



HEPATITIS B, ACUTE (NONPERINATAL)

CRUDE DATA	
Number of Cases	55
Annual Incidence ^a	
LA County	0.58
California ^b	0.36
United States ^b	0.97
Age at Diagnosis	
Mean	42
Median	42
Range	19-77 years

^aCases per 100,000 population

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

DESCRIPTION

Hepatitis B is a DNA-virus transmitted through activities that involve percutaneous or mucosal contact with infectious blood or body fluids, most often through injection drug use, sexual contact with an infected person, or contact from an infected mother to her infant during birth. Transmission also occurs among household contacts of a person with hepatitis B. Healthcare-associated transmission of hepatitis B is documented in the United States (US) and should be considered in persons without traditional risk factors.

Symptoms, which occur in less than half of those acutely infected, begin an average of 90 days (range: 60–150 days) after exposure and can include: fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Approximately 2-10% of adults infected with hepatitis B virus (HBV) are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection. Overall, hepatitis B is more prevalent and infectious than HIV.

The absence of acute hepatitis B in persons under age 19 in the US is evidence of the successful immunization strategy to eliminate HBV transmission. This strategy includes: screening all pregnant women and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years.

Adult vaccination is recommended for those in high risk groups including; men who have sex with men (MSM), history of multiple sex partners, injection drug users, persons seeking treatment for sexually transmitted disease; household and sex contacts of persons with chronic HBV infections, healthcare workers, persons with chronic liver disease, persons with HIV, hemodialysis patients and unvaccinated adults with diabetes mellitus aged 19 through 59.

For the purpose of surveillance, Los Angeles County (LAC) Department of Public Health uses the 2012 Centers for Disease Control and Prevention (CDC)/Council of State and Territorial Epidemiologists (CSTE) criteria for acute hepatitis B. The criteria include: 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase (ALT) levels >100 IU/L, and 3) HBsAg positive and anti-HBc IgM positive, (if done). In 2012, the CDC/CSTE modified the acute hepatitis B case definition to include documented seroconversion cases (documented negative HBV test result within 6 months prior to HBV diagnosis) without the acute clinical presentation.

2013 TRENDS AND HIGHLIGHTS

- One 2013 acute hepatitis B case was a documented seroconversion and the remainder of the cases met the 2012 CDC/CSTE acute Hepatitis B case criteria.
- The 2013 incidence rate increased from the previous year (0.58 per 100,000 versus 0.51 per 100,000) (Figure 1).
- As in 2012, the 2013 incidence rate (1.1 per 100,000) was highest in persons between the ages of 35-44 years (Figure 2).
- The male-to-female ratio was 1:0.38.
- Blacks had the highest incidence rate in 2013 (1.5 per 100,000) which is consistent with previous years (Figure 3).
- Four Service Planning Areas (SPA) had rates greater than the overall county mean rate of 0.58 per 100,000—SPA 5 (1.1 per 100,000), SPA 6 (1.0 per 100,000), SPA 4 (0.8 per 100,000), and SPA 3 (0.6 per 100,000) (Figure 4).
- Risk factors were identified in 75% (n=41) of the 55 confirmed cases (including some cases with multiple risk factors). Of those with identified risk factors, the most frequently reported risk factor was MSM (n=15, 42% of males), followed by having multiple sexual partners (n=17, 41%), non-injection street drugs (n=7, 17%), IV/IM injections (n=6, 15%), dental work (n=4, 10%), IVDU (n=4, 10%), fingersticks (n=3, 7%), having a diagnostic medical



procedure (n=3, 7%), tattoo (2 at commercial shop, 1 other) (n=3, 7%), accidental exposure to blood (n=3, 7%), acupuncture (n=2, 5%), accidental needle stick (n=2, 5%), incarceration (n=2, 5%),

contact with a confirmed or suspected case of hepatitis B (n=1, 3%), hemodialysis (n=1, 2%) and LTF (n=1, 2%) (Figure 5).



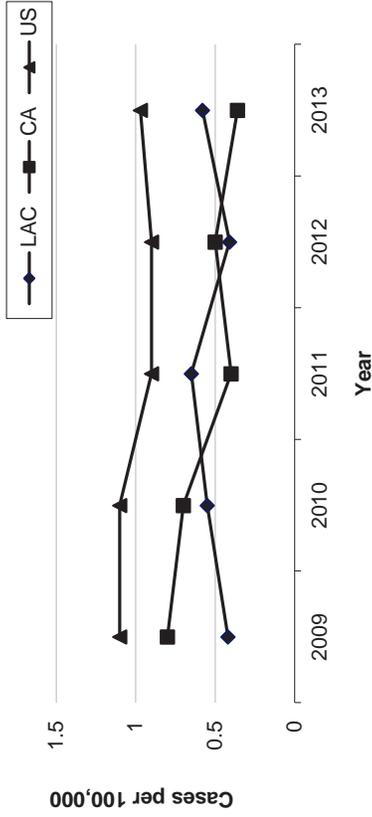
**Reported Hepatitis B, Acute, (Nonperinatal) Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2009-2013**

Age Group	2009 (N=41)			2010 (N=54)			2011 (N=60)			2012 (N=38)			2013 (N=55)		
	No.	(%)	Rate/ 100,000												
<1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0	0	0	0
1-4	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0	0	0	0
5-14	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0	0	0	0
15-34	12	29.3	0.4	18	33.3	0.6	12	20.0	0.4	10	26.3	0.4	20	36.3	0.7
35-44	7	17.1	0.5	13	24.1	1.0	10	16.7	0.8	13	34.2	1.0	15	27.3	1.1
45-54	16	39.0	1.3	11	20.4	0.9	21	35.0	1.6	10	26.3	0.8	12	21.8	0.9
55-64	4	9.7	0.4	7	13.0	0.7	12	20.0	1.2	3	7.9	0.3	5	9.1	0.5
65+	2	4.9	0.2	5	9.2	0.5	5	8.3	0.5	2	5.3	0.2	3	5.4	0.3
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Race/Ethnicity															
Asian	5	12.2	0.4	11	20.4	0.8	3	5.0	0.2	1	2.6	0.1	6	10.9	0.4
Black	11	26.8	1.4	14	25.9	1.8	13	21.7	1.7	5	13.2	0.6	12	21.8	1.5
Hispanic	12	29.3	0.3	14	25.9	0.3	19	31.7	0.4	13	34.2	0.3	21	38.2	0.5
White	11	26.8	0.4	14	25.9	0.5	23	38.3	0.9	14	36.8	0.5	15	27.3	0.6
Other	0	0	0	1	1.8	0	0	0	0	0	0	0	0	0	0
Unknown	2	4.9	0	0	0	0	2	3.3	0	5	13.2	0	1	1.8	0
SPA															
1	0	0	0	2	3.7	0.5	0	0	0.0	2	5.3	0.5	1	1.8	0.3
2	4	9.8	0.2	5	9.3	0.2	13	21.7	0.6	5	13.2	0.2	9	16.4	0.4
3	6	14.6	0.4	10	18.5	0.6	8	13.3	0.5	8	21.0	0.5	9	16.4	0.6
4	13	31.7	1.2	8	14.8	0.7	15	25.0	1.3	9	23.7	0.8	9	16.4	0.8
5	1	2.4	0.2	4	7.4	0.6	1	1.7	0.2	3	7.9	0.5	7	12.7	1.1
6	10	24.4	1.0	8	14.8	0.8	10	16.7	1.0	2	5.3	0.2	10	18.1	1.0
7	2	4.9	0.2	7	13.0	0.5	3	5.0	0.2	6	15.8	0.5	6	10.9	0.5
8	4	9.8	0.4	10	18.5	0.9	8	13.3	0.8	3	7.9	0.3	2	3.6	0.2
Unknown	1	2.4	0	0	0	0	2	3.3	0	0	0	0	2	3.6	0.2

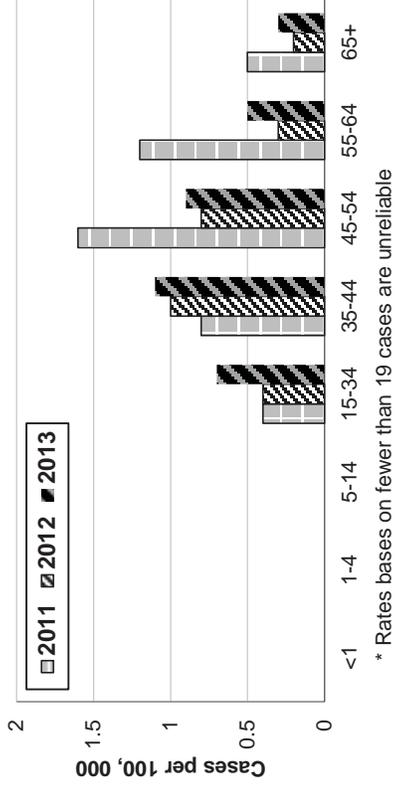
* Rates calculated based on less than 19 cases or events are considered unreliable.



