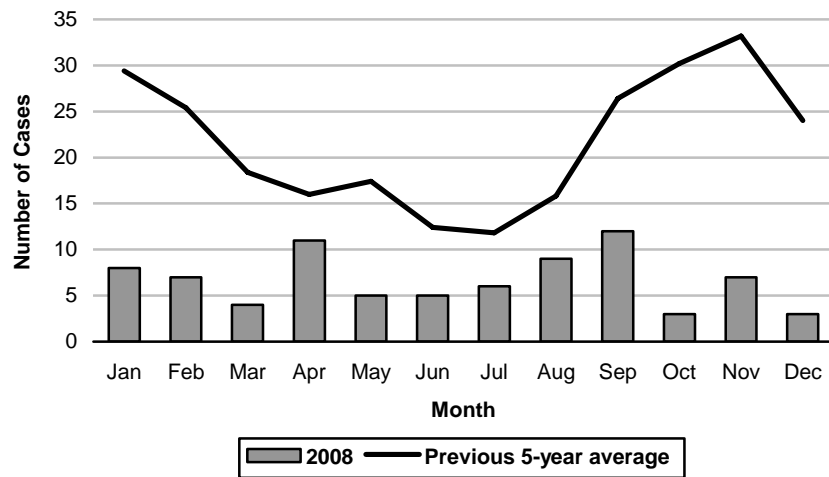
**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2008**



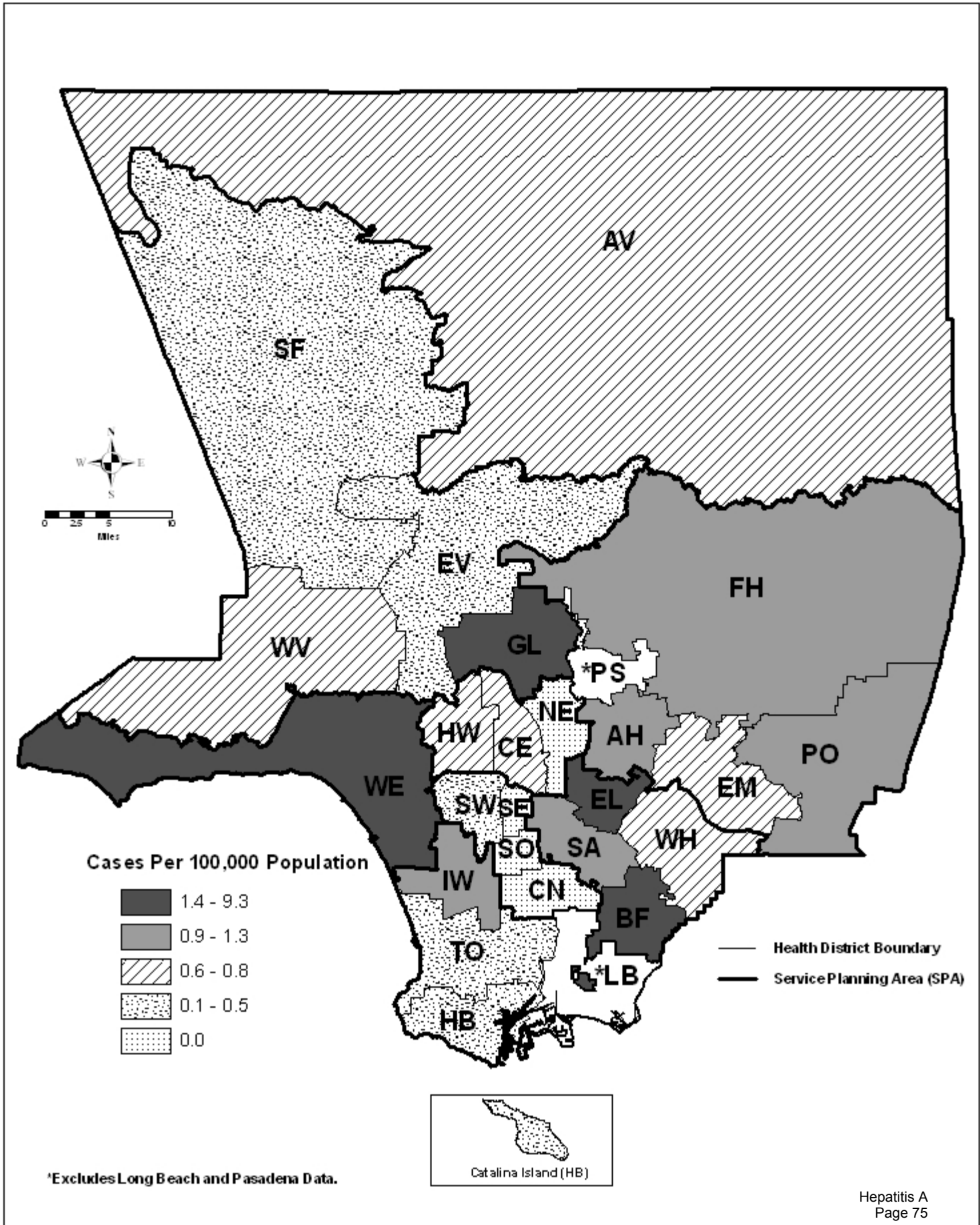
* Rates based on fewer than 19 cases are unreliable



**Figure 5. Reported Hepatitis A Cases by Month of Onset
LAC, 2008**



Map 6. Hepatitis A Rates by Health District, Los Angeles County, 2008*



*Excludes Long Beach and Pasadena Data.



HEPATITIS A

CRUDE DATA	
Number of Cases	78
Annual Incidence ^a	
LA County	0.80
California	1.47 ^b
United States	0.90 ^b
Age at Diagnosis	
Mean	37
Median	35
Range	1-94 years

^a Cases per 100,000 population.

^b Calculated from Final 2007 Reports of Nationally Notifiable Infectious diseases issue of MMWR (57:901, 903-913).

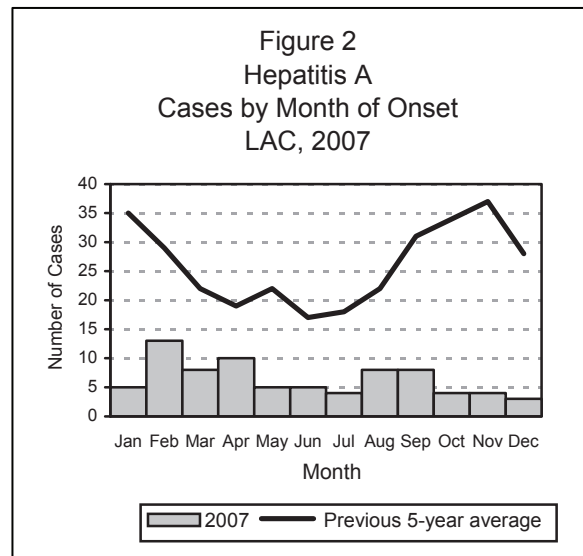
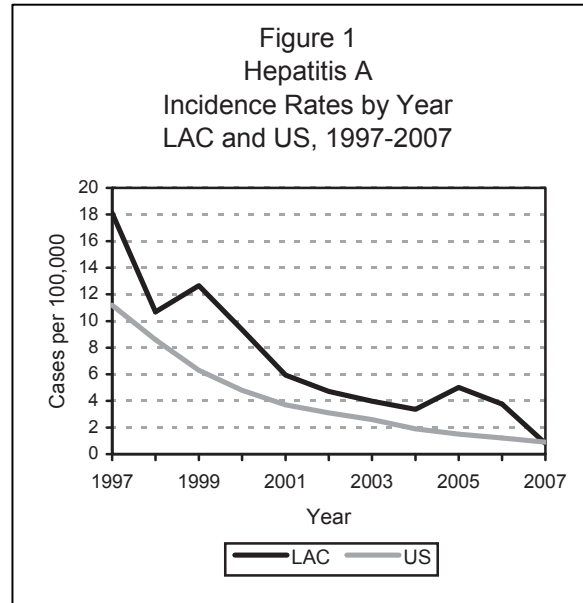
DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity.

ACDC uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. The criteria include: 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate lab tests to confirm laboratory criteria for acute hepatitis A diagnosis. Confirmatory laboratory criteria include IgM anti-HAV positive, or a case meets the clinical case definition and has an epidemiologic link with a person who has laboratory confirmed hepatitis A (i.e., a household or sexual contact of an infected person during the 15-50 days before the onset of symptoms).

DISEASE ABSTRACT

- The incidence rate of acute hepatitis A has decreased from the previous year (3.77 to 0.80 per 100,000), and is now below the US incidence rate of 0.90 (Figure 1).
- The incidence rate is highest in those between the ages of 15-54 years.
- Recent travel outside of the US was the most commonly reported risk factor.





HEPATITIS A

CRUDE DATA	
Number of Cases	80
Annual Incidence ^a	
LA County	0.82
California ^b	1.22
United States ^b	0.86
Age at Diagnosis	
Mean	38
Median	34
Range	5-92 years

^aCases per 100,000 population.

^bCalculated from Final 2008 Reports of Nationally Notifiable Infectious Disease. MMWR 58(31);856-857;859-869.

DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity.

ACDC uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. The criteria include: 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm laboratory criteria for acute hepatitis A diagnosis: IgM anti-HAV positive, or a case meets the clinical case definition and has an epidemiologic link with a person who has laboratory confirmed hepatitis A

(i.e., a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).

2008 TRENDS AND HIGHLIGHTS

- The 2008 incidence rate of acute hepatitis A in Los Angeles County (LAC) has remained relatively the same as the previous year (0.82 per 100,000 vs 0.80 per 100,000) (Figure 1).
- The 2008 incidence rate of acute hepatitis A in LAC is highest in those between the ages of 15-34 (1.2 per 100,000), followed by the 35-44 age group (0.9 per 100,000) and the 65+ age group (0.9 per 100,000) (Figure 2).
- The 2008 incident rate of acute hepatitis A in LAC is highest in Asians (1.1 per 100,000) followed by Hispanics (0.8 per 100,000), whites (0.8 per 100,000) and blacks (0.7 per 100,000) (Figure 3).
- Of the eight Service Planning Areas (SPAs) across LAC, three SPAs had rates greater than the overall county mean rate for this disease: SPA 3 (1.0 per 100,000), SPA 5 (1.5 per 100,000) and SPA 7 (1.1 per 100,000) (Figure 4).
- Historically, there is an increase of hepatitis A cases in summer to early autumn, and in 2008 there was an increase in the fall. There was also an increase in April (Figure 5).
- Risk factors were identified in 53% (n=41) of the 78 confirmed cases interviewed by a public health nurse (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=31, 76%) was the most common risk factor reported, followed by eating raw shellfish (n=13, 32%) and having a household contact who traveled outside of the US in 3 months prior to onset of illness (n=13, 32%) (Figure 6).
- Thirty-three percent (n=26) of hepatitis A cases were hospitalized. The median age was 34 years.



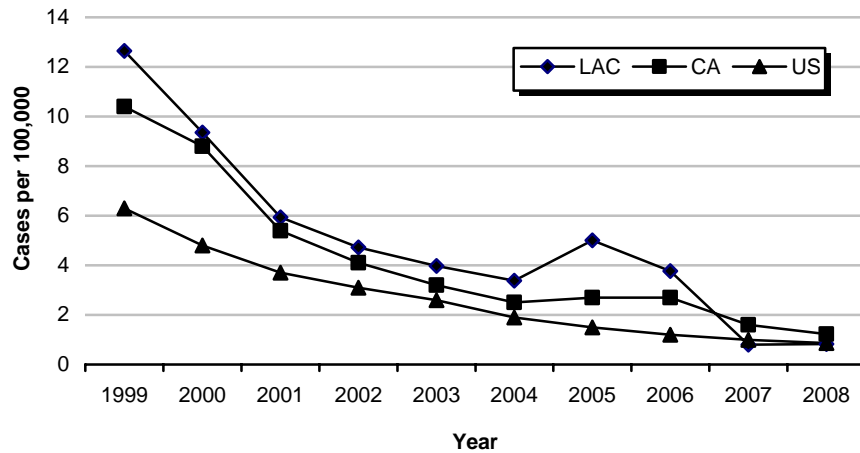
**Reported Hepatitis A Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2004-2008**

	2004 (N=321)			2005 (N=480)			2006 (N=364)			2007 (N=78)			2008 (N=80)		
	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	0.0
1-4	2	0.6	0.3	7	1.5	1.2	5	1.4	0.9	1	1.3	0.2	0	0.0	0.0
5-14	26	8.1	1.7	24	5.0	1.6	20	5.5	1.4	6	7.7	0.4	7	8.8	0.5
15-34	86	26.8	3.1	198	41.3	7.1	114	31.3	4.1	32	41.0	1.1	34	42.5	1.2
35-44	44	13.7	2.9	88	18.3	5.8	83	22.8	5.5	16	20.5	1.1	14	17.5	0.9
45-54	39	12.1	3.1	88	18.3	6.9	73	20.1	5.6	13	16.7	1.0	9	11.3	0.7
55-64	33	10.3	4.1	44	9.2	5.3	33	9.1	3.8	5	6.4	0.6	7	8.8	0.8
65+	91	28.3	9.6	30	6.3	3.1	36	9.9	3.7	5	6.4	0.5	9	11.3	0.9
Unknown	0	0.0		1	0.2		0	0.0		0	0.0		0	0.0	
Race/Ethnicity															
Asian	58	18.1	4.7	42	8.8	3.3	25	6.9	2.0	15	19.2	1.2	14	17.5	1.1
Black	15	4.7	1.8	49	10.2	5.8	64	17.6	7.6	5	6.4	0.6	6	7.5	0.7
Hispanic	95	29.6	2.1	135	28.1	3.0	124	34.1	2.7	33	42.3	0.7	36	45.0	0.8
White	107	33.3	3.7	203	42.3	7.0	125	34.3	4.3	24	30.8	0.8	23	28.8	0.8
Other	3	0.9	10.8	13	2.7	46.0	1	0.3	3.5	0	0.0	0.0	1	1.3	4.1
Unknown	43	13.4		38	7.9		25	6.9		1	1.3		0	0.0	
SPA															
1	8	2.5	2.4	11	2.3	3.2	3	0.8	0.9	5	6.4	1.4	3	3.8	0.8
2	73	22.7	3.5	78	16.3	3.7	58	15.9	2.7	16	20.5	0.7	17	21.3	0.8
3	50	15.6	2.9	56	11.7	3.3	57	15.7	3.3	17	21.8	1.0	17	21.3	1.0
4	58	18.1	4.7	130	27.1	10.4	79	21.7	6.3	9	11.5	0.7	7	8.8	0.5
5	16	5.0	2.5	45	9.4	7.1	24	6.6	3.8	5	6.4	0.8	10	12.5	1.5
6	39	12.1	3.8	30	6.3	2.9	37	10.2	3.6	8	10.3	0.8	2	2.5	0.2
7	55	17.1	4.0	50	10.4	3.6	33	9.1	2.4	12	15.4	0.9	15	18.8	1.1
8	22	6.9	2.0	58	12.1	5.2	45	12.4	4.0	5	6.4	0.4	7	8.8	0.6
Unknown	0	0.0		22	4.6		28	7.7		1	1.3		2	2.5	

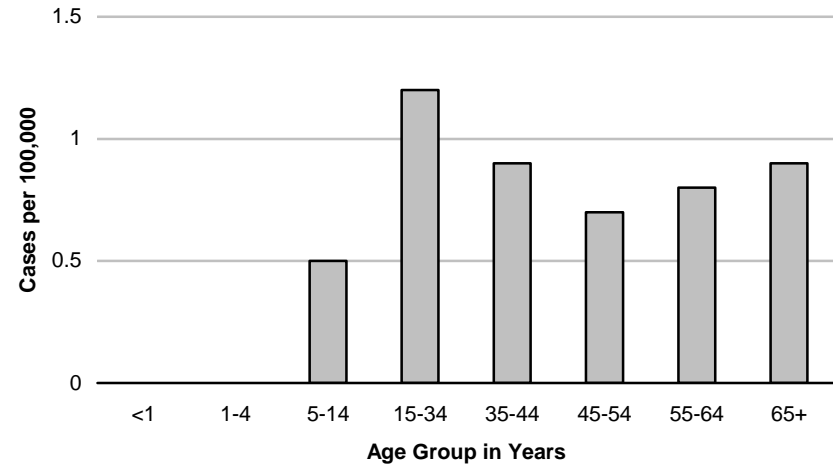
*Rates calculated based on less than 19 cases or events are considered unreliable



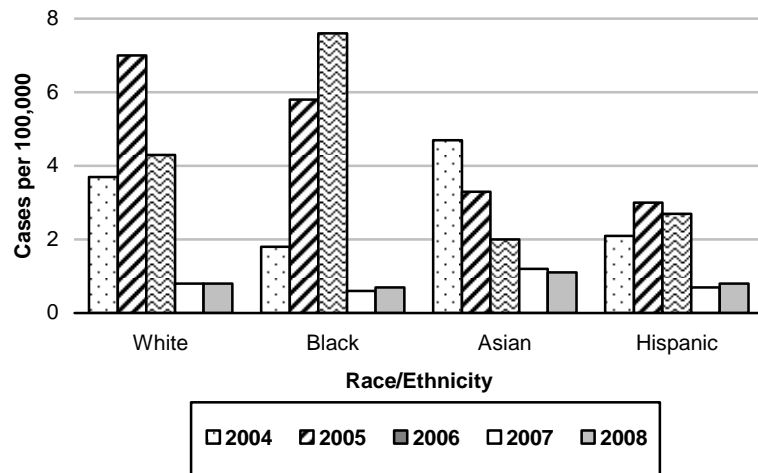
**Figure 1. Incidence Rates of Hepatitis A
LAC, CA and US, 1999-2008**



