



## HEPATITIS A

CRUDE DATA	
Number of Cases	480
Annual Incidence <sup>a</sup>	
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

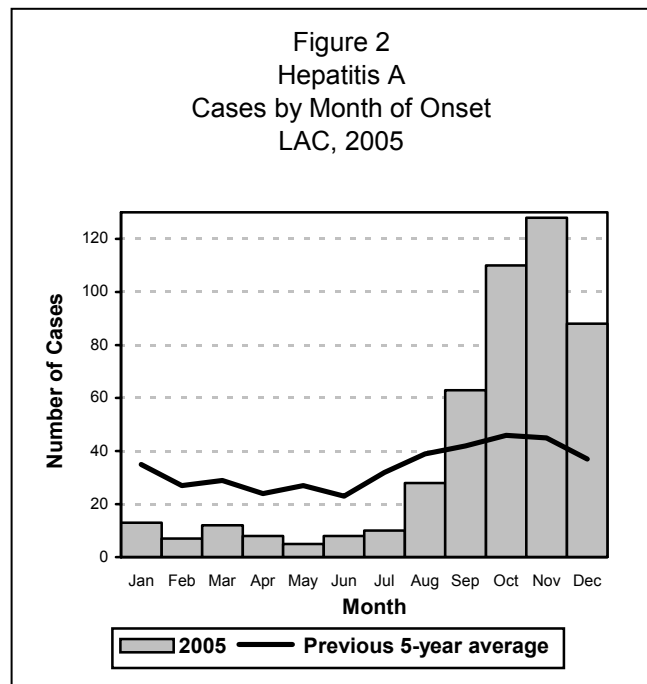
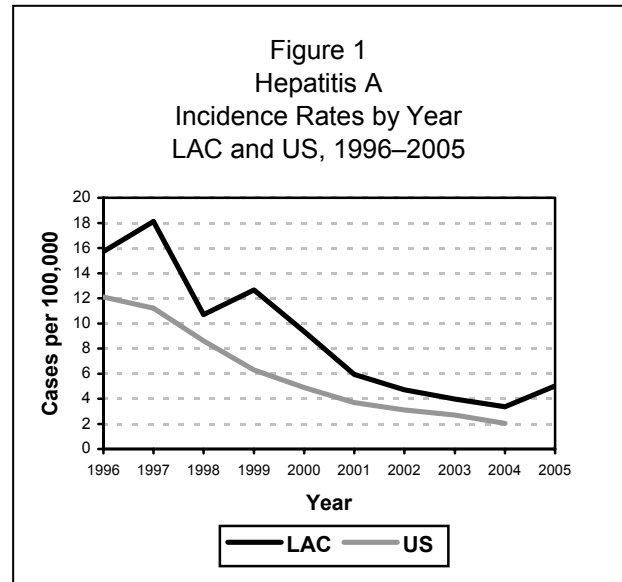
<sup>a</sup> Cases per 100,000 population.