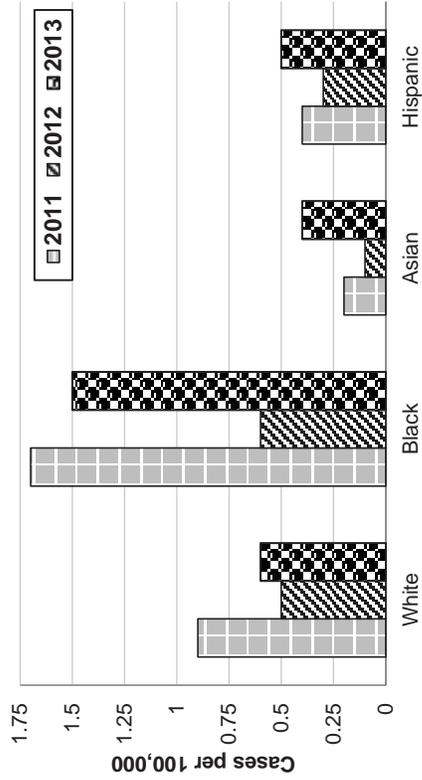
**Figure 1. Incidence Rates of Acute Hepatitis B
LAC, CA and US, 2009-2013**



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

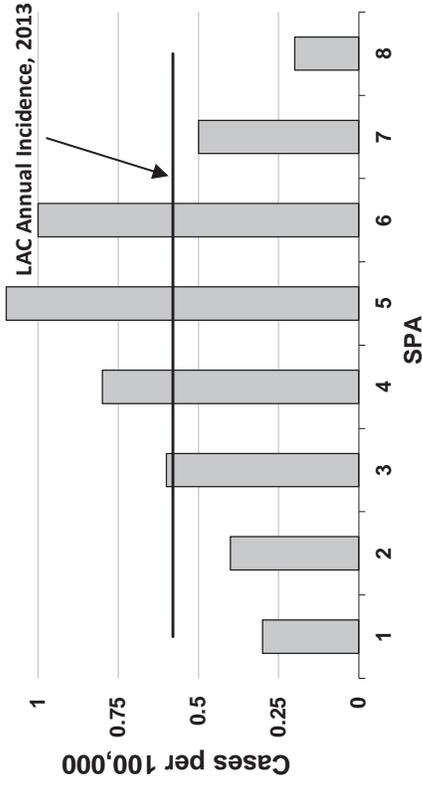


**Figure 3. Acute Hepatitis B Incidence Rates* by Race/Ethnicity
LAC, 2011-2013**



* Rates based on fewer than 19 cases are unreliable.

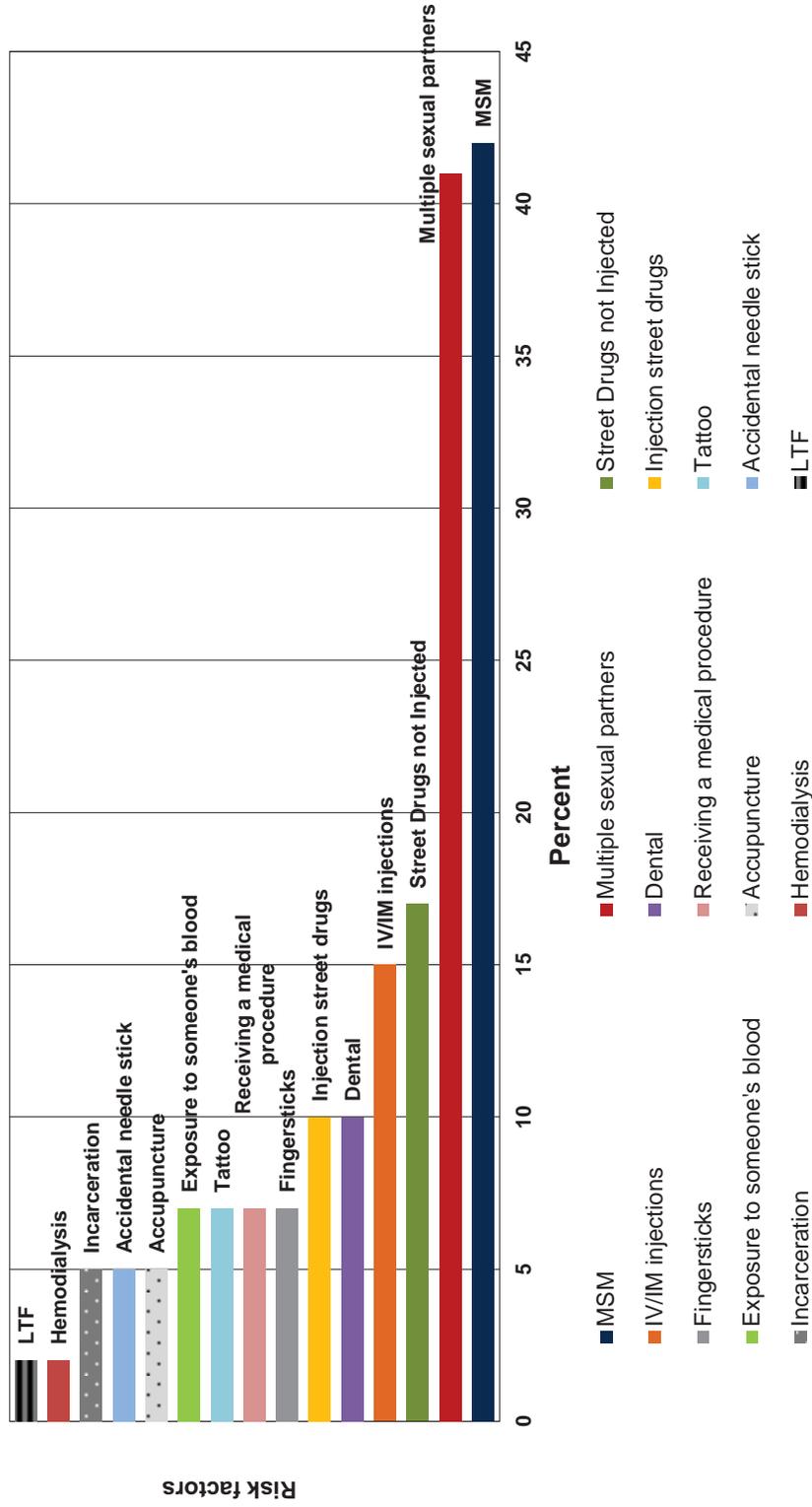
1.25



* Rates based on fewer than 19 cases are unreliable.

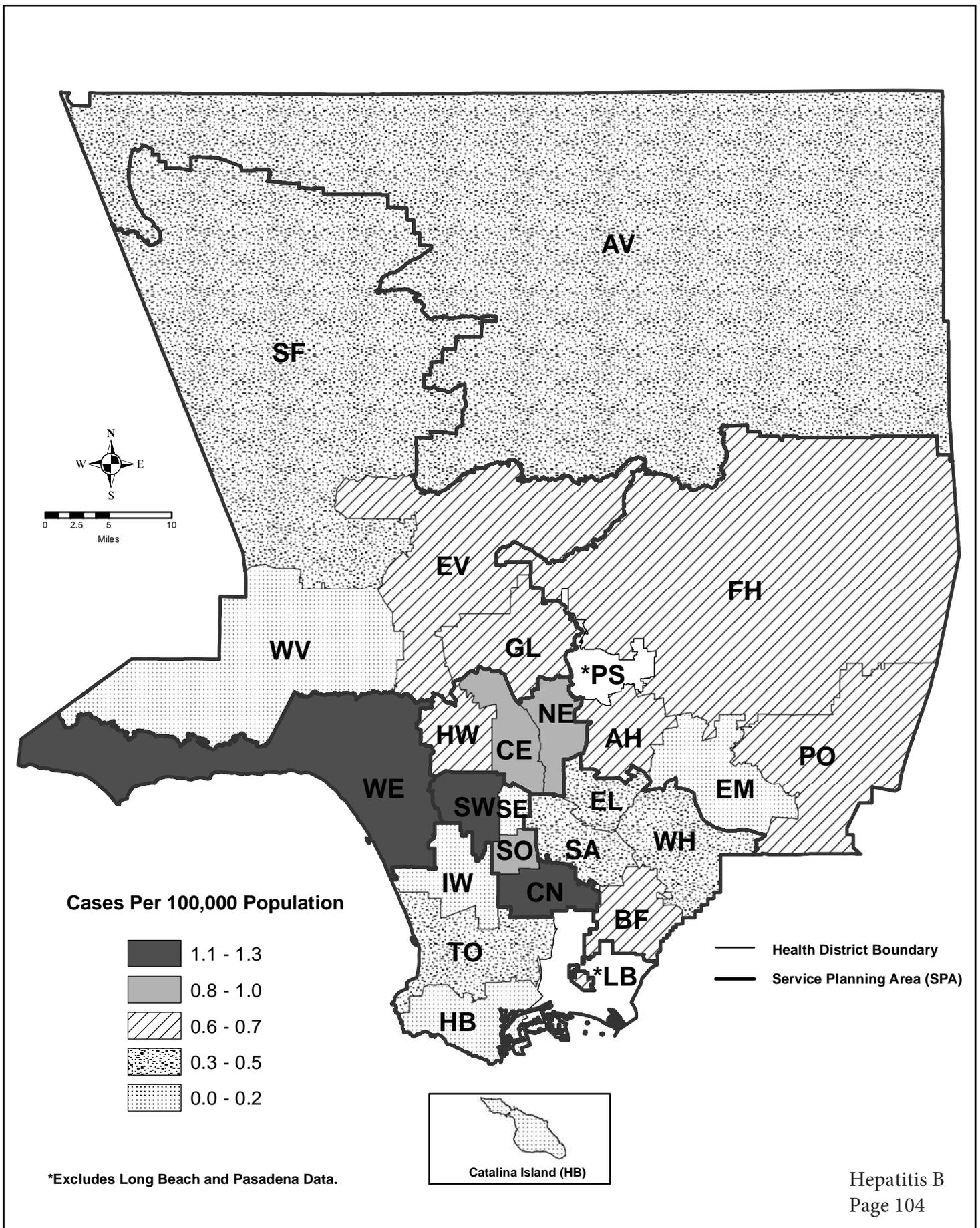


Fig. 5. Hepatitis B Reported Risk Factors*
LAC, 2013 (n=55)



*Includes cases with multiple risk factors

Map 8. Hepatitis B Rates by Health District, Los Angeles County, 2013*





HEPATITIS B, ACUTE (NONPERINATAL)

CRUDE DATA	
Number of Cases	38
Annual Incidence ^a	
LA County	0.41
California ^b	0.4
United States ^b	0.9
Age at Diagnosis	
Mean	43
Median	39
Range	26-68 years

^aCases per 100,000 population

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

DESCRIPTION

Hepatitis B is a DNA-virus transmitted through activities that involve percutaneous or mucosal contact with infectious blood or body fluids, most often through injection drug use, sexual contact with an infected person, or contact from an infected mother to her infant during birth. Transmission also occurs among household contacts of a person with hepatitis B. Healthcare-associated transmission of hepatitis B is documented in the United States (US) and should be considered in persons without traditional risk factors.