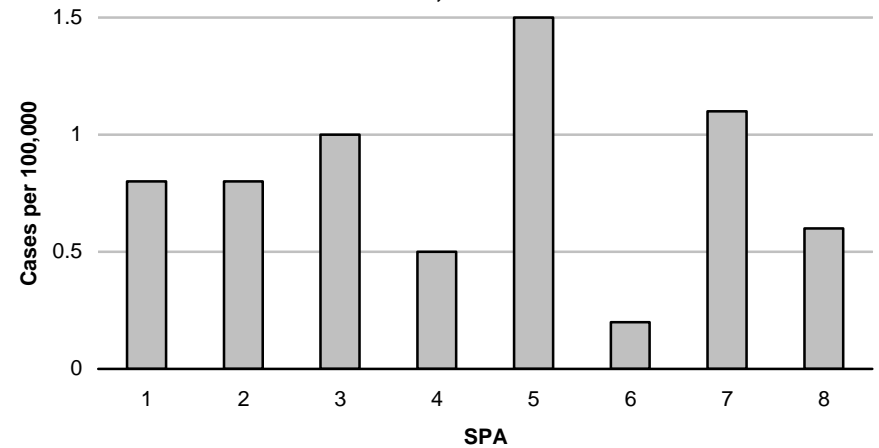
**Figure 2. Incidence Rates of Hepatitis A by Age Group
LAC, 2008**



**Figure 3. Hepatitis A Incidence by Race/Ethnicity
LAC, 2004-2008**



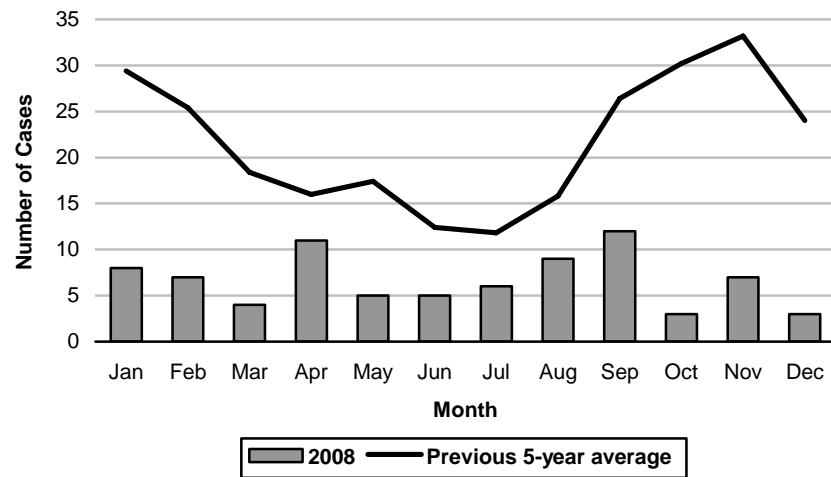
**Figure 4. Incidence Rates* of Hepatitis A by SPA
LAC, 2008**



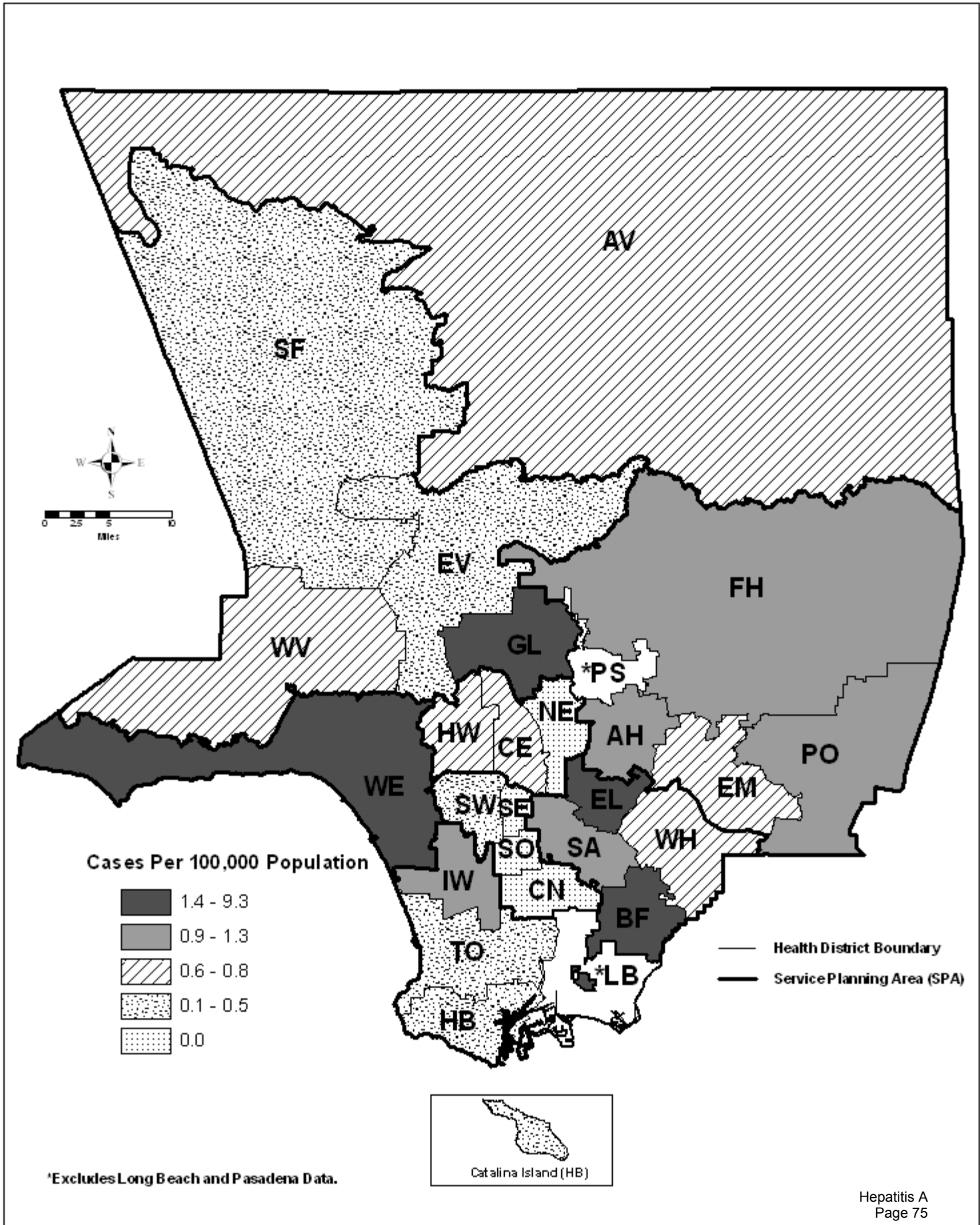
* Rates based on fewer than 19 cases are unreliable



**Figure 5. Reported Hepatitis A Cases by Month of Onset
LAC, 2008**



Map 6. Hepatitis A Rates by Health District, Los Angeles County, 2008*







STRATIFIED DATA

Trends: The hepatitis A incidence rate was 0.80 cases per 100,000 in 2007 which was lower than last year (Figure 1).

Seasonality: Historically, there is an increase of hepatitis A cases in summer to early autumn, but in 2007 there was an increase in the winter and spring (Figure 2).

Age: The overall mean age for hepatitis A cases in 2007 was 37 years. The mean age differed significantly by race and ethnic groups. The mean age for Hispanics was 30 years while Asian, black, and white cases had mean ages of 33, 36, and 50 years, respectively. The incidence rate is highest in those between the ages of 15-54 years (Figure 3).

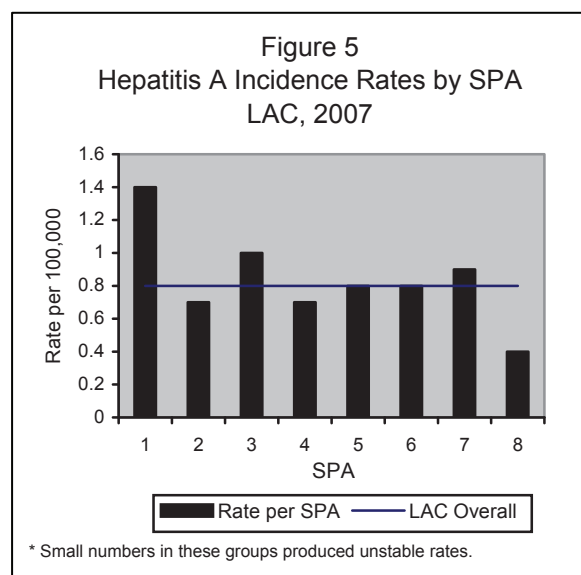
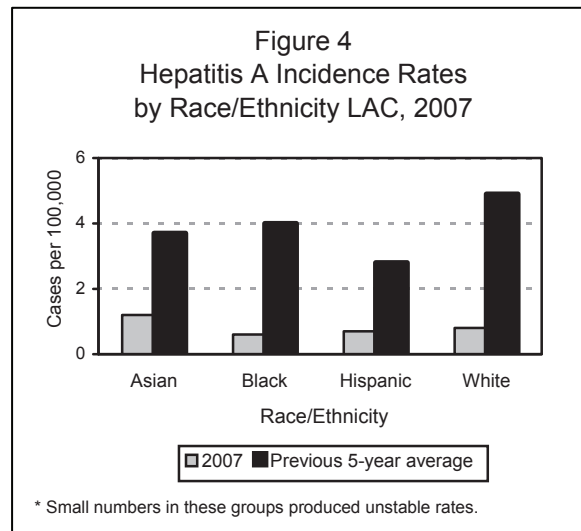
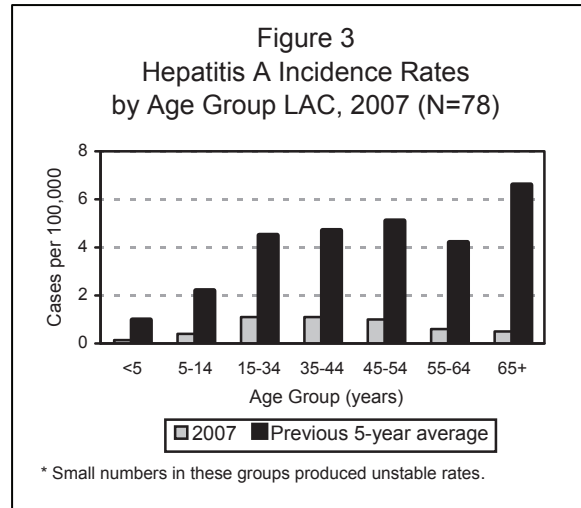
Sex: The hepatitis A cases male: female rate ratio was 1.0:0.7. The number of cases in males exceeded those in females in all ethnic groups.

Race/Ethnicity: The incidence rate for Asians was higher than other races (1.2 per 100,000), followed by whites (0.8), Hispanics (0.7), and blacks (0.6), respectively (Figure 4).

Location: Of the eight SPAs across LAC, three had rates that were greater than the overall county mean rate for this disease: SPA 1 (1.4 per 100,000), SPA 3 (1.0 per 100,000) and SPA 7 (0.9 per 100,000) (Figure 5).

Severity of Illness: Twenty-nine percent (n=23) of hepatitis A cases were hospitalized. The age of those hospitalized ranged from 14 to 58 years, with a median age of 35.5 years.

Risk Factors: Of the 78 confirmed cases, 95% were interviewed by public health nurses for risk factors. Risk factors were identified for 58% (n=45) of the cases (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=37, 82%) was the most common risk factor reported in 2007, followed by eating raw shellfish (n=19, 42%), and being in contact with another case (n=4, 9%). Among travelers, Mexico and Central American destinations (68%) were most frequently cited.



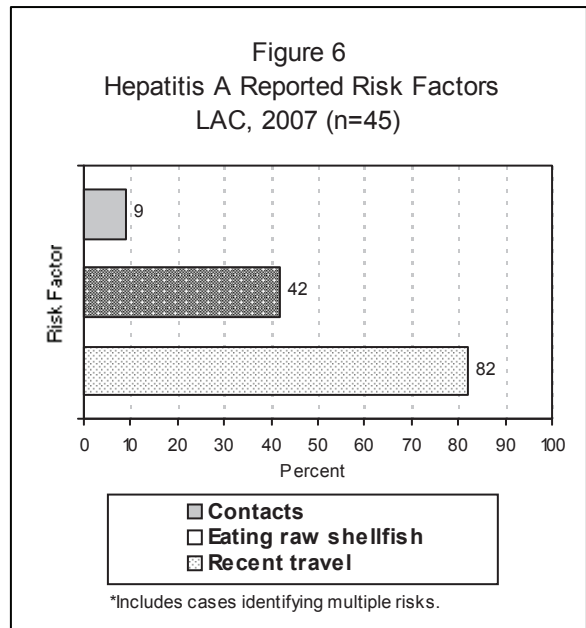


PREVENTION

Effective strategies for decreasing the number of hepatitis A cases in LAC include the addition of hepatitis A vaccine to the children's immunization program, public health nurses providing post exposure prophylaxis to close contacts of cases and providing education to clients and close contacts regarding the importance of hand hygiene in preventing the spread of infection.

Post-exposure prophylaxis with hepatitis A vaccine and/or IG is used to control outbreaks in LAC. Use of hepatitis A vaccine for post-exposure prophylaxis has the advantage of providing active immunity and longer protection.

International travel was the most common risk factor reported in 2007, followed by eating raw shellfish and contact with a household member or sexual partner who had HAV. Therefore, it is important to educate travelers, and consumers of raw shellfish about hepatitis A vaccinations.



COMMENTS

This year the incidence rate of 0.80 cases per 100,000 was the lowest recorded in LAC and for the first time was lower than the US rate. Rates of acute hepatitis A in LAC have varied widely in the past several years, despite an overall decline of acute hepatitis A in the US. Variations in the rates of acute hepatitis A are partly due to the enhanced use of vaccine, consistently applying the CDC/CSTE case definition to all reported cases and a large outbreak which occurred in 2005-2006. See previous annual reports from 2005-2006 for a more complete explanation (<http://publichealth.lacounty.gov/acd/Report.htm>).

ADDITIONAL RESOURCES

Centers for Disease Control and Prevention, general information—
<http://www.cdc.gov/hepatitis/index.htm>

Publications:

Centers for Disease Control and Prevention (2003). Foodborne transmission of hepatitis A—Massachusetts, 2001. *Morbidity and Mortality Weekly Report*, 52(24), 565-567. Retrieved October 29, 2008, from the CDC Web site:
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5224a2.htm>

Centers for Disease Control and Prevention (2003). Hepatitis A outbreak associated with green onions at a restaurant—Monaca, Pennsylvania, 2003. *Morbidity and Mortality Weekly Report*, 52(47), 1155-1157. Retrieved October 29, 2008, from the CDC Web site:
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm52d1121a1.htm>

Centers for Disease Control and Prevention (2005). Positive test results for acute hepatitis A virus infection among persons with no recent history of acute hepatitis—United States, 2002-2004. *Morbidity and Mortality Weekly Report*, 54(18), 453-456. Retrieved October 29, 2008, from the CDC Web site: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5418a1.htm>



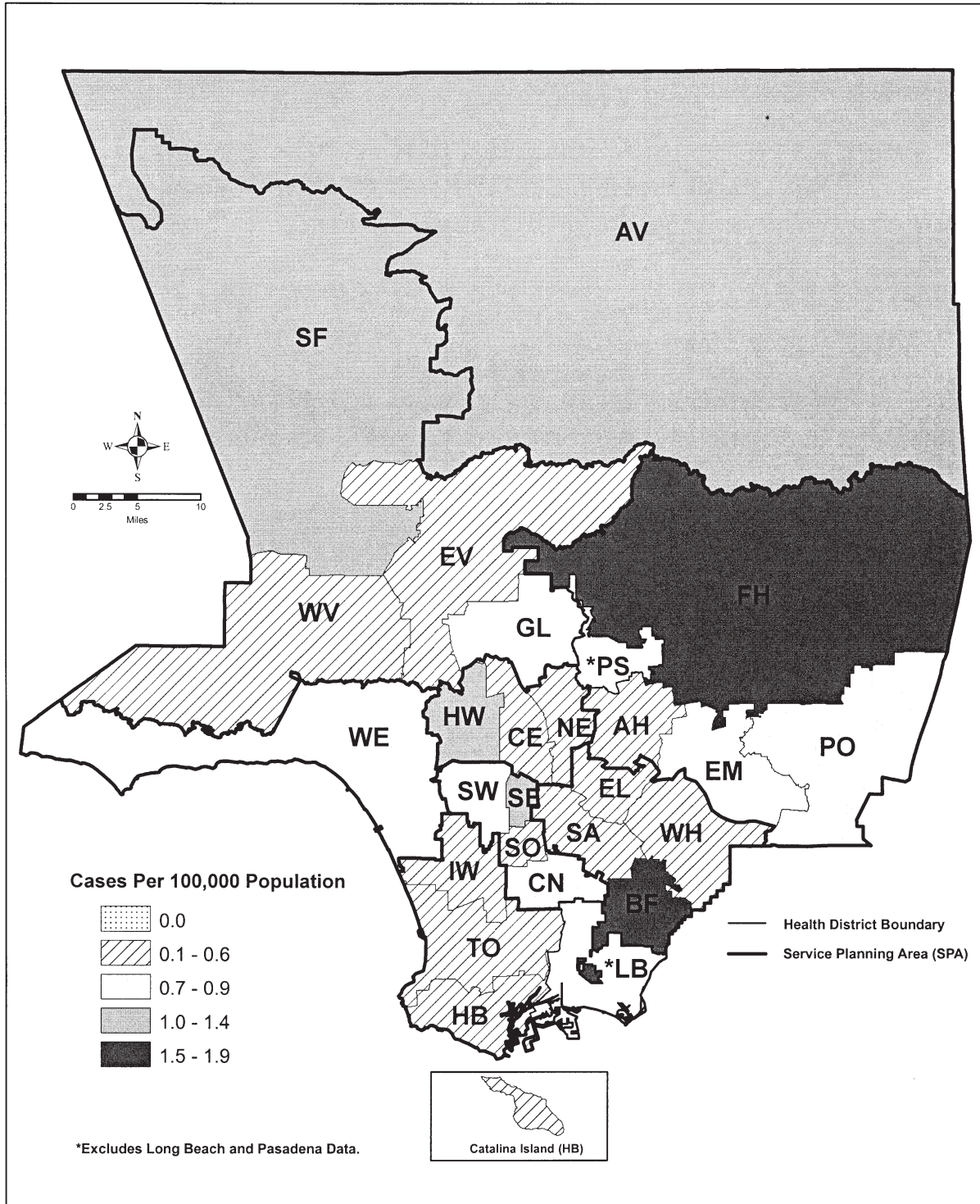
Centers for Disease Control and Prevention (2007). Update: Prevention of Hepatitis A After Exposure to Hepatitis A Virus and in International Travelers. Updated Recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbidity and Mortality Weekly Report*, 56(41), 1080-1084. Retrieved October 29, 2008, from the CDC Web site: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5641a3.htm>

Centers for Disease Control and Prevention (2008). Surveillance for acute viral hepatitis--United States, 2006. *Morbidity and Mortality Weekly Report*, 57(SS02), 1-24. Retrieved October 29, 2008, from the CDC Web site: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5702a1.htm>

Fiore, A.E. (2004). Hepatitis A transmitted by food. *Clinical Infectious Diseases*, 38(5), 705–715. Retrieved October 29, 2008, from the CDC Web site: http://www.cdc.gov/hepatitis/PDFs/fiore_ha_transmitted_by_food.pdf



**Map 7. Hepatitis A
 Rates by Health District, Los Angeles County, 2007***

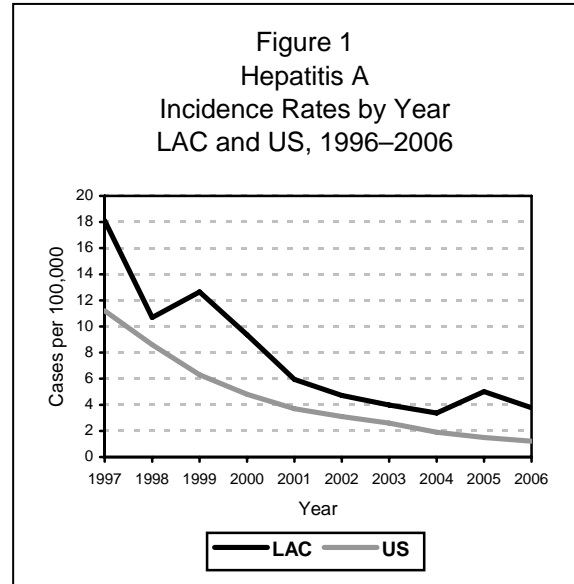


HEPATITIS A

CRUDE DATA	
Number of Cases	364
Annual Incidence ^a	
LA County	3.77
California	2.75 ^b
United States	1.21 ^b
Age at Diagnosis	
Mean	41
Median	41
Range	1-100 years

^a Cases per 100,000 population.