### 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).

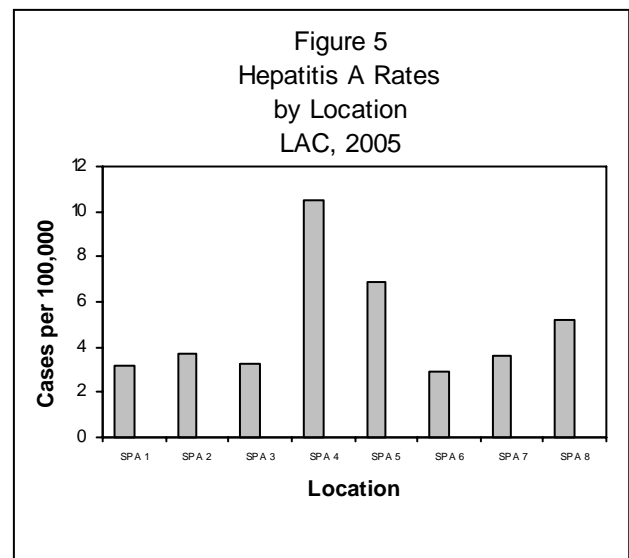
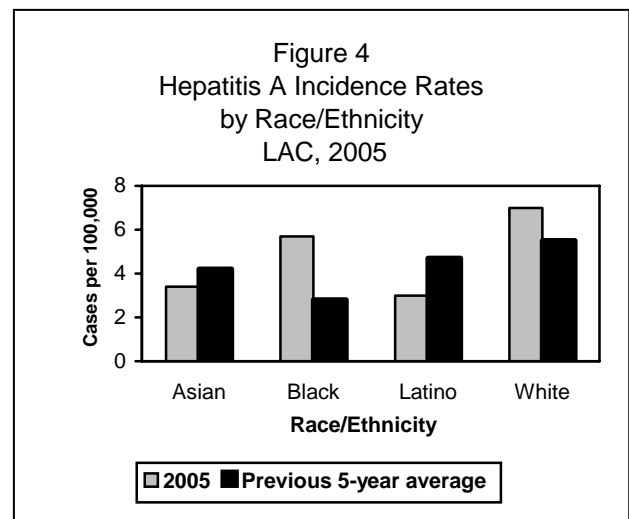
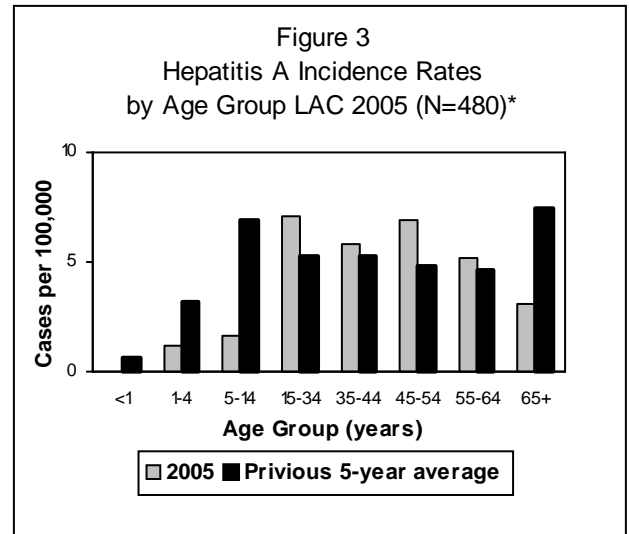
**Seasonality:** The increase in HAV cases historically observed in summer to early autumn was observed again in 2005 (Figure 2).

**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).

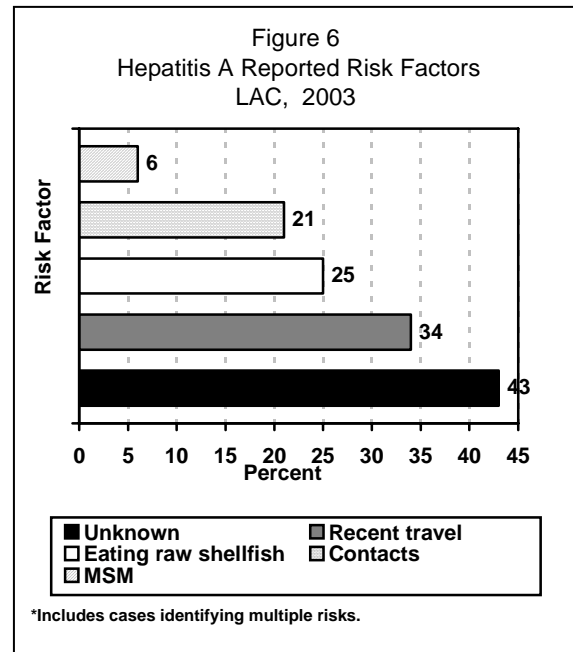
**Location:** The highest number of cases occurred in SPA 4 (10.5 per 100,000) followed by SPA 5 (6.9), SPA 8 (5.2), SPA 2 (3.7), SPA 7 (3.6), SPA 3 (3.3), SPA 1 (3.2), and SPA 6 (2.9) (Figure 5).





**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](http://www.cdc.gov/ncidod/diseases/hepatitis/slideset/bibliography.htm)
- [www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm)

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