Symptoms, which occur in less than half of those acutely infected, begin an average of 90 days (range: 60–150 days) after exposure and can include: fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Approximately 2-10% of adults infected with hepatitis B virus (HBV) are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection. Overall, hepatitis B is more prevalent and infectious than HIV.

The absence of acute hepatitis B in persons under age 19 in the US is evidence of the successful immunization strategy to eliminate HBV transmission. This strategy includes: screening all pregnant women and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years.

Adult vaccination is recommended for those in high risk groups including; men who have sex with men (MSM), history of multiple sex partners, injection drug users, persons seeking treatment for sexually transmitted disease; household and sex contacts of persons with chronic HBV infections, healthcare workers, persons with chronic liver disease, persons with HIV, hemodialysis patients and unvaccinated adults with diabetes mellitus aged 19 through 59.

For the purpose of surveillance, Los Angeles County (LAC) Department of Public Health uses the 2012 Centers for Disease Control and Prevention (CDC)/Council of State and Territorial Epidemiologists (CSTE) criteria for acute hepatitis B. The criteria include: 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase (ALT) levels >100 IU/L, and 3) HBsAg positive and anti-HBc IgM positive, (if done). In 2012, the CDC/CSTE modified the acute hepatitis B case definition to include documented seroconversion cases (documented negative HBV test result within 6 months prior to HBV diagnosis) without the acute clinical presentation.

2012 TRENDS AND HIGHLIGHTS

- One acute hepatitis B case was a documented seroconversion and the remainder of the cases met the 2012 CDC/CSTE acute Hepatitis B case criteria.
- The 2012 incidence rate decreased from the previous year (0.41 per 100,000 versus 0.65 per 100,000) (Figure 1).
- The incidence rate was highest in persons between the ages of 35-44 years (1.0 per 100,000) (Figure 2).
- The male-to-female ratio was 1:0.4.
- As in 2011, blacks had the highest incidence rate in 2012 (0.6 per 100,000) compared to other race/ethnicities (Figure 3).
- Five Service Planning Areas (SPA) had rates greater than the overall county mean rate of 0.41 per 100,000—SPA 4 (0.8 per 100,000), SPA 1 (0.5 per 100,000), SPA 3 (0.5 per 100,000), SPA 5 (0.5 per 100,000), and SPA 7 (0.5 per 100,000) (Figure 4).
- A risk factor interview was conducted for 89% (n=34) of the confirmed cases. Of the cases interviewed, 100% reported at least one risk factor. The most frequently reported risk factor was having multiple sexual partners (n=14, 37%) followed by MSM (n=8, 30% of males), incarceration (n=6, 16%), non-injection street drugs (n=6, 16%), dental work (n=6, 16%), IV/IM



injections (n=6, 16%), fingersticks (n=5, 13%), having a diagnostic medical procedure (n=5, 16%), tattoo (n=4, 11%), acupuncture (n=3, 8%), accidental exposure to blood (n=3, 8%), contact

with a confirmed or suspected case of hepatitis B (n=1, 3%), hemodialysis (n=1, 3%), accidental needle stick (n=1, 3%), transfusion (n=1, 3%), and IVDU (n=1, 3%) (Figure5).



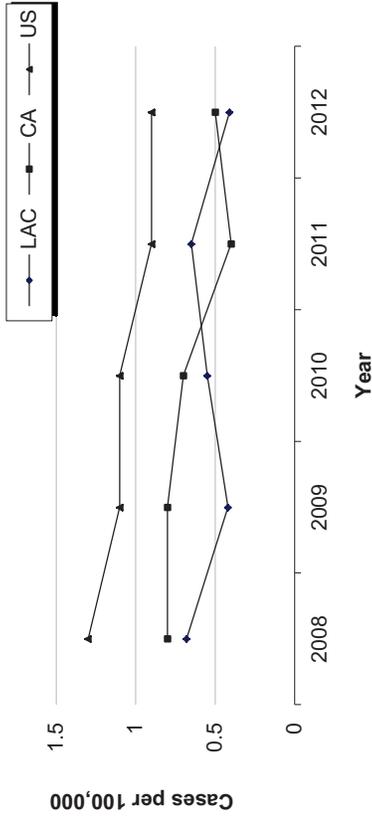
**Reported Hepatitis B, Acute, (Nonperinatal) Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2008-2012**

Age Group	2008 (N=66)			2009 (N=41)			2010 (N=54)			2011 (N=60)			2012 (N=38)			
	No.	(%)	Rate/ 100,000													
Race/Ethnicity																
Asian	7	10.6	0.5	5	12.2	0.4	11	20.4	0.8	3	5.0	0.2	1	2.6	0.1	
Black	15	22.7	1.8	11	26.8	1.3	14	25.9	1.6	13	21.7	1.7	5	13.2	0.6	
Hispanic	16	24.2	0.3	12	29.3	0.3	14	25.9	0.3	19	31.7	0.4	13	34.2	0.3	
White	22	33.3	0.8	11	26.8	0.4	14	25.9	0.5	23	38.3	0.9	14	36.8	0.5	
Other	1	1.5	4.1	0	0		1	1.8		0	0		0	0		
Unknown	5	7.6		2	4.9		0	0		2	3.3		5	13.2		
SPA																
1	2	3.0	0.5	0	0	0	2	3.7	0.5	0	0	0.0	2	5.3	0.5	
2	9	13.6	0.4	4	9.8	0.2	5	9.3	0.2	13	21.7	0.6	5	13.2	0.2	
3	6	9.1	0.3	6	14.6	0.3	10	18.5	0.6	8	13.3	0.5	8	21.0	0.5	
4	7	10.6	0.5	13	31.7	1.0	8	14.8	0.6	15	25.0	1.3	9	23.7	0.8	
5	9	13.6	1.4	1	2.4	0.2	4	7.4	0.6	1	1.7	0.2	3	7.9	0.5	
6	22	33.3	2.1	10	24.4	1.0	8	14.8	0.7	10	16.7	1.0	2	5.3	0.2	
7	6	9.1	0.4	2	4.9	0.1	7	13.0	0.5	3	5.0	0.2	6	15.8	0.5	
8	4	6.1	0.4	4	9.8	0.4	10	18.5	0.9	8	13.3	0.8	3	7.9	0.3	
Unknown	1	1.5		1	2.4		0	0		2	3.3		0	0		

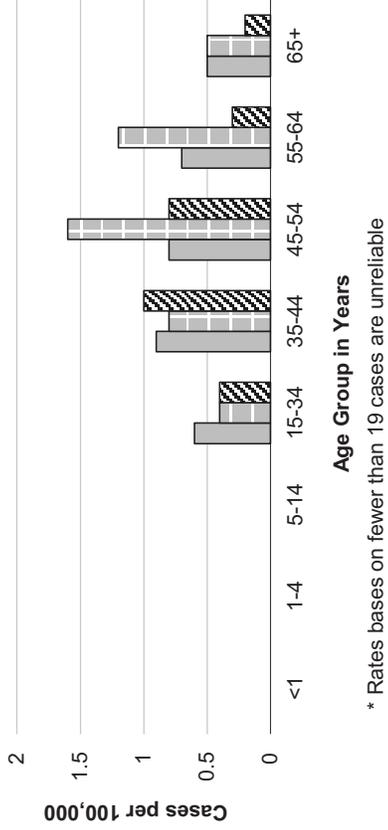
* Rates calculated based on less than 19 cases or events are considered unreliable.