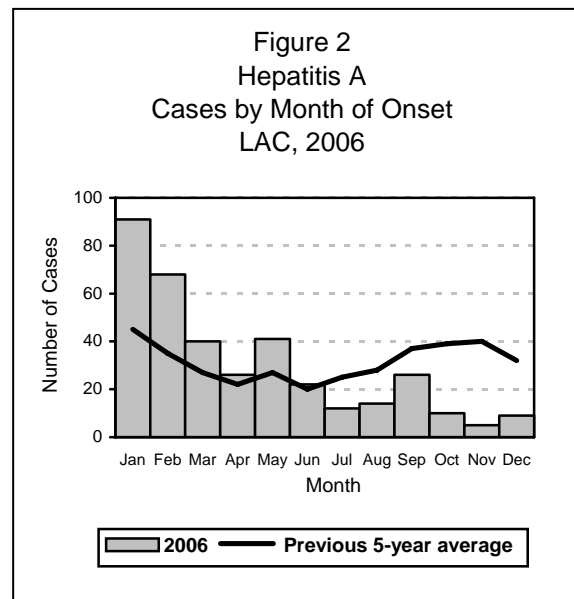
^b Calculated from 2007 Summary of notifiable diseases issue of MMWR (56:853-863).



DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity.

ACDC uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. The criteria include: 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate lab tests to confirm laboratory criteria for acute hepatitis A diagnosis: IgM anti-HAV positive, or a case meets the clinical case definition and has an epidemiologic link with a person who has laboratory confirmed hepatitis A (i.e., a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).



DISEASE ABSTRACT

- The incidence rate of acute hepatitis A has decreased from the previous year (5.01 to 3.77 per 100,000) (Figure1).
- The hepatitis A incidence rate in blacks and in those between the ages of 35-54 increased in 2006 from 2005.
- There were two outbreaks of hepatitis A in 2006.

STRATIFIED DATA

Trends: The hepatitis A incidence rate was 3.77 cases per 100,000 in 2006 which was lower than last year (Figure 1).

Seasonality: Historically, there is an increase of hepatitis A cases in summer to early autumn, but 2006 was different than the previous five-year average (Figure 2).

Age: The overall mean age for hepatitis A cases in 2006 was 41 years. The mean age differed significantly by race and ethnic groups. The mean age for Latinos was 30 years while Asian, black, and white cases had mean ages of 43, 46, and 48 years, respectively. Historically, the age-specific rate has been highest in children aged 5-14 years and 65 and older. However, in 2006, the rate was highest among those 35-54 years (Figure 3).

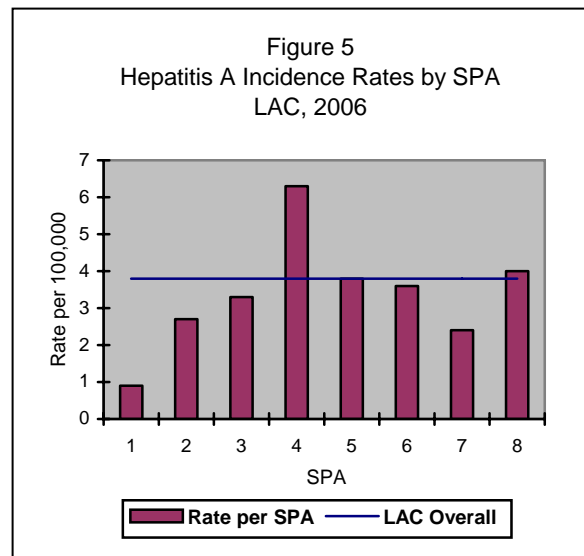
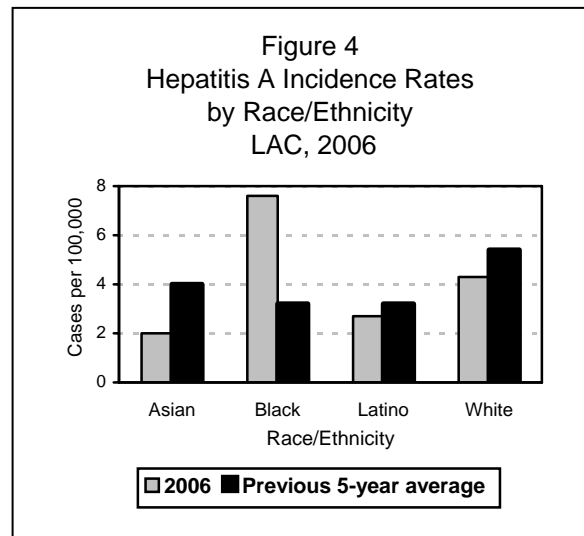
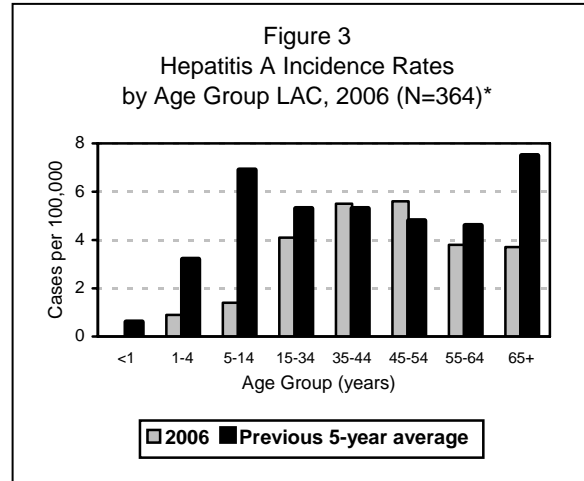
Sex: The hepatitis A cases male-to-female rate ratio was 2:1. Among Asian cases, the male-to-female rate ratio was 1:1, while among Latino, white, and black cases, incidence rate ratios were higher among males, at 1.2:1, 2.5:1, and 4:1 respectively.

Race/Ethnicity: Compared to the previous five-year average, the incidence rate for blacks is for the first time higher than other races (7.6 per 100,000), followed by whites (4.3), Latinos (2.7), and Asians (2.0), respectively (Figure 4).

Location: Of the eight SPAs across LAC, two had rates that were greater than the overall county mean rate for this disease: SPA 4 (6.3 per 100,000) and SPA 8 (4.0 per 100,000) (Figure 5).

Severity of Illness: Among all hepatitis A cases in 2006, there was one reported fatality. Twenty-seven percent (n=98) of hepatitis A cases were hospitalized. The age of those hospitalized ranged from 1 to 92 years, with a median age of 43.

Risk Factors: Of the 364 confirmed cases, 88% were interviewed by public health nurses for risk factors. Risk factors were identified for only 40% (n=128) of the cases (including some cases with multiple risk factors). Of those with identified risk factors, recent travel outside of the US (n=59, 46%) was the most common risk factor reported in 2006, followed by eating raw shellfish (n=45, 35%), and being in contact with another case (n=26, 20%), and MSM (n=18, 14%), respectively (Figure 6). Among travelers, Mexico and Central American destinations (75%) were most frequently cited.



PREVENTION

Effective strategies for decreasing the number of hepatitis A cases in LAC include adding hepatitis A vaccine to the children's immunization program and public health nurses providing immune globulin (IG) to close contacts of cases and educating clients about the importance of hand hygiene on reducing infections when cases of acute hepatitis A are reported to Public Health.

Post-exposure prophylaxis with IG is used to control outbreaks in LAC. It has been suggested that outbreaks of HAV could also be effectively interrupted through vaccine use, leading to sustained reduction in disease incidence.

COMMENTS

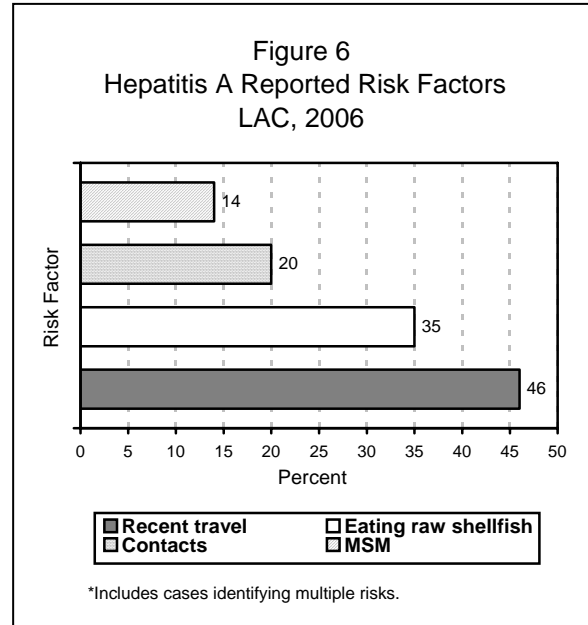
Rates of acute hepatitis A have varied widely in the past several years, despite an overall decline of acute hepatitis A in the US. What follows is an account of the changes in the true incidence of disease, coupled with a change in case definitions, that explain the fluctuations in acute hepatitis A in LAC.

Prior to 1998, the highest rate of acute hepatitis A occurred in those 5-14 years in LAC, especially among Latino children. However, with the inclusion of hepatitis A vaccine into Vaccine for Children's Program in 1999, the rate of acute hepatitis A in children decreased. The decrease of hepatitis A in children was the major source of the decrease of hepatitis A in the population as a whole from 1999-2004 in LAC. With the decrease in the rate of hepatitis A in children, the number of cases in adults also decreased but increased as a proportion of the total number of cases of hepatitis A in LAC.

In LAC, prior to 2005, hepatitis A cases were often counted as "acute" even if the only information received about the patient was a positive IgM test. However, many other jurisdictions have documented "false positive" results on the IgM test, especially in the elderly who often receive screening tests despite lack of symptoms or medical indication. Therefore, since January 1, 2005, we have been consistently applied the CDC/CSTE criteria to all reported cases of acute hepatitis A. The effect of consistently applying this more stringent case definition, which includes clinical and laboratory findings in addition to a single serological test, was to remove those reported cases who lacked evidence of clinical symptoms or liver damage. Utilizing the standardized case definition, the rate of acute hepatitis A dropped even more than the expected drop due to the use of the vaccine. The number of cases in all age groups, especially those aged >65 years, decreased. This was expected as many of the initial reports in the older adult population, based on a single positive laboratory test, were felt to be due to over aggressive screening and not due to newly acquired infection.

However, from August 2005 to July 2006, LAC sustained a 12 month community-wide outbreak of acute hepatitis A. The overall rate increased from 3.37 in 2004 to 5.01 in 2005, despite a more restrictive case definition of acute hepatitis A. If the new definition had not been implemented in 2005, it is anticipated that the 2005 and 2006 incidence rate of acute hepatitis A during the community outbreak would have been even larger. Even so, it is remarkable that the rate increased during this time of steadily decreasing rates nationwide and in California. While the outbreak affected most race/ethnicity groups and geographic regions of the county, the proportion of hepatitis A cases increased in blacks and in those ages 15-54 years. Furthermore, 11% of the cases during this time period occurred in the homeless, a population which is estimated to comprise only 1% of county's total population.

As the community-wide outbreak came to an end during the summer of 2006, the rate of hepatitis A again fell to below historical levels. This can be best appreciated in Figure 2 where the number of cases



reported each month from July to December is below the previous 5-year average. The discrepancy between the July to December 2006 cases and the previous 5-year average is large because the previous 5-year average is calculated including cases that were considered “confirmed” under the previous, less restrictive, case definition used before 2005 as well as outbreak cases that occurred during August to December 2005. (See 2005 Special Studies Report on Acute Hepatitis A for more information.)

In LAC, prior to 2005, the age-specific rate has been highest in children aged 5-14 years and 65 and older. However, using the CDC/CSTE acute hepatitis A criteria, in 2006 the rate was highest among those 35-54 years (Figure 2), consistent with 2005.

During the outbreak period of 2005 (August through December), cases in blacks increased. This trend continued into the first half of 2006. The hepatitis A incidence rates among the blacks was almost double that compared to the previous 5-year average (7.6 versus 3.2 per 100,000).

There were 11% (n= 41) of acute cases identified as homeless. 42% of them were black males (n=17). After identifying the homeless as a disproportionately affected group, LAC DPH did an outreach project to collaborate with the downtown homeless organizations to provide education and hepatitis A vaccine for food service providers at the downtown Skid Row area.

In 2006, ACDC investigated two hepatitis A outbreaks, associated with licensed food and drink establishments. The first was reported in June 2006; 7 cases with onset in May were identified in patrons of a cocktail lounge. After investigation by DPH Environmental Health Food and Milk Program, District Public Health staff, and ACDC, a contaminated ice chest was a suspected source. The ice was probably contaminated by a patron who had been diagnosed with acute hepatitis A in April and was known to take ice and drinks from the public chest with his bare hands. In September 2006, 8 cases of acute hepatitis A were identified in patrons who ate at a restaurant in Pomona during August. A case-control study was unable to identify the source of the outbreak. It is most likely that an intermittent source of hepatitis A, such as an asymptomatic food worker or contaminated food product, or an external contamination of publicly available food (such as the salsa bar) was the source of this outbreak. Outbreaks of hepatitis A without a clear source being identified are commonly reported.

PREVENTION

International travel was the most common risk factor reported in 2006, followed by eating raw shellfish and contact with a household member or sexual partner who had HAV, and MSM. Therefore, it is important to educate travelers, consumers of raw shellfish, and MSM about hepatitis A vaccinations. Sustaining and further reducing hepatitis A incidence can be achieved by improving vaccination coverage in all US children starting at 2 years of age. Increased awareness of the public about the mode of hepatitis transmission and the importance of good personal hygiene may also lead to a significant reduction in disease incidence.

ADDITIONAL RESOURCES

General information about hepatitis is available from the CDC at:
www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm

Publications:

CDC. Prevention of hepatitis A through active or passive immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2006; 55(RR07):1-23.

Available at: www.cdc.gov/mmwr/preview/mmwrhtml/rr5507a1.htm

CDC. Surveillance for acute viral hepatitis--United States, 2005. MMWR 2007; 56(SS03):1-24.

Available at: www.cdc.gov/mmwr/preview/mmwrhtml/ss5603a1.htm

CDC. Hepatitis A outbreak associated with green onions at a restaurant--Monaca, Pennsylvania, 2003. MMWR 2003; 52(47):1155-1157. Available at:

www.cdc.gov/mmwr/preview/mmwrhtml/mm52d1121a1.htm

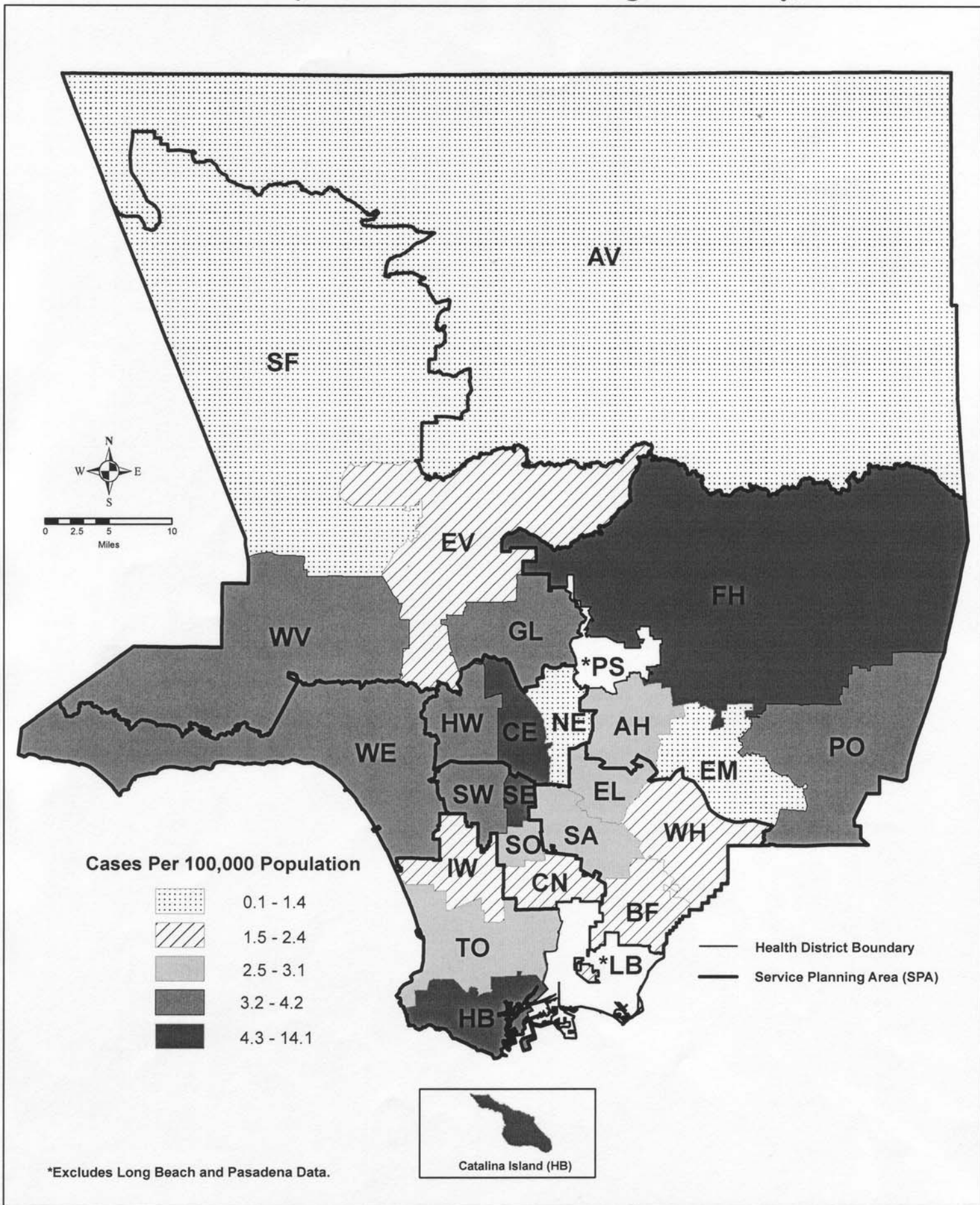
CDC. Positive test results for acute hepatitis A virus infection among persons with no recent history of acute hepatitis--United States, 2002-2004. MMWR 2005; 54(18):453-456. Available at:

www.cdc.gov/mmwr/preview/mmwrhtml/mm5418a1.htm

CDC. Foodborne transmission of hepatitis A--Massachusetts, 2001. MMWR 2003; 52(24):565-567.

Available at: www.cdc.gov/mmwr/preview/mmwrhtml/mm5224a2.htm

Map 5. Hepatitis A Rates by Health District, Los Angeles County, 2006*



*Excludes Long Beach and Pasadena Data.



HEPATITIS A

CRUDE DATA	
Number of Cases	480
Annual Incidence ^a	
LA County	5.01
California	N/A
United States	N/A
Age at Diagnosis	
Mean	38
Median	36
Range	1-89 years
Case Fatality	
LA County	0.0%
United States	N/A

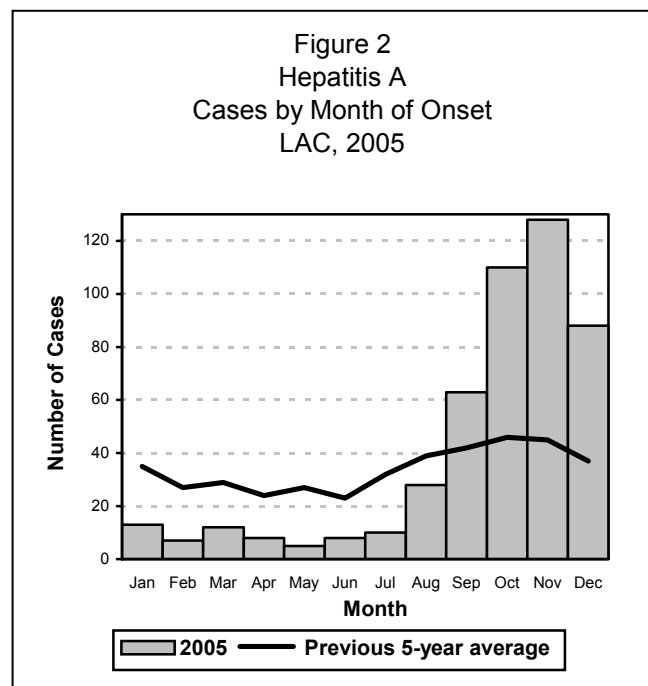
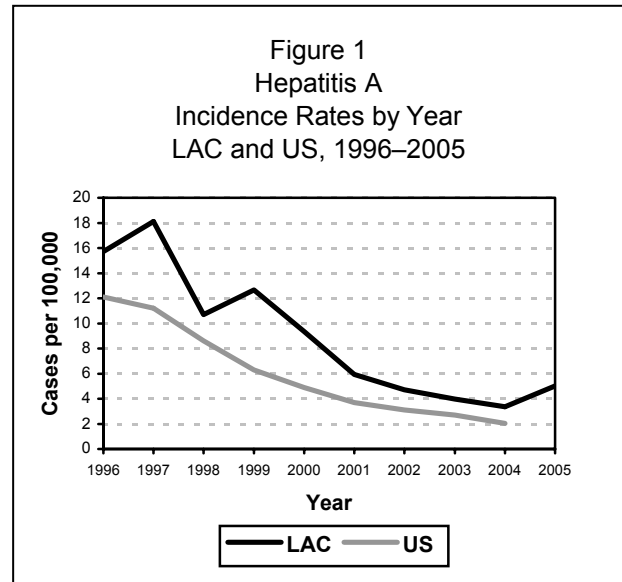
^a Cases per 100,000 population.

DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity.

ACDC uses the CDC/CSTE criteria for acute hepatitis A to standardize surveillance of this infection. The criteria include: 1) an acute illness with discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate lab tests to confirm laboratory criteria for acute hepatitis A diagnosis: IgM anti-HAV positive, or a case meets the clinical case definition and has an epidemiologic link with a person who has laboratory confirmed hepatitis A (i.e., a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).

It was discovered in November of 2005, that one of the largest reporting sources of hepatitis A inadvertently stopped reporting cases since September 2004. In November 2005, this source reported more than 300 positive tests going back more than a year, which had to be investigated. For these reasons, the year 2005 was divided into two parts. In the last 5 months, all cases were confirmed as





acute hepatitis A if they met the CDC/CSTE criteria, or if the case was unable to be interviewed, they had ALT levels >300 (a marker of liver injury), or if their medical record indicated they had signs and symptoms of hepatitis A.

DISEASE ABSTRACT

- The incidence rate of acute hepatitis A has increased from the previous year (Figure 1).
- Since January 1, 2005, when ACDC implemented CDC/CSTE criteria to standardize surveillance for this infection, the number of acute hepatitis A confirmed cases decreased significantly during the first seven months (Jan–July) of 2005 versus 2004 (63 vs. 205 respectively).
- There was a sharp increase in the number of acute hepatitis A cases starting in August of 2005. In addition to the overall increase of hepatitis A, there were five outbreaks of hepatitis A in the fall of 2005.
- Hepatitis A incidence rates among those between the ages of 15–65 were higher in 2005 and the majority of cases were males.

STRATIFIED DATA

Trends: The hepatitis A incidence rate was 5.01 cases per 100,000 population for 2005 which was higher than last year (Figure 1).

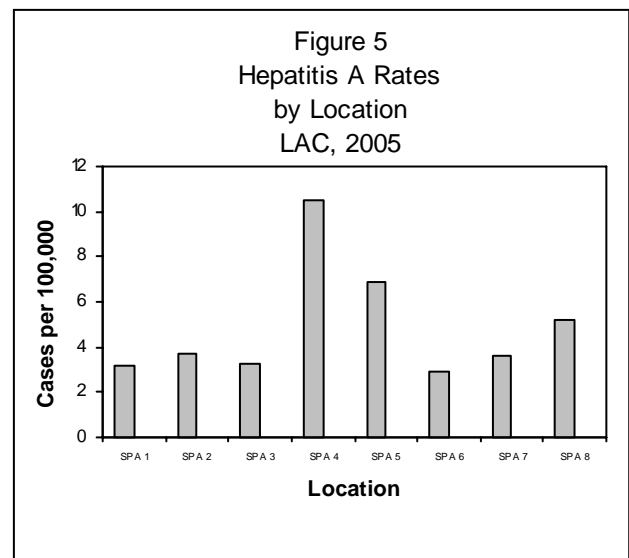
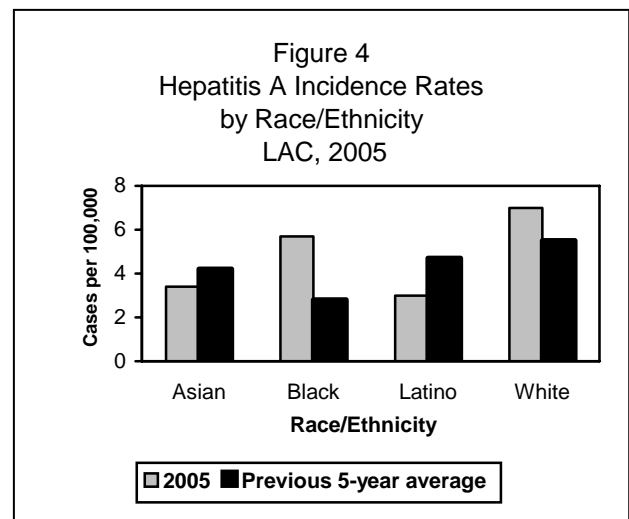
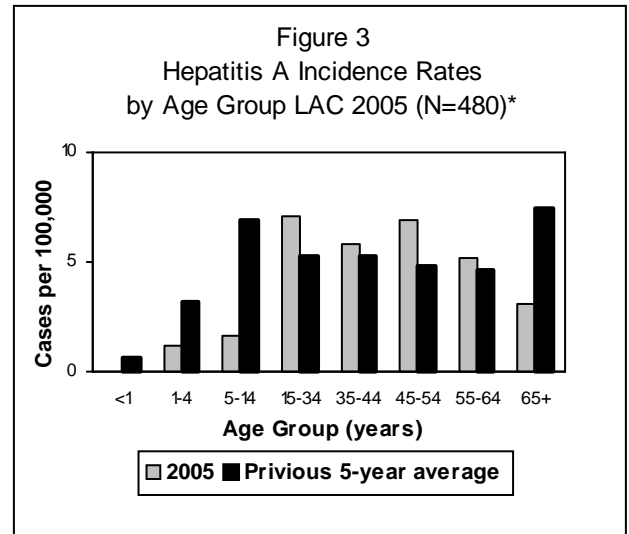
Seasonality: The increase in HAV cases historically observed in summer to early autumn was observed again in 2005 (Figure 2).

Age: The overall mean age for HAV cases in 2005 was 38 years. The mean age differed significantly by race and ethnic groups. The mean age for Latinos was 28 years while Asian, White, and Black cases had mean ages of 35, 43, and 46 years, respectively. Historically, the age-specific rate has been highest in children aged 5-14 years and 65 and old. However, in 2005, the rate was highest among those 15-54 years (Figure 3).

Sex: The overall HAV male-to-female rate ratio was 1.7:1. Among Asian cases, the male-to-female rate ratio was 0.9:1, while among Latino, White, and Black cases, incidence rates ratios were higher among males, at 1.4:1, 1.8:1, and 2.8:1 respectively.

Race/Ethnicity: The highest rate in 2005 was among White (7.0 per 100,000), followed by Black (5.7), Asian (3.4), and Latinos (3.0), respectively (Figure 4).

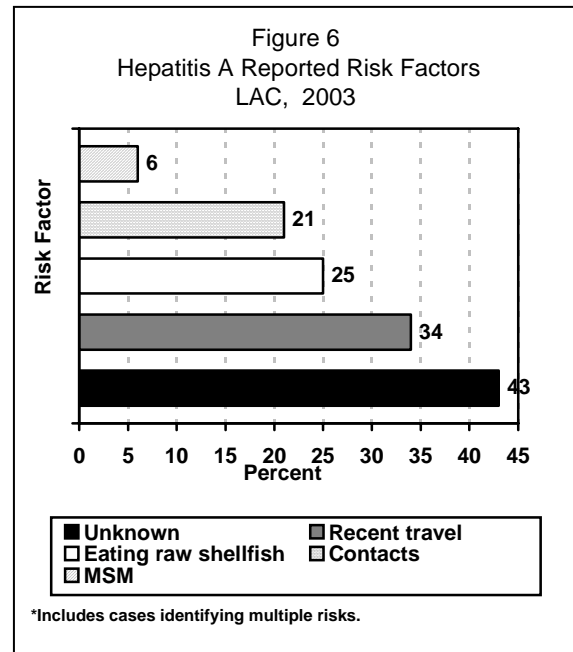
Location: The highest number of cases occurred in SPA 4 (10.5 per 100,000) followed by SPA 5 (6.9), SPA 8 (5.2), SPA 2 (3.7), SPA 7 (3.6), SPA 3 (3.3), SPA 1 (3.2), and SPA 6 (2.9) (Figure 5).





Severity of Illness: Among all HAV cases in 2005, there was no reported fatality. Twenty-five percent (n=120) of hepatitis A cases were hospitalized. Ages, in those hospitalized, ranged from 3 to 89 years, with a median age of 34.

Risk Factors: Risk factors were reported for 43% (n=207) of the cases (including some cases with multiple risk factors). Recent travel outside of the US (n=71, 34%) was the most common risk factor reported in 2005, followed by eating raw shellfish (n=52, 25%), and being in contact with another case (n=43, 21%), respectively (Figure 6). Among travelers, South and Central American destinations (74%) were most frequently cited.



PREVENTION

Effective strategies for decreasing the number of hepatitis A cases in LAC include adding hepatitis A vaccine to the children immunization program and Public Health Nurses providing immune globulin (IG) to close contacts of cases and educating clients about the importance of hand hygiene on reducing infections when cases of acute hepatitis A are reported to LAC DHS. Close contacts, such as household contacts, sexual partners, and other intimate contacts are offered post-exposure prophylaxis with IG.

COMMENTS

In LAC, prior to 2005, hepatitis A cases were often counted as “acute” even if the only information received about the patient was a positive IgM test. Since January 1, 2005, ACDC has been using the CDC/CSTE criteria for investigation and disposition of acute hepatitis A. The purpose of changing is to improve surveillance to allow ACDC to more accurately monitor trends in hepatitis, and compare local data with state and national data.

After implementing the CDC/CSTE case definition for acute hepatitis A, the number of acute hepatitis A confirmed cases decreased significantly during the first seven months (Jan-July) in 2005 versus 2004 (63 versus 205 cases respectively). However, there were five outbreaks of hepatitis A during August-December, in addition to the generalized increase in acute hepatitis A. Furthermore, one of the largest reporting sources of hepatitis A inadvertently stopped reporting cases in September 2004. In November 2005, this source reported more than 300 positive tests going back more than a year which had to be investigated. Consequently, for the last five months of 2005, cases were confirmed as acute hepatitis A if they met the CDC/CSTE criteria, or if the case was unable to be interviewed, they had ALT levels >300 (a marker of liver injury), or if their medical record indicated they had signs and symptoms of hepatitis A. The reason for ACDC not strictly applying the CDC/CSTE case definition was to avoid missing cases, especially in hard to reach populations, during our outbreak period. Obviously, surveillance and investigation for hepatitis A was challenging during this time.

For the first seven months, there were 319 cases initially reported to have acute hepatitis A in comparison to the 243 cases reported in the first seven months of 2004. Upon further investigation, cases meeting the CDC/CSTE criteria for acute hepatitis A have decreased from 2004 to 2005 with 205 (84%) and 63 (20%) cases confirmed respectively for cases reported in the first seven months of those years. Even though, there was a 31% increase in the number of cases reported, there was a 69% decrease in the number of cases confirmed. A possible reason for the decrease may be due to the standardized criteria for investigation and classification rather than a true reduction in infection.



There were 680 cases initially reported to have acute hepatitis A during the outbreak period (August-December, 2005) of which 391(58%) met the CDC/CSTE criteria for acute hepatitis A. Another 26 (4%) cases (unable to be interviewed) were confirmed as acute hepatitis A by ALT levels > 300 or their medical record indicated they had signs and symptoms of hepatitis A. Comparing the data collected between the first seven months and the last five months of 2005, we observed that during the last five months of 2005, the incidence rate was 10 times higher than the first seven months of 2005. Moreover, the percentage of confirmed acute hepatitis increased from the first seven months of 2005 to the last five months of 2005 with 20% (n=63) vs. 58% (n=391) respectively. The absolute number of "false" cases (those not meeting the case definition) stayed pretty much the same throughout the entire year, demonstrating that the increased number of cases of hepatitis A during the outbreak period was due to a true increase in disease incidence and not just increased surveillance for the disease. Reviewing the false cases, we determined that serological tests were being ordered for asymptomatic patients in LAC. Improving hepatitis surveillance by adhering to the CDC/CSTE definition will allow us to better identify risk factors for true cases of hepatitis A and develop intervention programs.

In LAC, prior to 2005, the incidence of hepatitis A in elderly adults aged 65 years and older was high (Figure 3). However, district public health nurses anecdotally reported that older adult cases received hepatitis A screening test as a part of their routine check ups and not when they were acutely ill. With the new case definition of hepatitis A, only 45% of received reports were closed as confirmed acute cases. Using the new case definition, only 6 percent of adult's cases were aged 65 years and older in 2005.