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

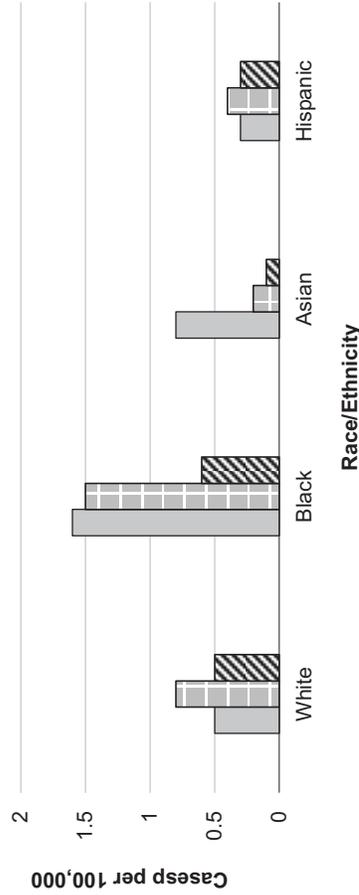


**Figure 2. Incidence Rates* of Acute Hepatitis B by Age Group
LAC, 2010-2012**

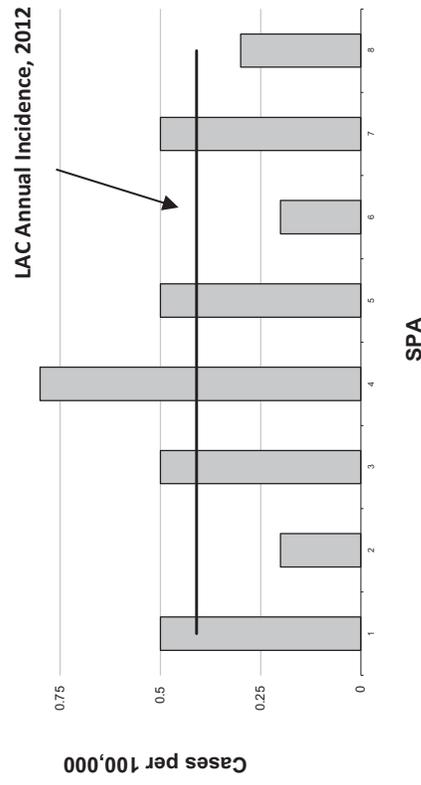


* Rates based on fewer than 19 cases are unreliable

**Figure 3. Acute Hepatitis B Incidence Rates* by Race/Ethnicity
LAC, 2010-2012**



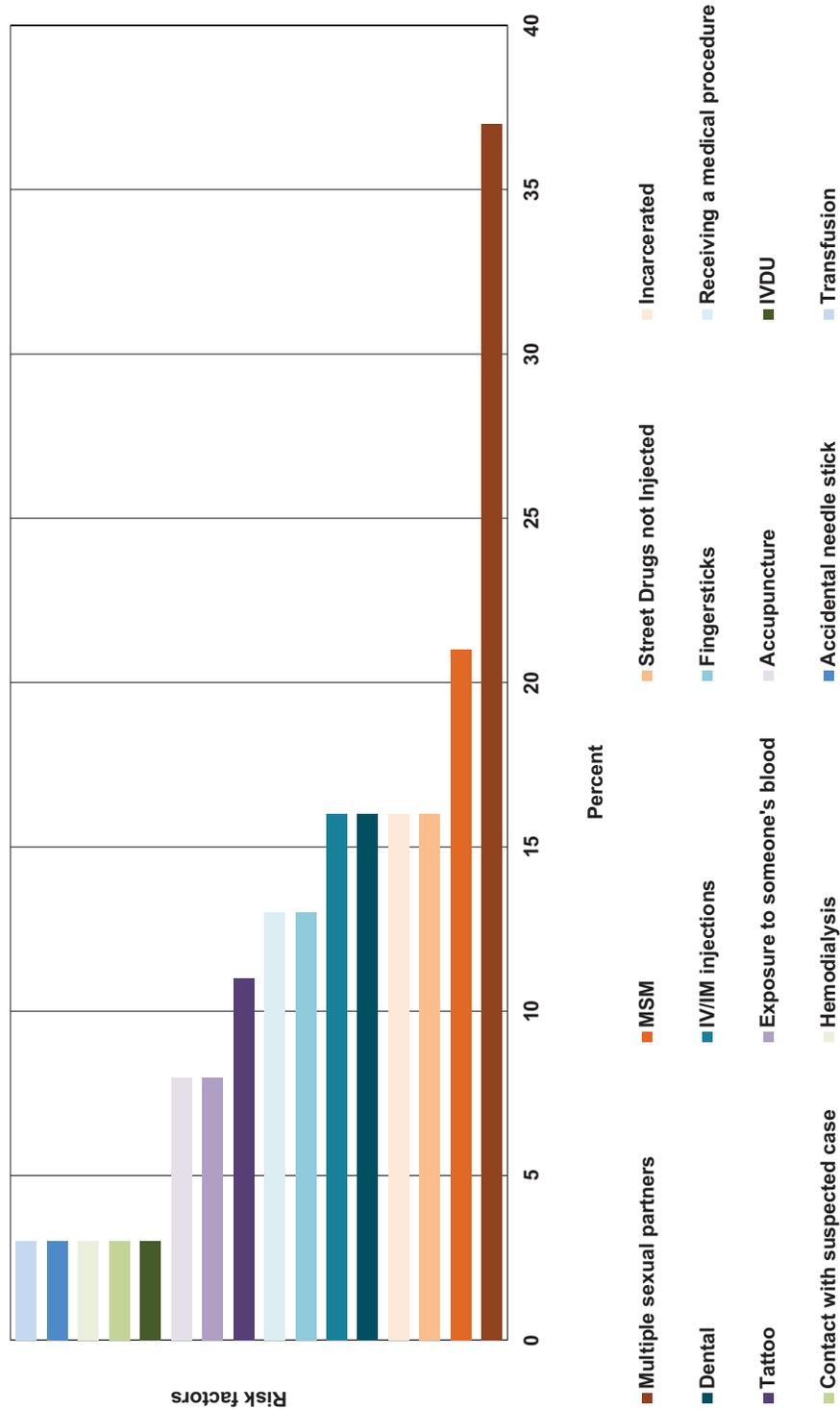
* Rates based on fewer than 19 cases are unreliable



* Rates based on fewer than 19 cases are unreliable



Fig. 5. Hepatitis B Reported Risk Factors*
LAC, 2012 (n=38)



* Includes cases with multiple risk factors



HEPATITIS B, ACUTE (NONPERINATAL)

CRUDE DATA	
Number of Cases	54
Annual Incidence ^a	
LA County	0.55
California ^b	--
United States ^b	--
Age at Diagnosis	
Mean	43
Median	41
Range	21-83 years

^a Cases per 100,000 population

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

DESCRIPTION

Hepatitis B is a DNA-virus transmitted through percutaneous or mucous membrane exposure, most often through injection drug use, sexual contact with an infected person, or contact from an infected mother to her infant during birth. Transmission also occurs among household contacts of a person with hepatitis B. Healthcare-associated transmission of hepatitis B is documented infrequently in the United States (US) but should be considered in persons without traditional risk factors. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2-10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection. Overall, hepatitis B is more prevalent and infectious than HIV. Hepatitis B infection is vaccine preventable.

For the purpose of surveillance, LAC DPH uses the CDC/CSTE criteria for acute hepatitis B. The criteria include: 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done).

The absence of acute hepatitis B in children under age 19 is evidence of the successful immunization strategy

to eliminate HBV transmission in the US. This strategy includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years. In addition, DPH provides hepatitis B vaccine to high-risk persons at no charge.

New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization, particularly for adults with the highest rates of transmission. Development and implementation of such strategies are possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, education aims to eliminate, reduce, or mitigate high-risk behaviors in sexually active adults and those who use injection drugs; and to increase awareness and knowledge in the community.

2010 TRENDS AND HIGHLIGHTS

- The 2010 incidence rate increased from the previous year (0.55 per 100,000 versus 0.42 per 100,000) (Figure 1).
- The rate was highest in those between the ages of 35-44 years (0.9 per 100,000), followed by the 45-54 year age group (0.8 per 100,000) (Figure 2).
- The male-to-female ratio was 1:0.42.
- The 2010 incidence rate was highest in blacks (1.6 per 100,000) followed by Asians (0.8 per 100,000), whites (0.5 per 100,000) and Hispanics (0.3 per 100,000) (Figure 3).
- SPA 8 had the highest incidence rate (0.9 per 100,000) while SPA 2 had the lowest incident rate (0.2 per 100,000). (Figure 4),
- Risk factors were identified in 70% (n=35) of the 50 confirmed cases interviewed (including some cases with multiple risk factors). The most common risk factors were having multiple sexual partners (n=17, 49%), MSM behavior (n=11, 31%), having contact with a confirmed or suspected case of hepatitis B (n=4, 11%), recent dental work (n=4, 11%), having a diagnostic medical procedure or surgery (n=4, 11%), receiving a tattoo at home (n=4, 11%), using non-injection street drugs (n=4, 11%), being incarcerated (n=4, 11%), receiving fingersticks (n=3, 9%), and IV/IM injections (n=3, 9%), (Figure 5).



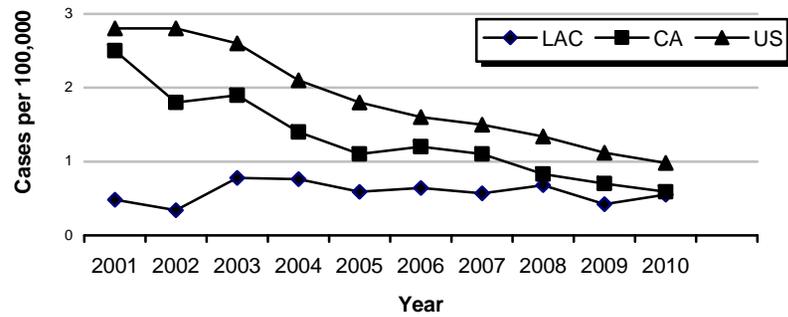
**Reported Hepatitis B, Acute, (Nonperinatal) Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2006-2010**

	2006 (N=62)			2007 (N=55)			2008 (N=66)			2009 (N=41)			2010 (N=54)		
	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	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0	0	0	0
5-14	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0	0	0	0
15-34	20	32.3	0.7	9	16.4	0.3	18	27.3	0.6	12	29.3	0.4	18	33.3	0.6
35-44	21	33.9	1.4	21	38.2	1.4	14	21.2	0.9	7	17.1	0.5	13	24.1	0.9
45-54	15	24.2	1.2	12	21.8	0.9	13	19.7	1.0	16	39.0	1.2	11	20.4	0.8
55-64	3	4.8	0.3	3	5.5	0.3	14	21.2	1.5	4	9.7	0.4	7	13.0	0.7
65+	3	4.8	0.3	9	16.4	0.9	7	10.6	0.7	2	4.9	0.2	5	9.2	0.5
Unknown	0	0.0		1	1.8		0	0.0		0	0		0	0	
Race/Ethnicity															
Asian	10	16.1	0.8	7	12.7	0.5	7	10.6	0.5	5	12.2	0.4	11	20.4	0.8
Black	4	6.5	0.5	11	20.0	1.3	15	22.7	1.8	11	26.8	1.3	14	25.9	1.6
Hispanic	26	41.9	0.6	16	29.1	0.3	16	24.2	0.3	12	29.3	0.3	14	25.9	0.3
White	21	33.9	0.7	19	34.5	0.7	22	33.3	0.8	11	26.8	0.4	14	25.9	0.5
Other	0	0.0	0.0	2	3.6	9.6	1	1.5	4.1	0	0	0	1	1.8	
Unknown	1	1.6		0	0.0		5	7.6		2	4.9		0	0	
SPA															
1	2	3.2	0.6	1	1.8	0.3	2	3.0	0.5	0	0	0	2	3.7	0.5
2	15	24.2	0.7	13	23.6	0.6	9	13.6	0.4	4	9.8	0.2	5	9.3	0.2
3	6	9.7	0.3	4	7.3	0.2	6	9.1	0.3	6	14.6	0.3	10	18.5	0.6
4	16	25.8	1.3	14	25.5	1.1	7	10.6	0.5	13	31.7	1.0	8	14.8	0.6
5	3	4.8	0.5	5	9.1	0.8	9	13.6	1.4	1	2.4	0.2	4	7.4	0.6
6	6	9.7	0.6	9	16.4	0.9	22	33.3	2.1	10	24.4	1.0	8	14.8	0.7
7	6	9.7	0.4	4	7.3	0.3	6	9.1	0.4	2	4.9	0.1	7	13.0	0.5
8	6	9.7	0.5	5	9.1	0.4	4	6.1	0.4	4	9.8	0.4	10	18.5	0.9
Unknown	2	3.2		0	0.0		1	1.5		1	2.4		0	0	

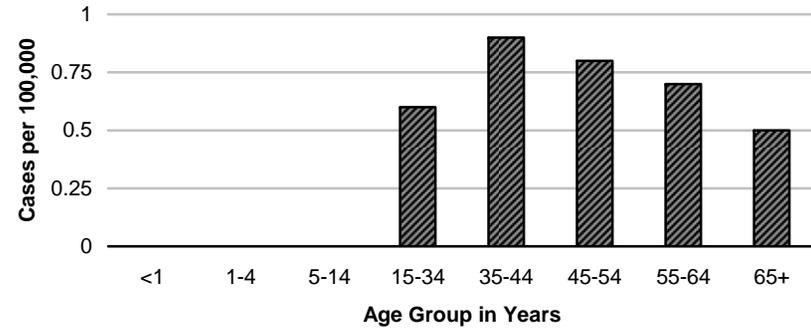
*Rates calculated based on less than 19 cases or events are considered unreliable.



**Figure 1. Incidence Rates of Acute Hepatitis B
LAC, CA and US, 2001-2010**

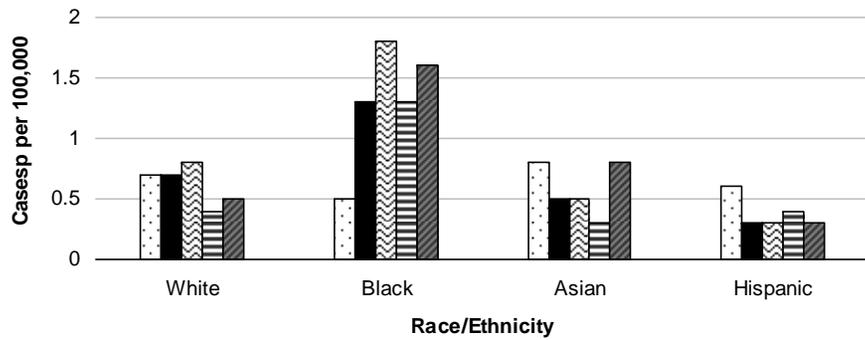


**Figure 2. Incidence Rates* of Acute Hepatitis B by Age Group
LAC, 2010 (N=54)**

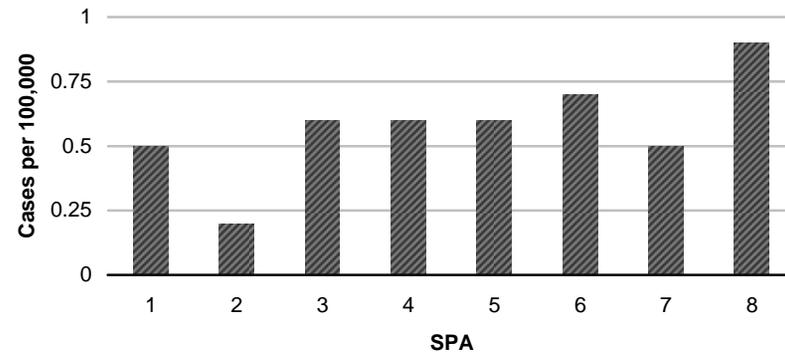


* Rates based on fewer than 19 cases are unreliable

**Figure 3. Acute Hepatitis B Incidence Rates* by Race/Ethnicity
LAC, 2006-2010 (N=54)**



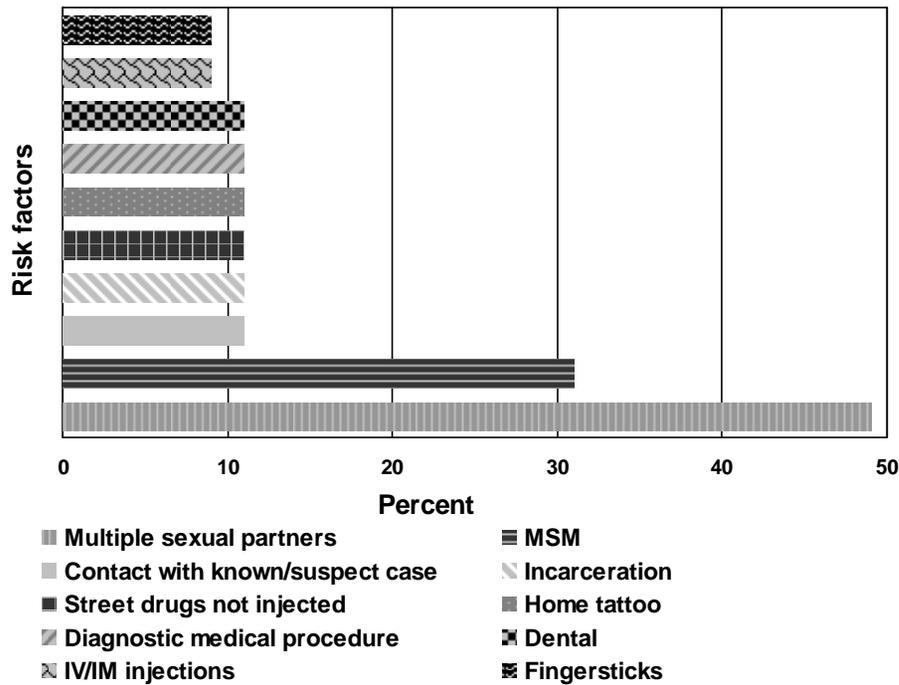
**Figure 4. Incidence Rates* of Acute Hepatitis B by SPA
LAC, 2010 (N=54)**



* Rates based on fewer than 19 cases are unreliable



Fig. 5. Hepatitis B Reported Risk Factors*
LAC, 2010 (n=35)



*Includes cases with multiple risk factors



HEPATITIS B, ACUTE (NONPERINATAL)

CRUDE DATA	
Number of Cases	41
Annual Incidence ^a	
LA County	0.42
California ^b	0.83
United States ^b	1.34
Age at Diagnosis	
Mean	44
Median	45
Range	24-68 years

^a Cases per 100,000 population

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

DESCRIPTION

Hepatitis B is a vaccine-preventable viral disease transmitted through parenteral or mucous membrane exposure (via sex or drugs) to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2–10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection. Overall, hepatitis B is more prevalent and infectious than HIV.

For the purpose of surveillance, ACDC uses the CDC/CSTE criteria for acute hepatitis B. The criteria include: 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done).

The absence of acute hepatitis B in children under age 19 is evidence of the successful immunization strategy to eliminate HBV transmission in LAC. This strategy

includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years. In addition, in LAC, hepatitis B vaccine is provided to high-risk groups at the Public Health Clinics at no charge.

New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization, particularly for adults with the highest rates of transmission. Development and implementation of such strategies are possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, hepatitis education aims to eliminate, reduce, or mitigate high-risk behaviors in sexually active adults and those who use injection drugs; and to increase awareness and knowledge in the community.

2009 TRENDS AND HIGHLIGHTS

- The 2009 incidence rate of acute hepatitis B in Los Angeles County (LAC) has decreased from the previous year (0.42 per 100,000 versus 0.68 per 100,000) (Figure 1).
- The 2009 incidence rate of acute hepatitis B in LAC was highest in those between the ages of 45 to 54 years (1.2 per 100,000), followed by the 35 to 44 year age group (0.5 per 100,000) (Figure 2).
- The male-to-female ratio was 2.7:1.
- The 2009 incidence rate of acute hepatitis B in LAC was highest in blacks (1.3 per 100,000) followed by Asians (0.4 per 100,000), whites (0.4 per 100,000) and Hispanics (0.3 per 100,000) (Figure 3).
- Of the eight Service Planning Areas (SPAs), two SPAs in 2009 had rates greater than the overall county mean rate (0.42)--SPA 4 (1.0 per 100,000) and SPA 6 (1.0 per 100,000) (Figure 4).
- Risk factors were identified in 75% (n=24) of the 32 confirmed cases interviewed by a public health nurse (including some cases with multiple risk factors). Of those with identified risk factors, the most common were having multiple sexual partners (n=11, 46%) followed by MSM (n=9, 38%), and recent dental work (n=5, 21%) (Figure 5).