There were demographic differences in the cases during the "baseline" period of the first 7 months of 2005 versus the final 5 months of the outbreak period. The highest number of cases occurred in SPA 4 (8 in the baseline period and 118 in the outbreak period). The majority of cases in 2005 were among those 15-54 years old. In 2005, most of cases were male, which is a contrast to 2004 when there was an equal number of male and female cases. The gender disparity was most marked during the outbreak period when the ratio of male-to-female cases was 1.8:1. There was also an increase in the percentage of cases among Blacks (3.5% of cases in the baseline period versus 12.7% of cases in the outbreak period). Finally, during the outbreak period, 11% (n=51) of acute cases identified as homeless. Many of them were black males. LAC DPH is planning an outreach project to collaborate with the downtown homeless organizations to provide education/hepatitis A vaccine for food service providers at the downtown Skid Row area.

In addition to the overall increase of hepatitis A, there were five specific outbreaks of this pathogen in 2005. Settings included a downtown communal home that ran a soup kitchen in the Skid Row area in downtown, a movie set, two restaurants in downtown, and a drug treatment center. At this time, we have been unable to determine the source of the increase in cases of hepatitis A in LAC (see the 2005 Special Report for detailed information).

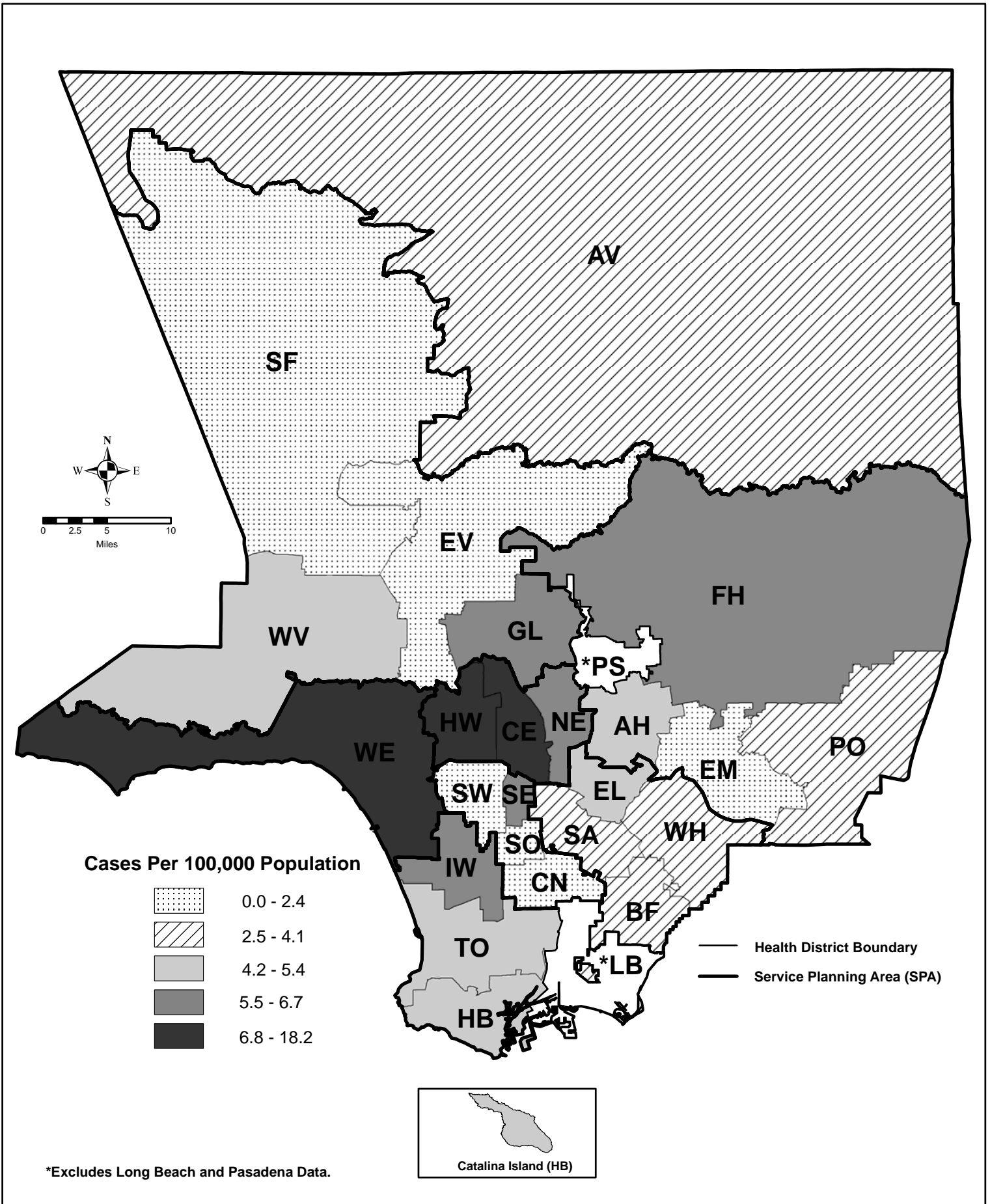
In 2005, the significant risk factors were international travelers, followed by those who eat raw shellfish, and those who reported contact with a household member or sexual partner who has HAV, and MSM. Therefore, it is important to educate travelers, consumers of raw shellfish, and MSM about hepatitis A vaccinations. Moreover, hepatitis A can be prevented by vaccination. Sustaining and further reducing hepatitis A incidence can be achieved by improving vaccination coverage in all US children starting at 2 years of age. Increased awareness of the public about the mode of hepatitis transmission and the importance of good personal hygiene also leads to a significant reduction in disease incidence.

ADDITIONAL RESOURCES

General information about hepatitis is available from the CDC at:

- www.cdc.gov/ncidod/diseases/hepatitis/slideset/bibliography.htm
- www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm

Map 7. Hepatitis A Rates by Health District, Los Angeles County, 2005*





HEPATITIS A

CRUDE DATA	
Number of Cases	321
Annual Incidence ^a	
LA County	3.37
California	2.49
United States	2.05
Age at Diagnosis	
Mean	46
Median	45
Range	2–91 years
Case Fatality	
LA County	0.0%
United States	N/A

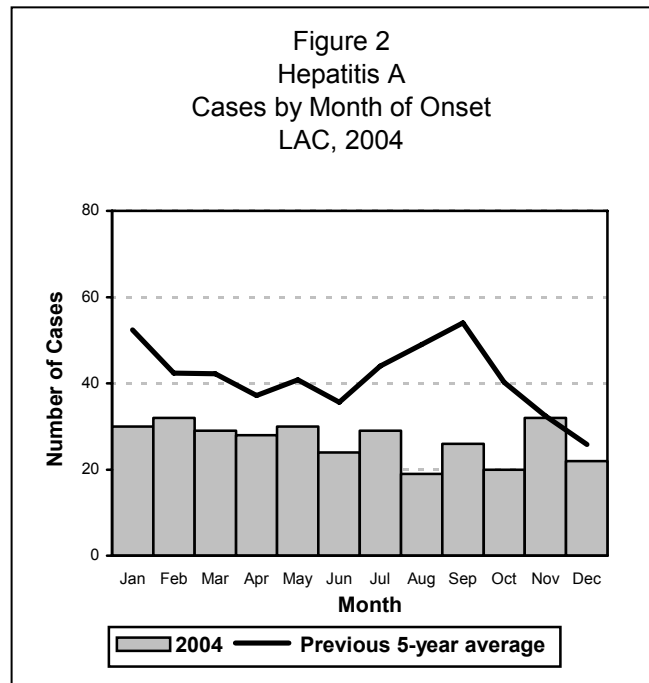
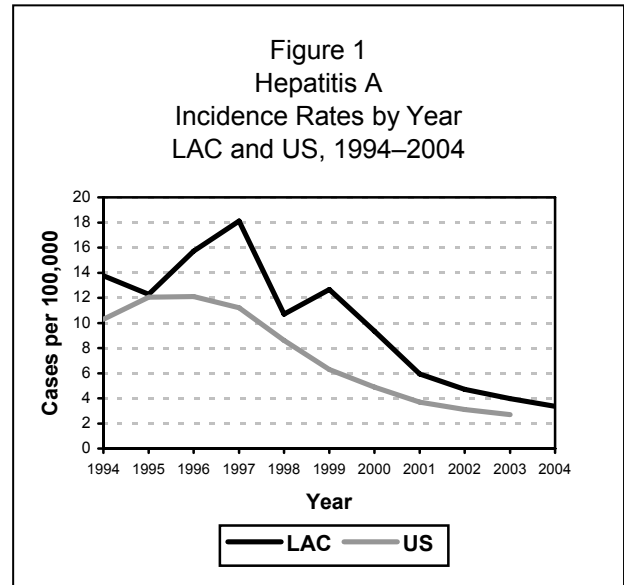
^a Cases per 100,000 population.

DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity. For surveillance purposes in LAC, a case of acute hepatitis A is defined as having a positive laboratory test for the IgM antibody to HAV, which can indicate recent infection. A case meets the clinical definition if it occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A (i.e., a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).

DISEASE ABSTRACT

- The overall annual incidence rate of hepatitis A cases reported in LAC decrease in 2004.
- Hepatitis A incidence rates among those aged 55+ were higher in 2004.





STRATIFIED DATA

Trends: There has been a steady decrease in the number of cases in LAC. From 2000 to 2004, the rate decreased from 9 to 3 per 100,000. In 2004, 321 cases were reported, a rate of 3.37 cases per 100,000 (Figure 1).

Seasonality: During the previous five years (from 1999 to 2004), the incidence of cases occurring during July to September was slightly higher than other months, but this seasonal pattern did not occur during 2004 (Figure 2).

Age: During 2004, the overall mean age for hepatitis A cases in LAC was 46 years. The mean age differed significantly by race and ethnic groups. The mean age for Latinos was 34 years while, White, Asian and Black cases had mean ages of 48, 58, and 49 years, respectively. In 2004, the age specific rate in those 55 years and older was higher than the previous year (Figure 3).

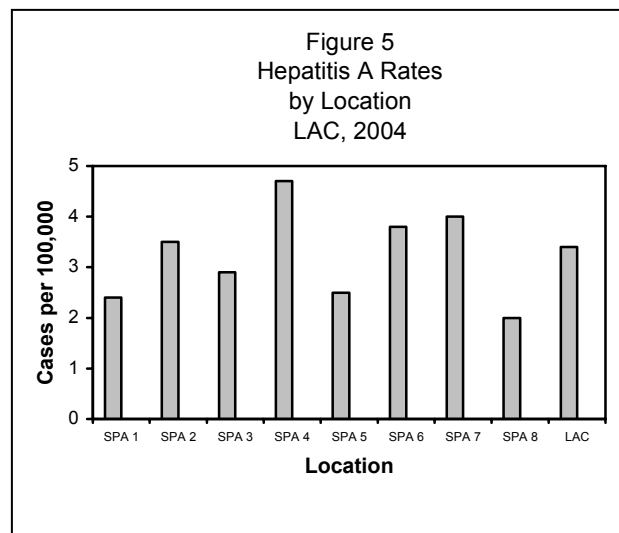
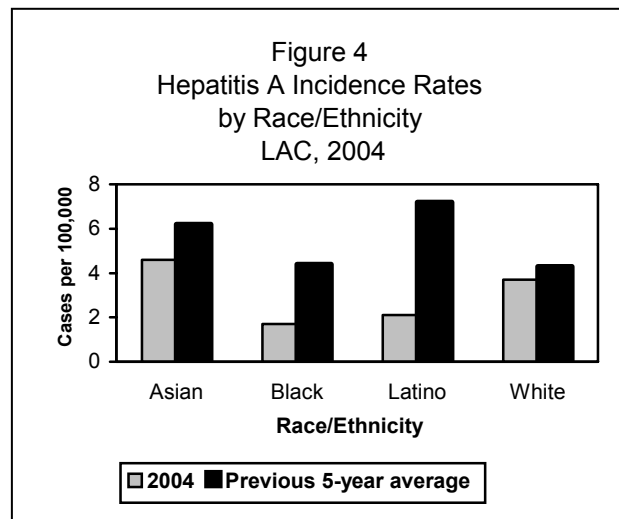
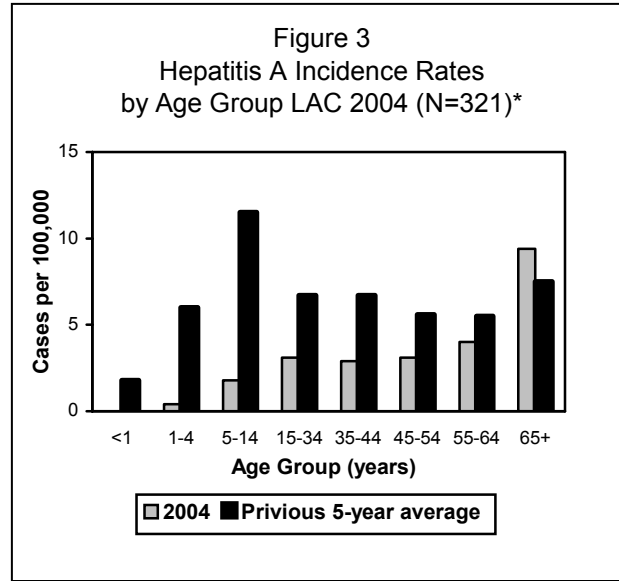
Sex: The hepatitis A male-to-female rate ratio was 1:1. The male-to-female ratio for those aged greater than 18 years was 1:1.2. Among Latino cases, the male-to-female rate ratio was 1:0.9, while among White, Asian, and Black cases, incidence rates ratios were higher among males, at 1:1.3, 1:1.2, and 1:1.8, respectively.

Race/Ethnicity: The overall hepatitis A crude rate decreased for all ethnic groups in 2004. As shown in Figure 4, the highest rate in 2004 was among Asians (4.6 per 100,000), followed by Whites (3.7), Latinos (2.1), and Blacks (1.7).

Location: Figure 5 shows district-specific HAV cases for 2004. The highest number of cases occurred in SPA 4 (4.7 per 100,000) closely followed by SPA 7 (4.0), SPA 6 (3.8), SPA 2 (3.5), SPA 3 (2.9), SPA 5 (2.5), SPA 1 (2.4), and SPA 8 (2.0).

Severity of Illness: Among all HAV cases in 2004, there was one reported fatality (case-fatality rate=0.31%) aged 86 years. 11.5% were hospitalized for their illness. Hospitalization was most prevalent among young adults (15-44).

Risk Factors: Out of 321 HAV cases, there were 41 cases that did not have completed hepatitis A investigation forms. Of the 280 cases with completed hepatitis A investigation forms, recent travel outside of the US (n=61, 21%) was the most common risk factor reported in 2004 (Figure 6).





Other risk factors include eating raw shellfish (n=29, 10%), and being in contact with another case (n=12, 4%), and MSM (n=9, 3%). For many cases (68%) risk factors were unknown or not reported. Among travelers, South and Central American destinations (67%) were most frequently cited.

PREVENTION

Effective strategies for decreasing the number of hepatitis A cases in LAC include adding hepatitis A vaccine to the children immunization program and Public Health Nurses providing immune globulin (IG) to close contacts of cases and educating clients about the importance of hand hygiene on reducing infections when cases of acute hepatitis A are reported to LAC DHS. Close contacts, such as household contacts, sexual partners, and other intimate contacts are offered post-exposure prophylaxis with IG.

COMMENTS

In late 2005, one of the largest reporting sources of hepatitis A inadvertently stopped reporting cases for the final 3 months of 2004. Therefore, the number of cases of hepatitis A in the last quarter of 2004, and for all of 2004, may be underestimated. Nonetheless, since there were only 6 confirmed cases in 2003 during this same time period from the same reporting source, the lack of reporting should not affect the overall trends in hepatitis A for 2004. A more detailed explanation of this situation will be included in the 2005 Special Reports.

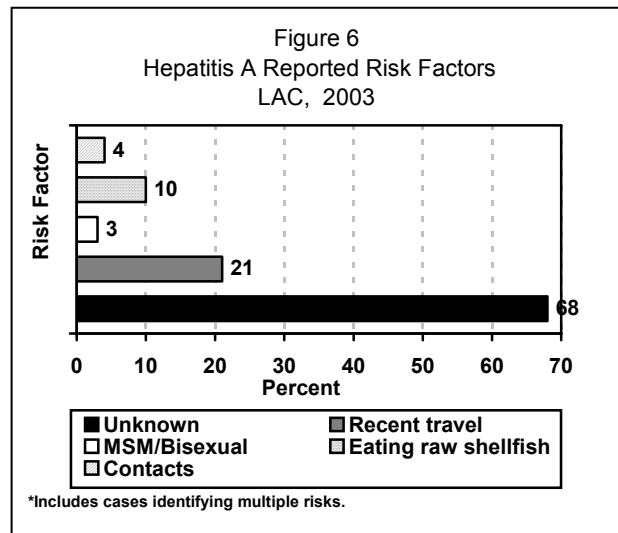
Overall, there has been a steady decrease in the number of cases of hepatitis A reported in Los Angeles County. However, the number of cases in older adults (ages 55-91) increased in 2004. District public health nurses anecdotally reported that older adult cases received hepatitis A screening tests as a part of their routine check ups and not when they were acutely ill. Therefore, we reviewed all of the epidemiology (risk factor) forms for cases age 55 years or older. Many of these cases were diagnosed with acute hepatitis A by virtue of only having a positive test for Hepatitis A IgM and the cases did not have any signs and symptoms for hepatitis A and no elevated aminotransferase (ALT) levels. The CDC/CSTE criteria for acute hepatitis A require the following: an acute illness with discrete onset of symptoms (abdominal pain, fever, fatigue) and jaundice or elevated ALT levels and a positive test for HAV IgM. Therefore, with only a positive test for IgM, many of the cases in the older adult group did not meet the CDC/CSTE criteria for acute hepatitis A and may have been false positive cases. This is a phenomenon that has been noted in other communities in the United States www.cdc.gov/mmwr/preview/mmwrhtml/mm5418a1.htm. In 2005, Acute Communicable Disease Control will adhere to the CDC/CSTE criteria for acute hepatitis A in all age groups. This may decrease the overall number of confirmed hepatitis A cases in LAC.

In 2004, the significant risk factors are international travelers, followed by those who eat raw shellfish, and those who reported contact with a household member or sexual partner who has HAV, and MSM. Therefore, it is important to educate travelers, consumers of raw shellfish, and MSM about hepatitis A vaccinations. Moreover, hepatitis A can be prevented by vaccination. Sustaining and further reducing hepatitis A incidence can be achieved by improving vaccination coverage in all US children starting at 2 years of age. Increased awareness of the public about the mode of hepatitis transmission and the importance of good personal hygiene also lead to a significant reduction in disease incidence.

ADDITIONAL RESOURCES

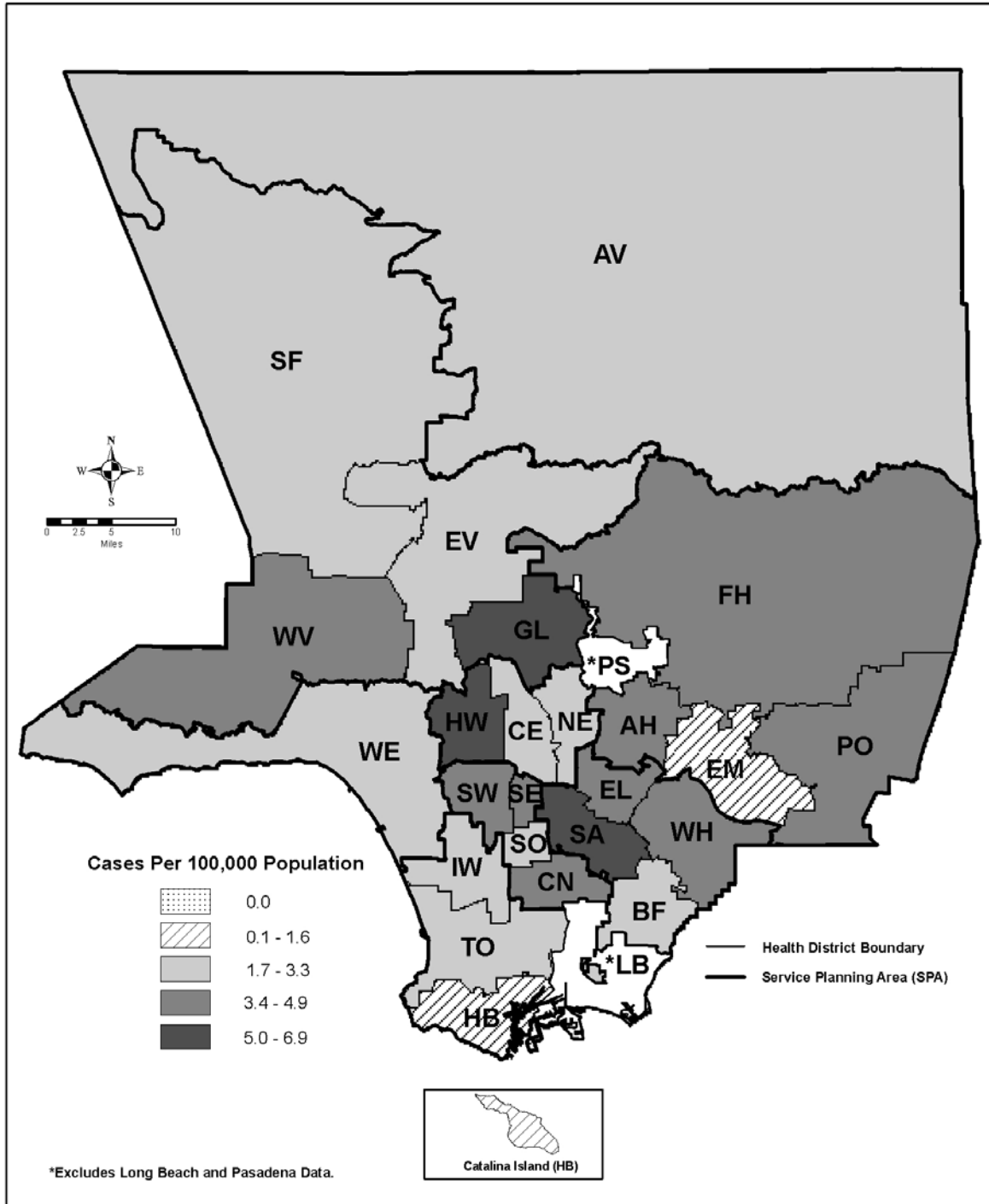
General information about hepatitis is available from the CDC at:

- www.cdc.gov/ncidod/diseases/hepatitis/slideset/bibliography.htm
- www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm





**Map 7. Hepatitis A
Rates by Health District, Los Angeles County, 2004***





HEPATITIS A

CRUDE DATA	
Number of Cases	374
Annual Incidence ^a	
LA County	3.98
California	3.28
United States	2.66
Age at Diagnosis	
Mean	41
Median	40
Range	<1–88 years
Case Fatality	
LA County	0.8%
United States	N/A

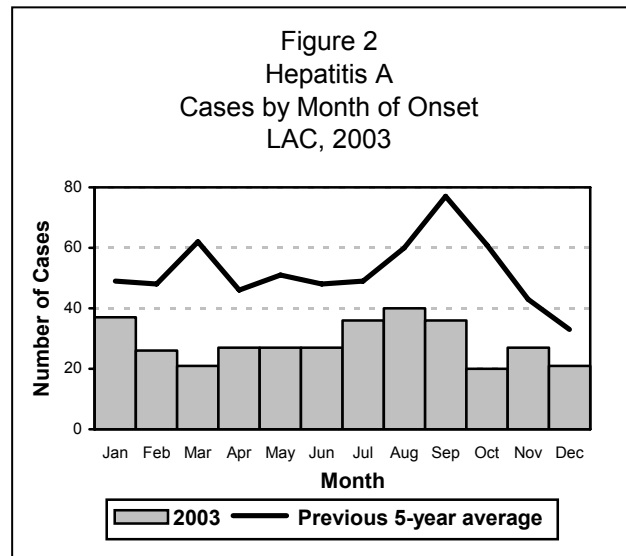
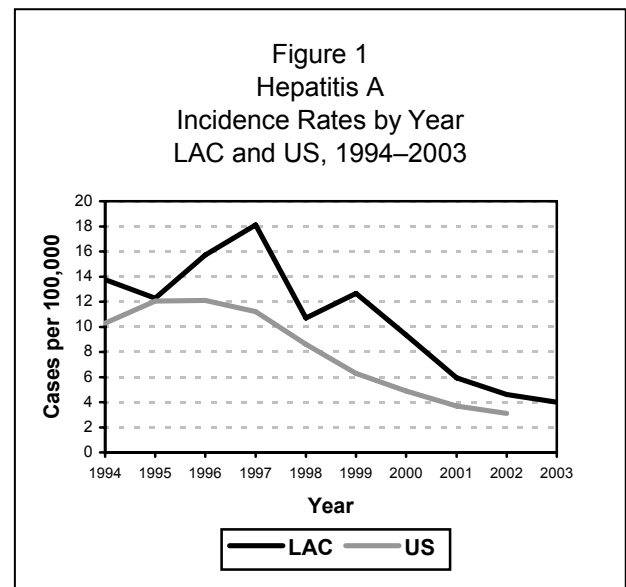
^a Cases per 100,000 population.

DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days). Recovery usually occurs within one month. Infection confers life-long immunity. For surveillance purposes in LAC, a case of acute hepatitis A is defined as having a positive laboratory test for the IgM antibody to HAV, which can indicate recent infection. A case meets the clinical definition if it occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A (i.e., a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).

DISEASE ABSTRACT

- The annual incidence rate of hepatitis A cases reported in LAC showed a steady decrease in 2003.
- Hepatitis A incidence rates in all ages less than 65 have been decreasing; however, incidence rates in persons aged 65+ are still high.
- The demographic characteristics of 2003 cases were similar to the last five years.
- There was a peak of cases in the summer.





- Hospitalization rates were highest among young adults.

STRATIFIED DATA

Trends: There has been a steady decrease of hepatitis A cases in LAC since 1995. From 1994-1998, the rate ranged between 11-18 cases per 100,000 (Figure 1). From 1999 to 2003, the rate decreased from 13 to 4 per 100,000. In 2003, 374 cases were reported, a rate of 4 cases per 100,000.

Seasonality: There was a slight peak of hepatitis A cases in the summer of 2003 (Figure 2). This peak occurred one month earlier than had been seen in the previous 5 years.

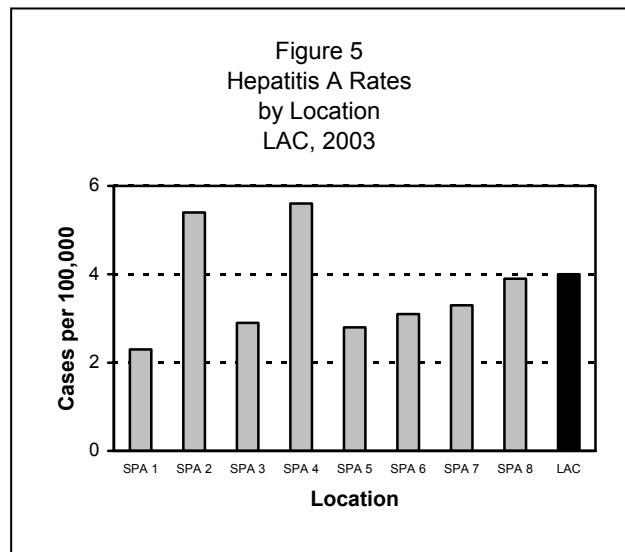
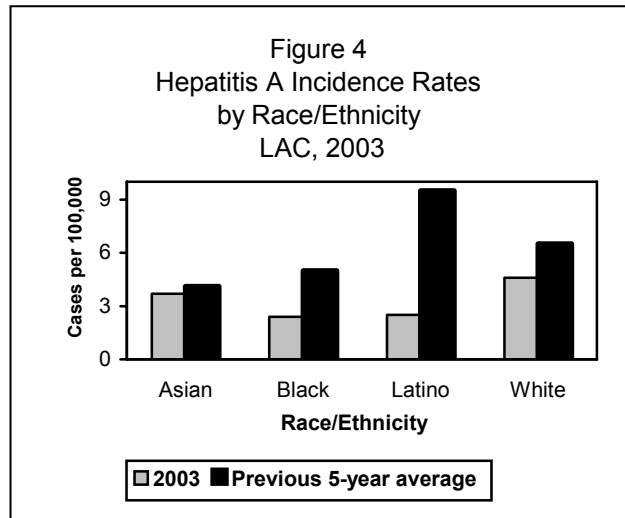
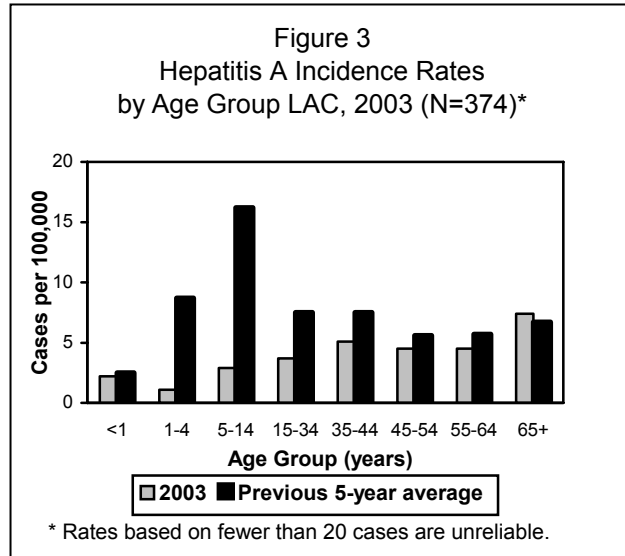
Age: During 2003, the overall mean age for hepatitis A cases in LAC was 41 years. The mean age differed significantly by race and ethnic groups. The mean age for Latinos was 28 years while, White, Asian and Black cases had mean ages of 47, 53, and 39 years, respectively. These mean ages among the various racial/ethnic groups were similar to the previous year. Historically, the age specific rate has been highest in children aged 5–14 years. However, in 2003, the rate was highest among those 65 and older (7.5 per 100,000, Figure 3).

Sex: The overall HAV male-to-female rate ratio was 1:1.03. The male-to-female ratio for those aged greater than 18 years was 1:1.1. Among Latino cases, the male-to-female rate ratio was 1:1.45, while among White, Asian, and Black cases, incidence rates ratios were higher among males, at 1.11:1, 1.15:1, and 1.73:1, respectively.

Race/Ethnicity: The overall hepatitis A crude rate decreased for all ethnic groups in 2003 (4.0 per 100,000). As shown in Figure 4, the highest rate in 2003 was among Whites (4.6 per 100,000), followed by Asians (3.7), Latinos (2.5), and Blacks (2.4).

Location: Figure 5 shows district-specific HAV rates for 2003. The highest rate occurred in SPA 4 (5.6 per 100,000) closely followed by SPA 2 (5.4), SPA 8 (3.9), SPA 7 (3.3), SPA 6 (3.1), SPA 3 (2.9), SPA 5 (2.8), and SPA 1 (2.3).

Severity of Illness: Among all HAV cases in 2003, there were three reported fatalities (case-fatality rate=0.8%) aged 46, 53 and 83 years. 8% were hospitalized for their illness. Hospitalization was most prevalent among young adults.



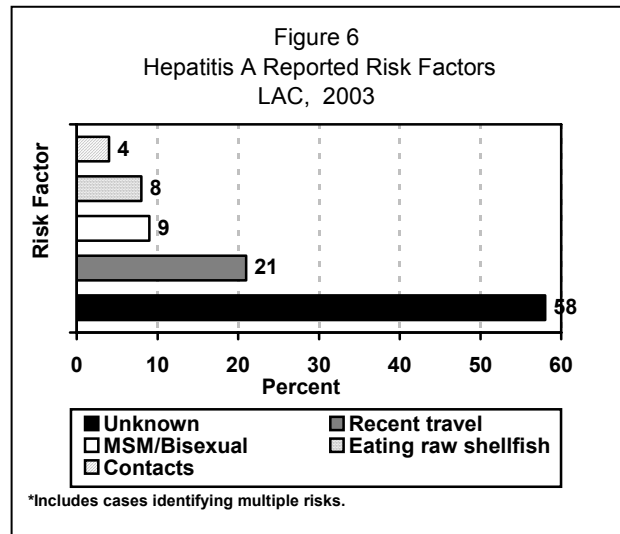


Risk Factors: Out of 374 hepatitis A cases, there were 110 cases did not have completed hepatitis A investigation forms. Of the 264 cases with information on hepatitis A investigation forms, recent travel outside of the US (n=55, 21%) was the most common risk factor reported (Figure 6). Other risk factors include MSM (9%), eating raw shellfish (8%), and being in contact with another case (4%). For many cases (58%) risk factors were unknown or not reported. Among travelers, South and Central American destinations (62%) were most frequently cited.

PREVENTION

Hepatitis A vaccine has been licensed in the US since 1995. In 1999, the Advisory Council on Immunization Practices (ACIP) recommended universal childhood vaccination in states (including California) and communities with rates equal to or greater than twice the national average (20 cases per 100,000) during 1987- 1997. LAC began providing the vaccine to children aged 2-18 since 1999. The number of hepatitis A cases in LAC decreased markedly with the distribution of vaccine to children.

When cases of acute hepatitis A are reported to LAC DHS, Public Health Nurses educate clients about the importance of hand hygiene on reducing HAV infections. Close contacts, such as household contacts, sexual partners, and intimate contacts are offered post-exposure prophylaxis with immune globulin. Since HAV vaccinations have become available and in more routine use, it has been recommended by the Advisory Council on Immunization Practices (ACIP) that outbreaks of HAV could be effectively controlled through vaccine use (CDC, 1999).



COMMENTS

There has been a significant decrease in the number of cases of hepatitis A reported in LAC since 1997—though, this decrease may be due to the cyclical nature of hepatitis A. Other potential reasons for the decrease may be the ACIP recommendation (CDC, 1999) to provide hepatitis A vaccines for children, greater public awareness, or improved hygiene and food sanitation. Underreporting and underdiagnosis by physicians cannot be excluded as a reason for the decrease.

Hepatitis A is a mandated laboratory reportable disease in California. The 374 hepatitis A cases reported in 2003 were confirmed by IgM antibody to HAV, which may indicate recent infection.

Studies have shown that many children who acquired HAV are asymptomatic and not tested for HAV-IgM. Even when these children’s laboratory results are confirmed IgM positive, many private health care providers and laboratories may not report HAV cases to county health officials. Therefore, support and encouragement for physician reporting and compliance with the ACIP recommendations should continue.

In LAC, most infections occur among international travelers, followed by MSM, those who eat raw shellfish, and those who report contact with a household member or sexual partner who has HAV. Therefore, it is important to educate travelers and MSM about hepatitis A vaccinations.

Increased awareness of the public about the mode of hepatitis transmission and the importance of good personal hygiene and proper sanitation may also lead to a significant reduction in disease incidence. There were no outbreaks of hepatitis A reported in 2003.