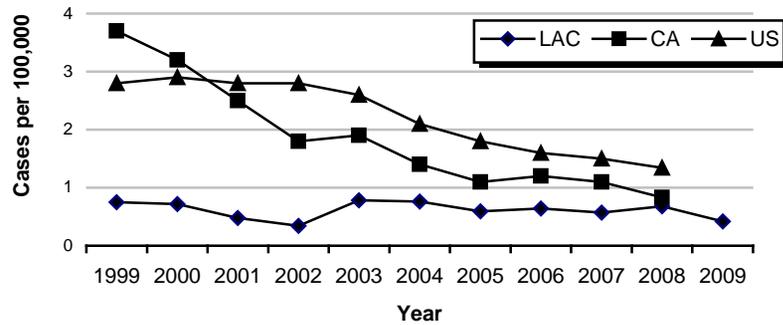
**Reported Hepatitis B, Acute, (Nonperinatal) Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2005-2009**

	2005 (N=57)			2006 (N=62)			2007 (N=55)			2008 (N=66)			2009 (N=41)		
	No.	(%)	Rate/ 100,000												
Age Group															
<1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0
1-4	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0
5-14	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0
15-34	18	31.6	0.6	20	32.3	0.7	9	16.4	0.3	18	27.3	0.6	12	29.3	0.4
35-44	21	36.8	1.4	21	33.9	1.4	21	38.2	1.4	14	21.2	0.9	7	17.1	0.5
45-54	10	17.5	0.8	15	24.2	1.2	12	21.8	0.9	13	19.7	1.0	16	39.0	1.2
55-64	2	3.5	0.2	3	4.8	0.3	3	5.5	0.3	14	21.2	1.5	4	9.7	0.4
65+	6	10.5	0.6	3	4.8	0.3	9	16.4	0.9	7	10.6	0.7	2	4.9	0.2
Unknown	0	0.0		0	0.0		1	1.8		0	0.0		0	0	
Race/Ethnicity															
Asian	8	14.0	0.6	10	16.1	0.8	7	12.7	0.5	7	10.6	0.5	5	12.2	0.4
Black	12	21.1	1.4	4	6.5	0.5	11	20.0	1.3	15	22.7	1.8	11	26.8	1.3
Hispanic	19	33.3	0.4	26	41.9	0.6	16	29.1	0.3	16	24.2	0.3	12	29.3	0.3
White	16	28.1	0.6	21	33.9	0.7	19	34.5	0.7	22	33.3	0.8	11	26.8	0.4
Other	0	0.0	0.0	0	0.0	0.0	2	3.6	9.6	1	1.5	4.1	0	0	0
Unknown	2	3.5		1	1.6		0	0.0		5	7.6		2	4.9	
SPA															
1	1	1.8	0.3	2	3.2	0.6	1	1.8	0.3	2	3.0	0.5	0	0	0
2	10	17.5	0.5	15	24.2	0.7	13	23.6	0.6	9	13.6	0.4	4	9.8	0.2
3	4	7.0	0.2	6	9.7	0.3	4	7.3	0.2	6	9.1	0.3	6	14.6	0.3
4	14	24.6	1.1	16	25.8	1.3	14	25.5	1.1	7	10.6	0.5	13	31.7	1.0
5	5	8.8	0.8	3	4.8	0.5	5	9.1	0.8	9	13.6	1.4	1	2.4	0.2
6	7	12.3	0.7	6	9.7	0.6	9	16.4	0.9	22	33.3	2.1	10	24.4	1.0
7	8	14.0	0.6	6	9.7	0.4	4	7.3	0.3	6	9.1	0.4	2	4.9	0.1
8	8	14.0	0.7	6	9.7	0.5	5	9.1	0.4	4	6.1	0.4	4	9.8	0.4
Unknown	0	0.0		2	3.2		0	0.0		1	1.5		1	2.4	

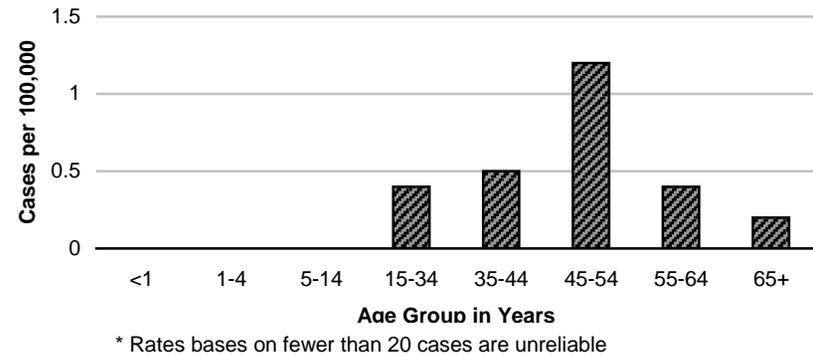
*Rates calculated based on less than 19 cases or events are considered unreliable.



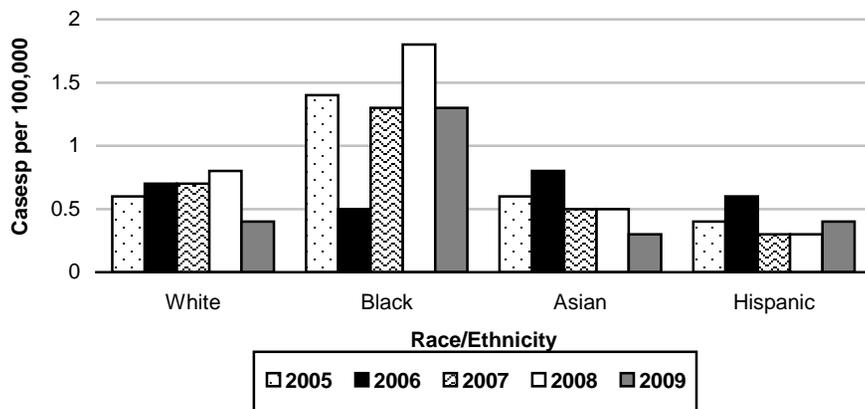
**Figure 1. Incidence Rates of Acute Hepatitis B
LAC, CA and US, 1999-2009**



**Figure 2. Incidence Rates of Acute Hepatitis B by Age Group
LAC, 2009 (N=41)**



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



**Figure 4. Incidence Rates of Acute Hepatitis B by SPA
LAC, 2009 (N=41)**

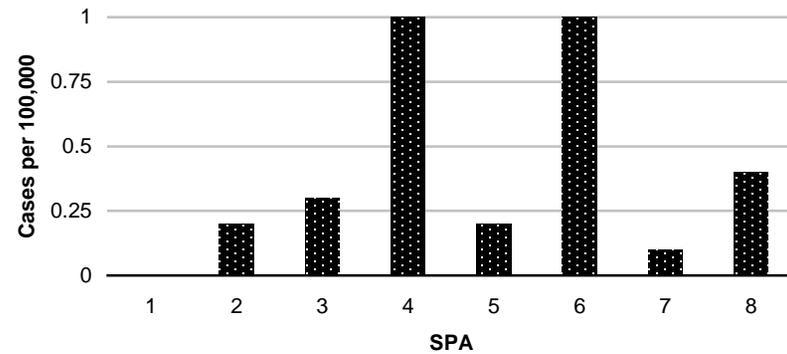
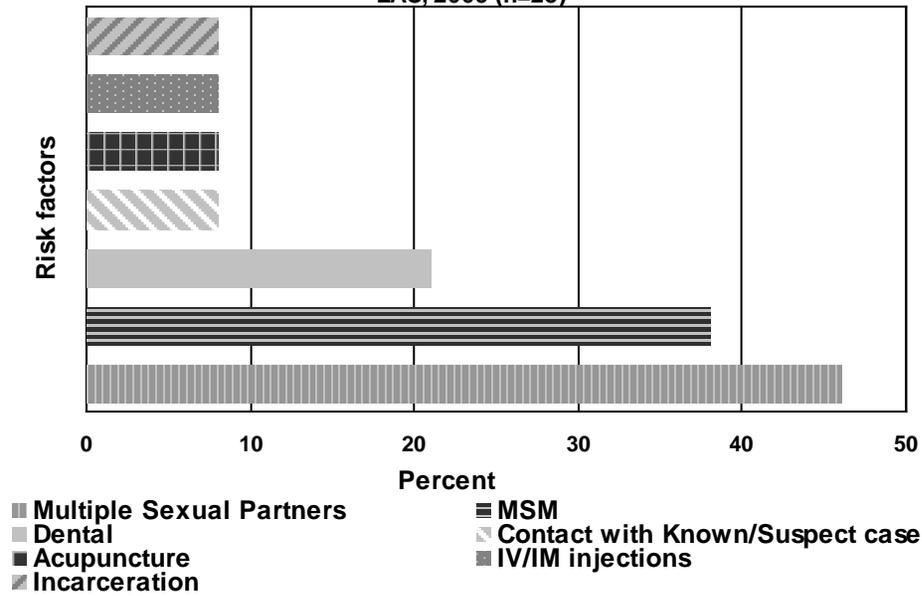




Fig. 5. Hepatitis B Reported Risk Factors*
LAC, 2009 (n=23)



*Includes cases with multiple risk factors



HEPATITIS B, ACUTE (NONPERINATAL)

CRUDE DATA	
Number of Cases	66
Annual Incidence ^a	
LA County	0.68
California ^b	0.83
United States ^b	1.34
Age at Diagnosis	
Mean	46
Median	45
Range	23-83 years

^a Cases per 100,000 population

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

DESCRIPTION

Hepatitis B is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure (via sex or drugs) to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2–10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection. Overall, hepatitis B is more prevalent and infectious than HIV.