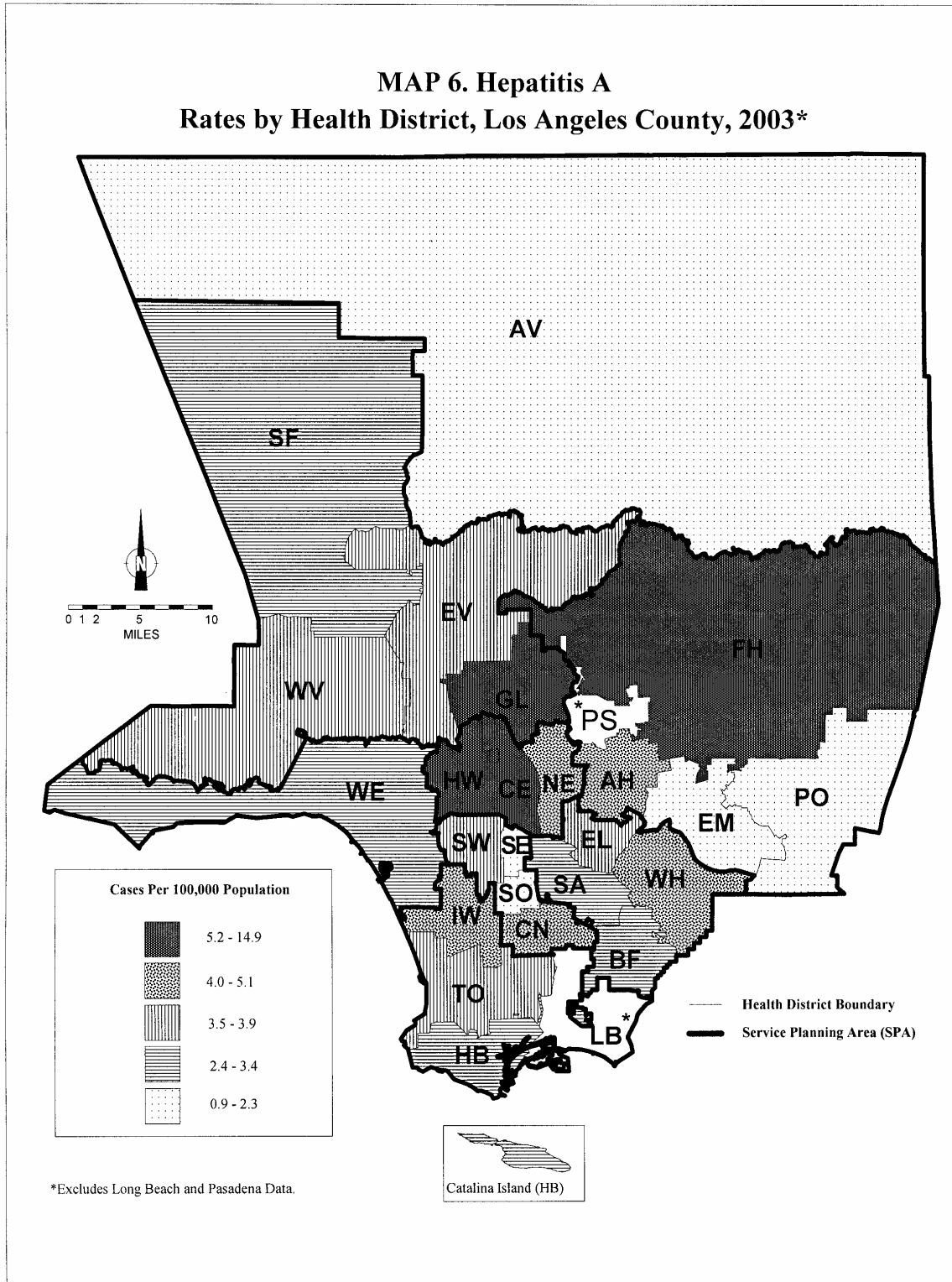
ADDITIONAL RESOURCES

General information about hepatitis is available from the CDC at:

- www.cdc.gov/ncidod/diseases/hepatitis/slideset/bibliography.htm
- www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm



MAP 6. Hepatitis A
Rates by Health District, Los Angeles County, 2003*

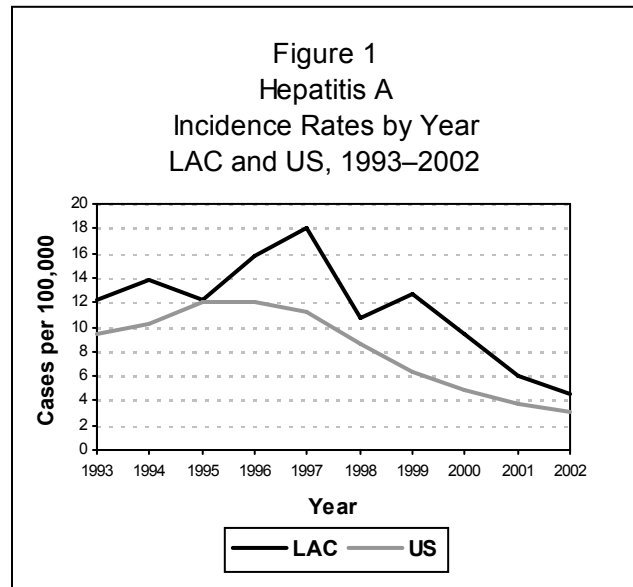




HEPATITIS A

CRUDE DATA	
Number of Cases	433
Annual Incidence ^a	
LA County	4.6
California	4.3
United States	3.1
Age at Diagnosis	
Mean	39
Median	38
Range	1–91 years
Case Fatality	
LA County	<1%
United States	N/A

^a Cases per 100,000 population.



DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease transmitted fecal-orally, person-to-person, or through vehicles such as food. Signs and symptoms of acute hepatitis A include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease. The average incubation period is 28 days (range 15–50 days).

For surveillance, a case of acute hepatitis A is defined as having a positive laboratory test for the IgM antibody to HAV, which can indicate recent infection. A case meets the clinical definition if it occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A (i.e., in a household or sexual contact of an infected person during the 15–50 days before the onset of symptoms).

DISEASE ABSTRACT

- The annual incidence rate of hepatitis A cases reported in LAC showed a steady decrease in 2002.
- With the exception of a decreased incidence in Latinos aged 5–14, and an increased incidence in persons aged 65+, the demographic characteristics of 2002 cases were similar to the last five years.
- An increase in incidence occurred during winter while fewer new cases occurred during summer.
- Hospitalization rates were highest among young adults.

STRATIFIED DATA

Trends: There has been a steady decrease of hepatitis A cases in LAC since 1995. From 1993–1997, the rate ranged between 10–16 cases per 100,000 (Figure 1). From 1997 to 2002, the rate decreased from 18 to 6 per 100,000. In 2002, 433 cases were reported, a rate of 4.6 cases per 100,000.



Seasonality: Historically, there is an increase of hepatitis A cases in the summer and decrease in the winter. This trend did not occur in 2002 (Figure 2).

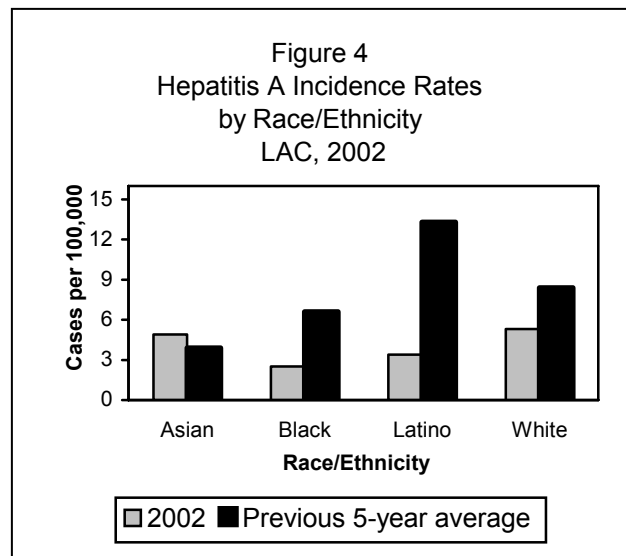
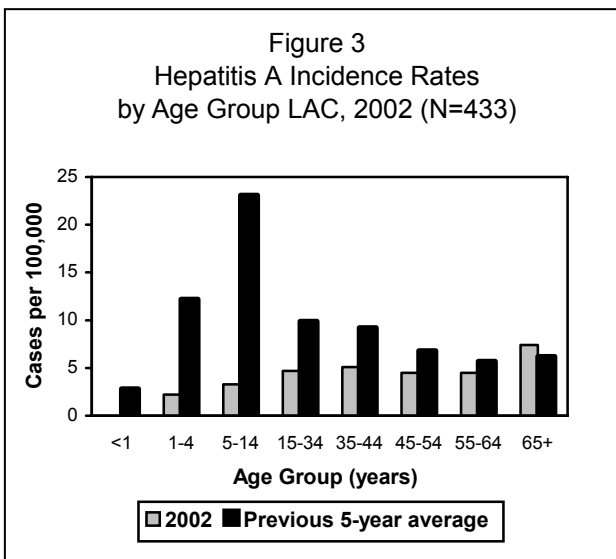
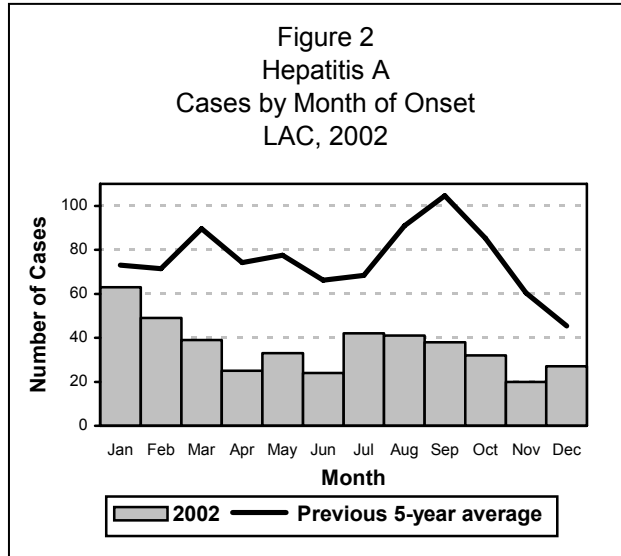
Age: During 2002, the overall mean age for hepatitis A cases in LAC was 39 years. The mean age differed significantly by race and ethnic groups. The mean age for Latinos was 24 years while, White, Asian and Black cases had mean ages of 43, 45, and 37 years, respectively. These mean ages among the various racial/ethnic groups were similar to the previous year. Historically, the age specific rate has been highest in children aged 5–14 years. However, in 2002, the rate was highest among those 65 and older (7.4 per 100,000, Figure 3).

Sex: The overall HAV male-to-female rate ratio was 1.2:1. The male-to-female ratio for those aged greater than 18 years was 1.4:1. Among Latino cases, the male-to-female rate ratio was 1.08:1, while among White, Asian, and Black cases, incidence rates ratios were higher among males, at 1.6:1, 1.03:1, and 2.5:1, respectively.

Race/Ethnicity: The overall hepatitis A crude rate decreased for all ethnic groups in 2002 (4.6 per 100,000). As shown in Figure 4, the highest rate in 2002 was among Whites (5.3 per 100,000), followed by Asians (4.9), Latinos (3.4) and Blacks (2.5).

Location: The following map shows district-specific HAV rates for 2002. The highest rate occurred in the Hollywood-Wilshire district (9.7 cases per 100,000) closely followed by Glendale (8.4), San Fernando, Central (5.9), Bellflower (5.6), and West Valley (5.4). Looking at distribution by Service Planning Area (SPA, Figure 5), SPAs 4 and 2 have the highest rates (6.6 and 5.7 per 100,000, respectively), while SPAs 5, 6, and 8 have rates lower than the county average.

Severity of Illness: Among all HAV cases in 2002, there were two fatalities (case-fatality rate=0.5%) aged 27 and 56 years. More than 48% reported jaundice and 10% were hospitalized for their illness. Hospitalization was most prevalent among young adults; increased liver enzymes and jaundice were





reported by over 70% of hospitalized cases.

Risk Factors: Recent travel outside of the US (n=90, 21%) was the most common risk factor reported in 2002. MSM are also at high risk for infection (9.4%). Other risk factors include eating raw shellfish (8%) and being a contact to another case (6%). For many cases (38%) risk factors were unknown or not reported. Among travelers, South and Central American destinations (62%) were most frequently cited.

PREVENTION

In LAC, most infections occur among international travelers, followed by MSM, those who eat raw shellfish, and those who report contact with a household member or sexual partner who has HAV. Casual contact, such as that in the office, factory, or school setting, does not spread the virus. Good personal hygiene and proper sanitation can prevent HAV. Immune globulin is recommended for certain short-term pre-exposure situations and post-exposure prophylaxis.

Since 1995, vaccines have been available for the permanent prevention of HAV infection in persons aged 2 years and older. In 1999, the ACIP recommended universal childhood vaccination in states and communities (including LAC) with rates equal to or greater than twice the national average (20 cases per 100,000) during 1987–1997. LAC began providing the vaccine to children aged 2–18 in August 1999.

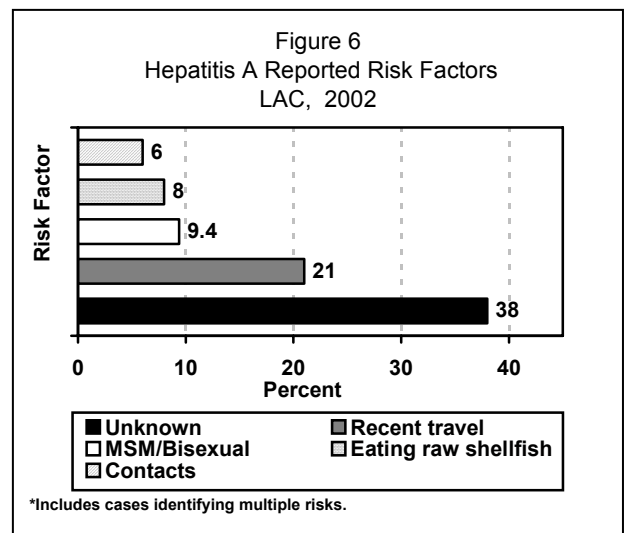
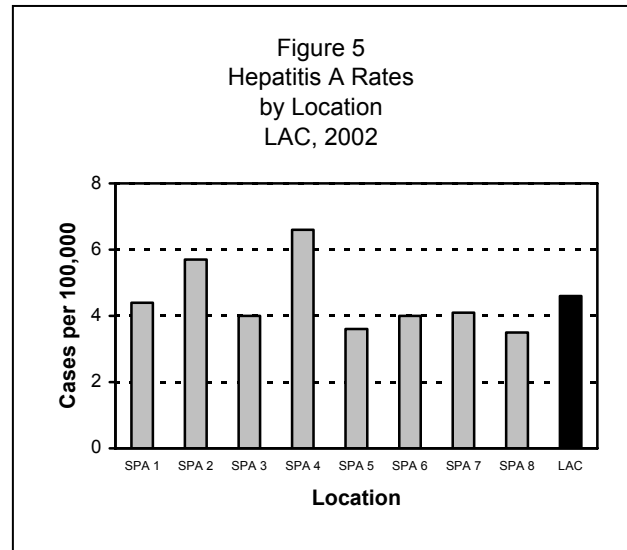
Post-exposure prophylaxis with immune globulin is used to control outbreaks in Los Angeles County.

Since HAV vaccination has become available and in more routine use, it has been recommended by Advisory Council on Immunization Practices (ACIP) that outbreaks of HAV could be effectively controlled through vaccine use (CDC, 1999), leading to a sustained reduction in disease incidence.

COMMENTS

There was a significant decrease in the number of cases of hepatitis A reported in LAC since 1997—though, this decrease may be due to the cyclical nature of hepatitis A and a future increase may be expected. Other potential reasons for the decrease may be the ACIP recommendation (CDC, 1999) to provide hepatitis A vaccine for children, greater public awareness or improved hygiene and food sanitation. Underreporting and underdiagnosis by physicians cannot be excluded as a reason for the decrease.

Hepatitis A is a mandated laboratory reportable disease in California. The 433 hepatitis A cases reported in 2002 were confirmed by IgM antibody to HAV, which may indicate recent infection. Studies have shown that many children who acquired HAV are asymptomatic and not tested for HAV-IgM. Even when these children's laboratory results are confirmed IgM positive, many private health care providers and





laboratories may not report HAV cases to county health officials. Therefore, support and encouragement for physician reporting and compliance with the ACIP recommendations should continue.

Most cases of hepatitis A result from person-to-person transmission in areas with high and intermediate rates of hepatitis A. In LAC, there were no outbreaks of hepatitis A reported in 2002.

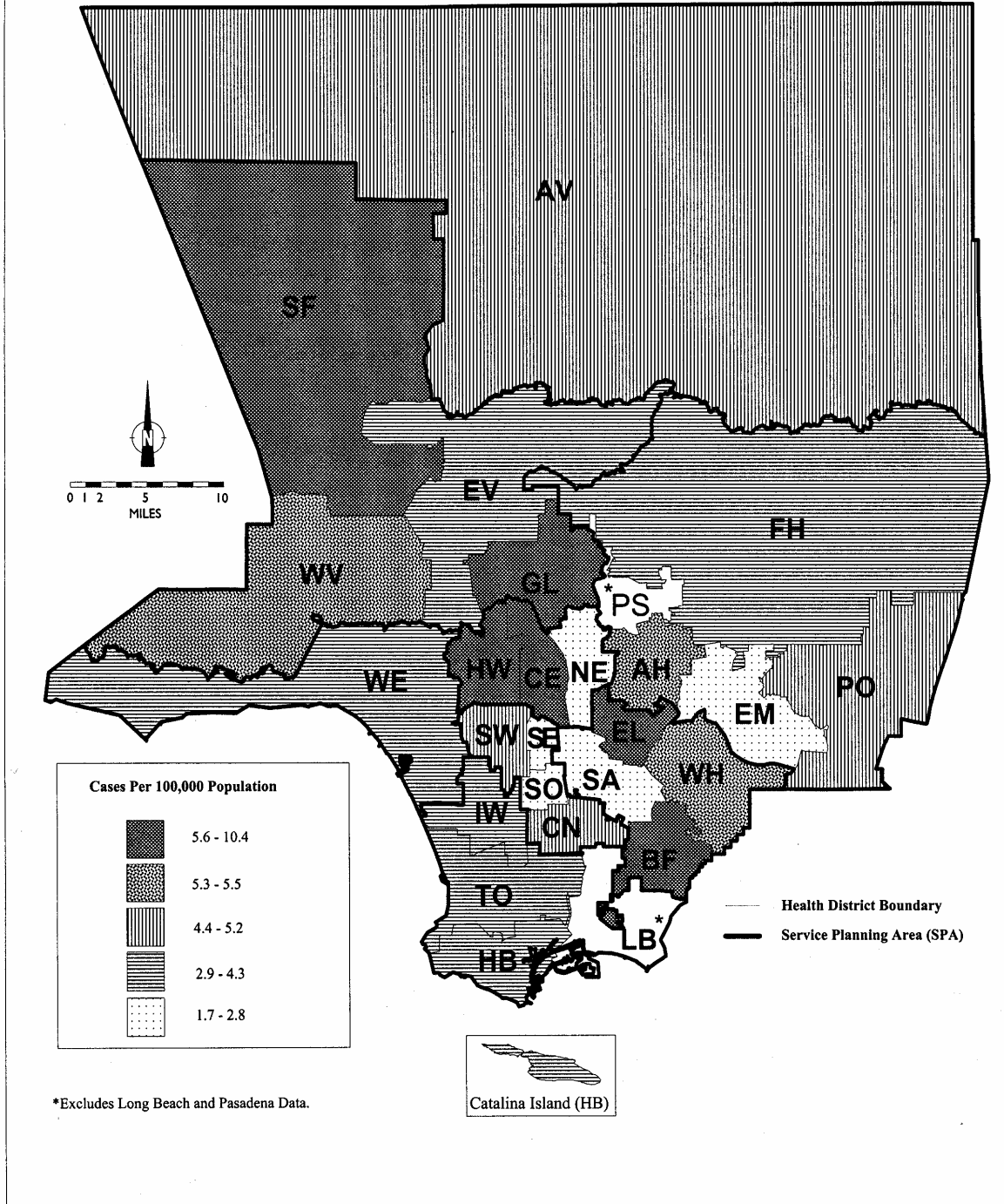
ADDITIONAL RESOURCES

General information about hepatitis is available from the CDC at:

- www.cdc.gov/ncidod/diseases/hepatitis/slideset/bibliography.htm
- www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm



MAP 7. Hepatitis A Rates by Health District, Los Angeles County, 2002*



HEPATITIS A

CRUDE DATA	
Number of Cases	542
Annual Incidence ^a	
LA County	6.1
California	7.9
United States	3.7
Age at Diagnosis	
Mean	33
Median	32
Range	1-89 years
Case Fatality	
LA County	<1%
United States	N/A

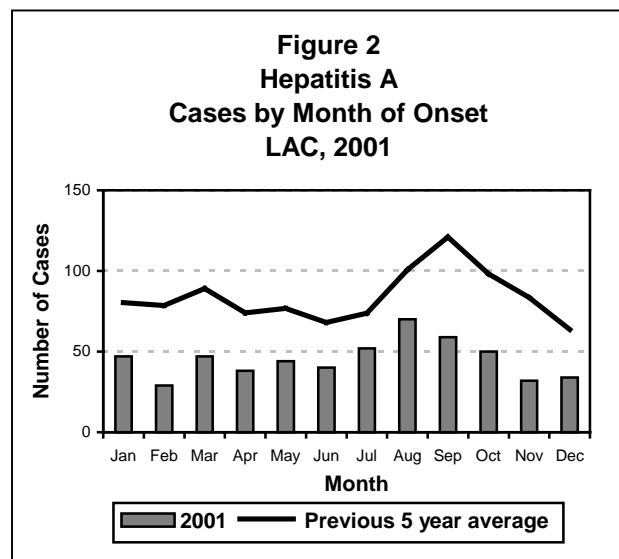
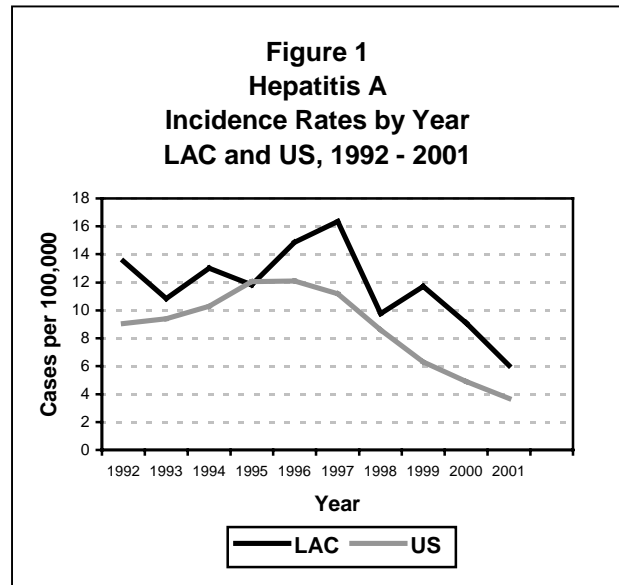
^a Cases per 100,000 population.

DESCRIPTION

Hepatitis A virus (HAV), a RNA-virus of the Picornaviridae family, is a vaccine-preventable disease usually transmitted by fecal-oral route, person-to-person, or through vehicles such as food. Signs and symptoms of HAV include fever, malaise, dark urine, anorexia, nausea, and abdominal discomfort, followed by jaundice. Many cases, especially in children, are mild or asymptomatic. Sexual and household contacts of HAV-infected persons are at increased risk for getting the disease.

DISEASE ABSTRACT

- The annual incidence rate of HAV in LAC shows a dramatic decrease in 2001.
- With the exception of a decrease in Latinos from 5-14 years, age, race, and gender characteristics were similar to the last five years.
- More cases occurred in summer and fewer cases in winter.
- Hospitalization rates were highest among children and young adults.



STRATIFIED DATA

Trends: The rate of HAV in LAC has remained steady, around 9 per 100,000, since 1998. From 1993-1997, it had ranged between 10-15 per 100,000 (Figure 3). In 2001, there were 542 cases reported.

Seasonality: Historically, there is an increase of HAV cases in the summer and decrease in the winter. This was observed again in 2001 (Figure 2).

Age: The overall mean age for HAV cases in LAC 2001 was 33 years. The mean age differed significantly by race and ethnic groups. The mean age for Latinos was 20 years while, White, Asian and Black cases had mean ages of 40, 48, and 46 years, respectively. Overall race mean remained similar compared to 2000. The age specific rate remained highest in children age 5-14 years with a rate of 8.0 per 100,000 (Figure 3).

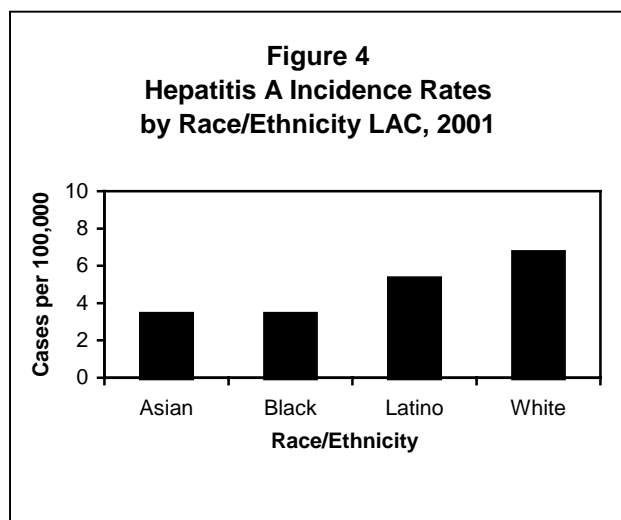
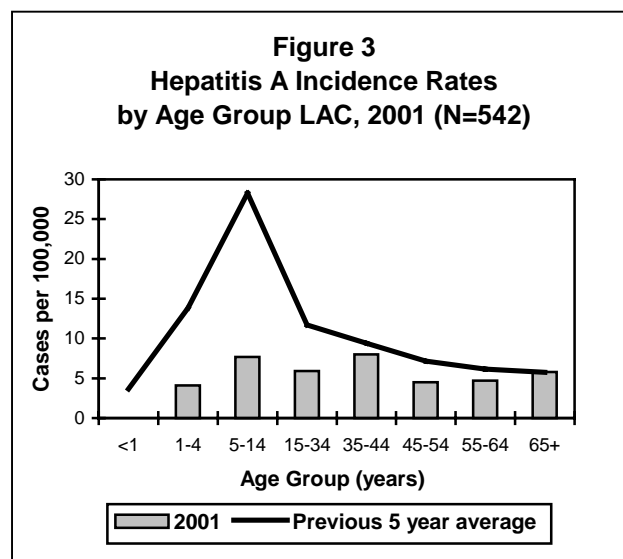
Sex: The overall HAV male-to-female rate ratio was 2:1. Among Latino cases, the male-to-female rate ratio was 1.5:1, while among White, Asian, and Black cases, incidence rates ratios were higher among males, at 3:1, 2:1, and 3:1, respectively.

Race/Ethnicity: Overall hepatitis A crude rate decreased for all ethnic groups in 2001 (n=542). The highest rate in 2001 was among Whites (6.7 per 100,000), followed by Latinos (5.3). The rates for Asian (3.4) and Blacks (3.4) were remained lower (Figure 4).

Location: Map 5 shows district-specific HAV rates for 2001. The highest rate was the Hollywood-Wilshire district (14.3 cases per 100,000 population), closely followed by Central (9.3), Burke (9.1), East Valley (9.0), and Glendale (8.7). Looking at distribution by Service Planning Area (SPA, Figure 5) SPAS 4, and 5 have the highest rates (9.7 and 9.1 per 100,000, respectively), while SPAs 3, 7, and 8 have rates significantly lower than the county average.

Severity of Illness: Among all HAV cases in 2001, there were three fatalities (case-fatality rate=0.5%) aged 15-62 years. Over half (66%) reported jaundice and 10% were hospitalized for their illness. Hospitalization was most prevalent among children and young adults—with increased liver enzymes and jaundice reported by over 50% who were hospitalized.

Risk Factors: Recent travel (n=136, 25%) outside of the US was the most common risk factor reported in 2001, followed by MSM (18.6%), eating raw shellfish (11.8%), and being a contact to case (10.5%) while 40% did not report any risk factor. Among travelers, Latin-American (South-Central America) destinations (74%) were the most frequently cited.



COMMENTS

There was a significant decrease in the number of cases of HAV reported in LAC since 1997. This decrease may be due to a cyclic nature of Hepatitis A. Other potential reasons for the decrease may be the result of LAC Department of Health Service following the Advisory Council on Immunization Practices (ACIP) recommendation of HAV vaccine for children, greater public awareness or improved hygiene and food sanitation. Under reporting and under-diagnosis by physicians cannot be excluded as a reason for the decrease.

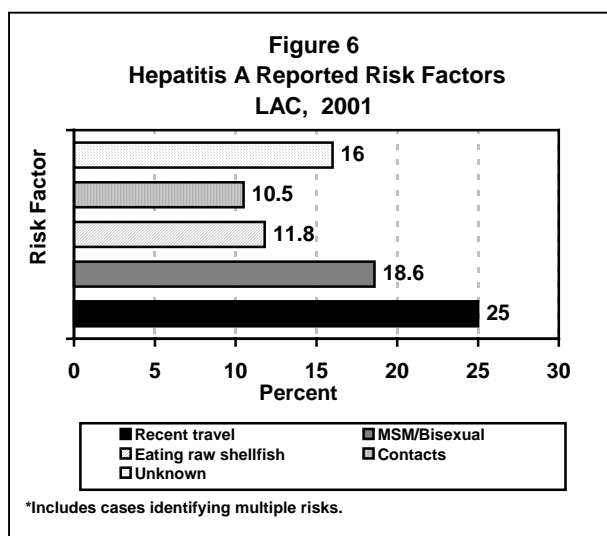
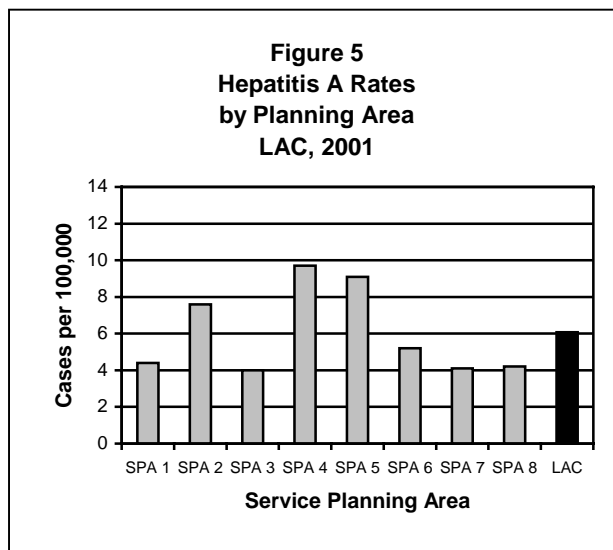
HAV is a mandated laboratory reportable disease in LAC. The 542 HAV cases reported in 2001 were confirmed with a laboratory test for the IgM antibody to HAV, which indicates acute infection. Studies have shown that many children who acquired HAV were asymptomatic and not tested for HAV-IgM. Even when these children's laboratory results were confirmed IgM positive, many private health care providers and laboratories may not report HAV cases to county health officials. Therefore, support and encouragement for physician reporting and compliance with the ACIP recommendations should continue.

Most cases of HAV result from person-to-person transmission during community-wide outbreaks in areas with high and intermediate rates of HAV. In LAC, there were no outbreaks of HAV reported in 2001.

PREVENTION

In LAC, most infections result from international travel, contact with a household member or sexual partner who has HAV. Casual contact, such as that in the office, factory, or school setting, does not spread the virus. Good personal hygiene and proper sanitation can prevent HAV. Immune globulin is recommended for certain short-term pre-exposure situations and post-exposure prophylaxis.

Since 1995, vaccines have been available for the permanent prevention of HAV infection in persons aged 2 years and older. In 1999, the ACIP recommended universal childhood vaccination in states and communities (including LAC) with rates equal to or greater than twice the national average (20 cases per 100,000) during 1987-1997. LAC began providing the vaccine to children aged 2-18 since August 1999. Over the past year, there was a legislative effort to require HAV immunization for all children entering kindergarten and preschool in California. Although it was not successful, it is possible that such a law will be enacted in the future.



Widespread post-exposure prophylaxis with immune globulin is used to control outbreaks in LAC. Since HAV vaccination has become available and in more routine use, it has been recommended by ACIP (CDC, 1999) that outbreaks of HAV could be effectively controlled through vaccine use, leading to a sustained reduction in disease incidence.

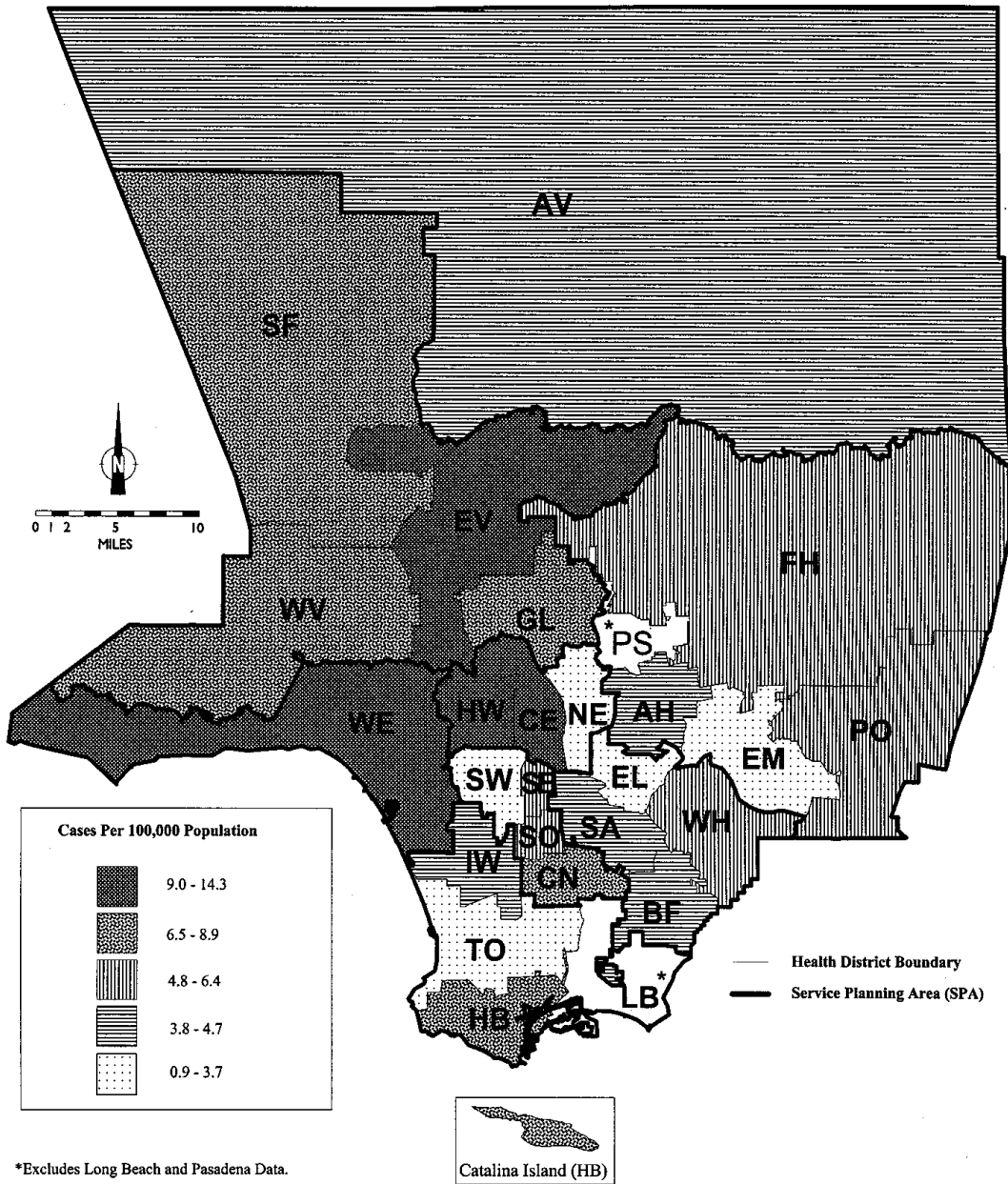
ADDITIONAL RESOURCES

B-73 Communicable Diseases Control, A Manual of Departmental Rules, Regulations and Control Procedures at: www.lapublichealth.org/acd/procs/manual.htm

General information about hepatitis is available at:
www.cdc.gov/ncidod/diseases/hepatitis/slideset/bibliography.htm

www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm

**MAP 4. Hepatitis A
Rates by Health District, Los Angeles County, 2001***



*Excludes Long Beach and Pasadena Data.