For the purpose of surveillance, ACDC uses the CDC/CSTE criteria for acute hepatitis B. The criteria include: 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done).

The absence of acute hepatitis B in children under age 19 is evidence of the successful immunization strategy to eliminate HBV transmission in LAC. This strategy includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children

aged < 19 years. In addition, in LAC, hepatitis B vaccine is provided to high-risk groups at the Public Health Clinics at no charge.

New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization, particularly for adults with the highest rates of transmission. Development and implementation of such strategies is possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, promoting hepatitis health education aims at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults and increasing awareness and knowledge in the community.

2008 TRENDS AND HIGHLIGHTS

- The 2008 incidence rate of acute hepatitis B in Los Angeles County (LAC) has increased slightly from the previous year (0.68 per 100,000 versus 0.57 per 100,000) (Figure 1).
- ACDC investigated one outbreak in a Long-Term Care Facility (LTCF) (See 2008 Special Studies Report for more information).
- The 2008 incidence rate of acute hepatitis B in LAC was highest in those between the ages of 55 to 64 years (1.5 per 100,000), followed by the 45 to 54 year age group (1.0 per 100,000) and the 35 to 44 year age group (0.9 per 100,000) (Figure 2).
- The male-to-female ratio was 4:1.
- The 2008 incident rate of acute hepatitis B in LAC was highest in blacks (1.8 per 100,000) followed by whites (0.8 per 100,000), Asians (0.5 per 100,000) and Hispanics (0.3 per 100,000) (Figure 3).
- Of the eight Service Planning Areas (SPAs) across LAC, SPA 6 had the highest incidence rate (2.1 per 100,000); however, SPA 6 had 8 cases of acute hepatitis B associated with the outbreak investigation in a LTCF (Figure 4).
- Risk factors were identified in 66% (n=31) of the 47 confirmed cases interviewed by a public health nurse which were not associated with the outbreak in the LTCF (including some cases with multiple risk factors). Of those with identified risk factors, recent dental work (n=13, 42%) was the most common risk factor reported followed by having multiple sexual partners (n=10, 32%), contact with a person with a confirmed or suspected acute or chronic Hepatitis B infection (n=7, 23%), receiving fingersticks (n=5, 16%), and receiving a tattoo (n=5, 16%) (Figure 5).



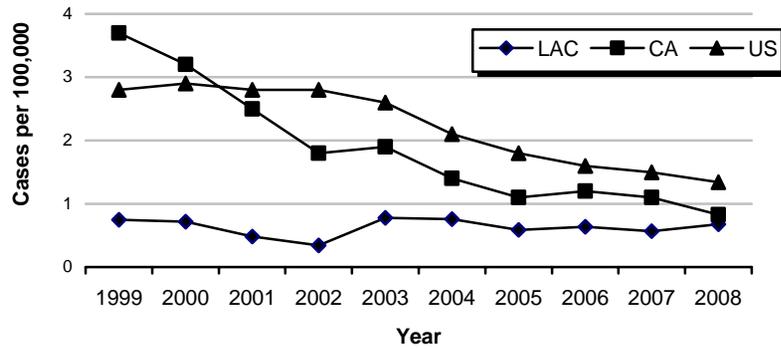
**Reported Hepatitis B, Acute, (Nonperinatal) Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
 Los Angeles County, 2004-2008**

	2004 (N=72)			2005 (N=57)			2006 (N=62)			2007 (N=55)			2008 (N=66)		
	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	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
5-14	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
15-34	29	40.3	1.0	18	31.6	0.6	20	32.3	0.7	9	16.4	0.3	18	27.3	0.6
35-44	18	25.0	1.2	21	36.8	1.4	21	33.9	1.4	21	38.2	1.4	14	21.2	0.9
45-54	9	12.5	0.7	10	17.5	0.8	15	24.2	1.2	12	21.8	0.9	13	19.7	1.0
55-64	10	13.9	1.3	2	3.5	0.2	3	4.8	0.3	3	5.5	0.3	14	21.2	1.5
65+	6	8.3	0.6	6	10.5	0.6	3	4.8	0.3	9	16.4	0.9	7	10.6	0.7
Unknown	0	0.0		0	0.0		0	0.0		1	1.8		0	0.0	
Race/Ethnicity															
Asian	12	16.7	1.0	8	14.0	0.6	10	16.1	0.8	7	12.7	0.5	7	10.6	0.5
Black	12	16.7	1.4	12	21.1	1.4	4	6.5	0.5	11	20.0	1.3	15	22.7	1.8
Hispanic	23	31.9	0.5	19	33.3	0.4	26	41.9	0.6	16	29.1	0.3	16	24.2	0.3
White	24	33.3	0.8	16	28.1	0.6	21	33.9	0.7	19	34.5	0.7	22	33.3	0.8
Other	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	2	3.6	9.6	1	1.5	4.1
Unknown	1	1.4		2	3.5		1	1.6		0	0.0		5	7.6	
SPA															
1	0	0.0	0.0	1	1.8	0.3	2	3.2	0.6	1	1.8	0.3	2	3.0	0.5
2	19	26.4	0.9	10	17.5	0.5	15	24.2	0.7	13	23.6	0.6	9	13.6	0.4
3	11	15.3	0.6	4	7.0	0.2	6	9.7	0.3	4	7.3	0.2	6	9.1	0.3
4	14	19.4	1.1	14	24.6	1.1	16	25.8	1.3	14	25.5	1.1	7	10.6	0.5
5	7	9.7	1.1	5	8.8	0.8	3	4.8	0.5	5	9.1	0.8	9	13.6	1.4
6	6	8.3	0.6	7	12.3	0.7	6	9.7	0.6	9	16.4	0.9	22	33.3	2.1
7	7	9.7	0.5	8	14.0	0.6	6	9.7	0.4	4	7.3	0.3	6	9.1	0.4
8	8	11.1	0.7	8	14.0	0.7	6	9.7	0.5	5	9.1	0.4	4	6.1	0.4
Unknown	0	0.0		0	0.0		2	3.2		0	0.0		1	1.5	

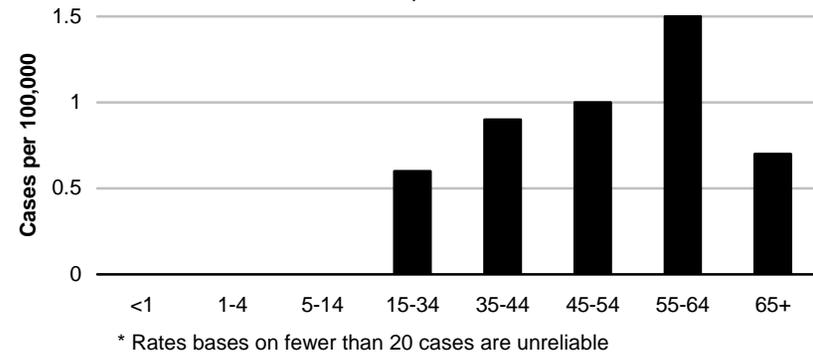
*Rates calculated based on less than 19 cases or events are considered unreliable.



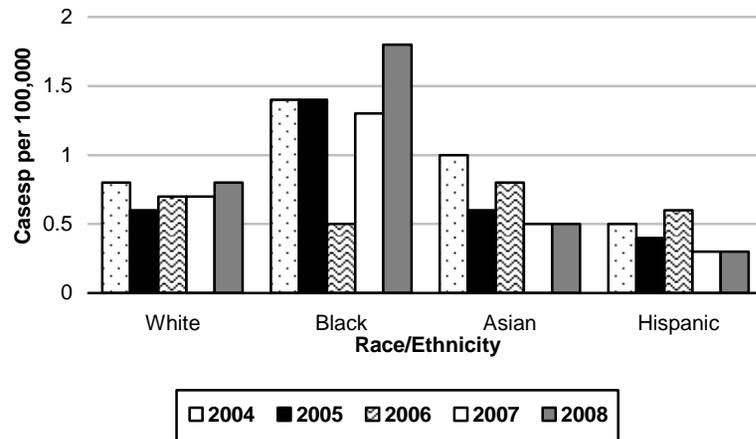
**Figure 1. Incidence Rates of Acute Hepatitis B
LAC, CA and US, 1999-2008**



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



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



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

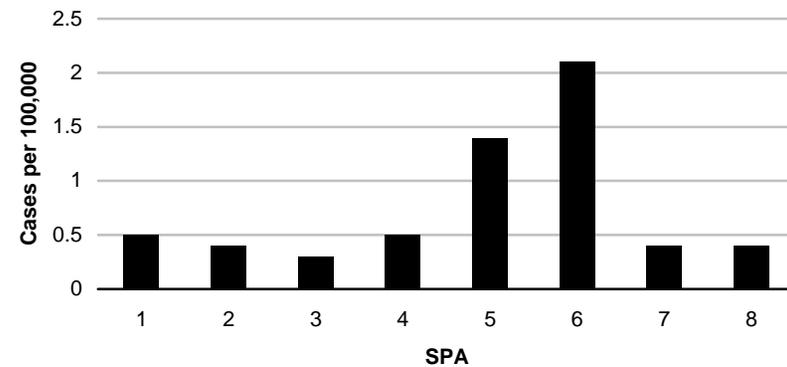
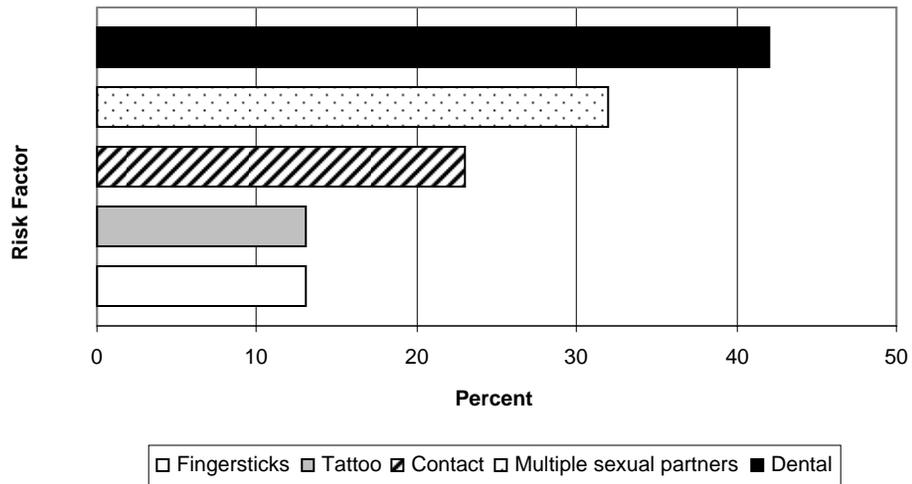


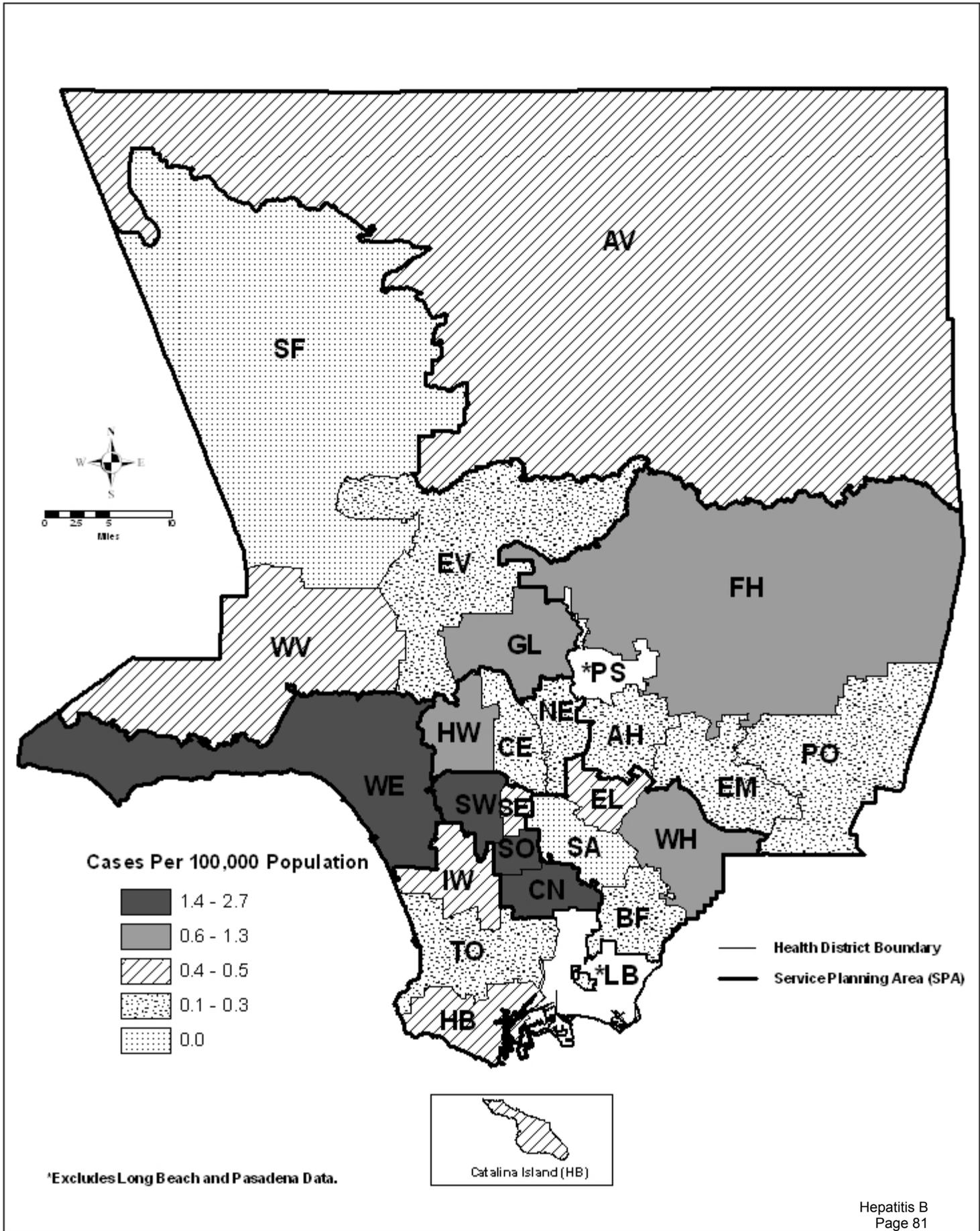


Figure 5. Hepatitis B Reported Risk Factors*
LAC, 2008 (n=31)



*Includes cases identifying multiple risk factors

Map 7. Hepatitis B Rates by Health District, Los Angeles County, 2008*





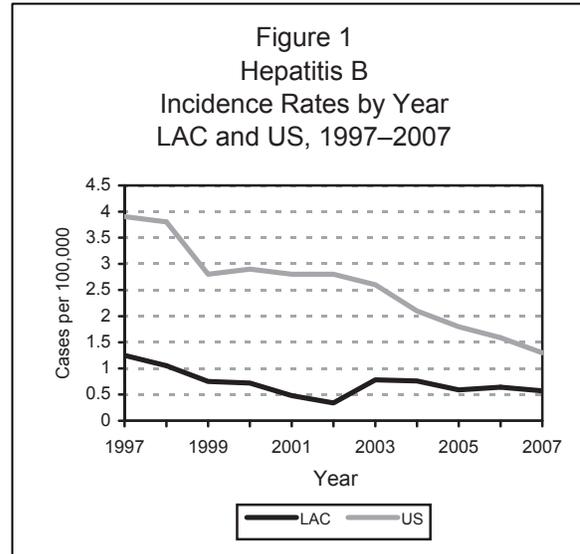


HEPATITIS B, ACUTE (NONPERINATAL)

CRUDE DATA	
Number of Cases	55
Annual Incidence ^a	
Los Angeles	0.57
California	1.04 ^b
United States	1.30 ^b
Age at Diagnosis	
Mean	47
Median	42
Range	22-87 years

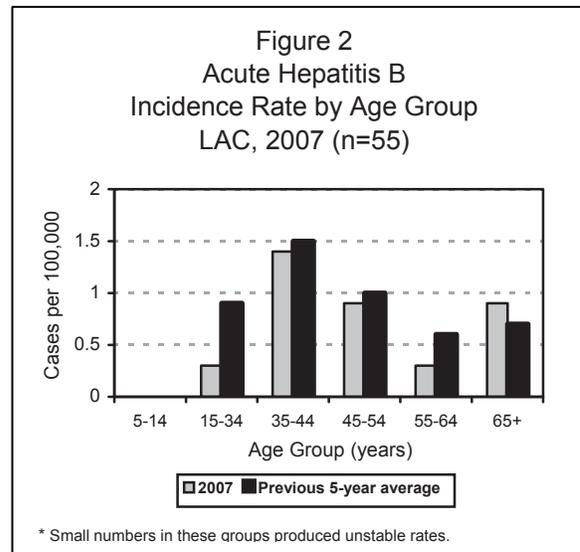
^a Cases per 100,000 population.

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



DESCRIPTION

Hepatitis B is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure (via sex or drugs) to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice, and mild fever. Approximately 2–10% of non-infants infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection. Overall, hepatitis B is more prevalent and infectious than HIV.



For the purpose of surveillance, ACDC uses the CDC/CSTE criteria for acute hepatitis B. The criteria include: 1) discrete onset of symptoms, 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done).

DISEASE ABSTRACT

- The incidence rate for acute hepatitis B decreased slightly from the previous year (0.64 to 0.57 per 100,000) (Figure 1).
- The highest incidence rate occurred in persons aged 35-54 years, and the majority of the cases were males.
- Contact with a person with a confirmed or suspected acute or chronic hepatitis B infection was the most frequently identified risk factor.
- No outbreaks were reported in 2007.



STRATIFIED DATA

Seasonality: None.

Age: Cases ranged in age from 22 to 87 years (the median age was 42). The highest incidence rate occurred in persons aged 34-54 years (1.4 per 100,000). The incidence rate in the 65+ age group increased from the previous 5-year average (Figure 2).

Sex: The male-to-female rate ratio was 1.75:1.0. The number of cases in males exceeded those of females in all ethnic groups.

Race/Ethnicity: The highest incidence rate was seen in blacks (1.3 per 100,000) followed by whites (0.7 per 100,000), Asians (0.5 per 100,000), and Hispanics (0.3 per 100,000), respectively (Figure 3).

Location: Incidence rates by SPA ranged from 0.2 to 1.1 per 100,000. SPA 4 had the highest incidence rate (1.1 per 100,000) followed by SPA 6 (0.9 per 100,000) and SPA 5 (0.8 per 100,000). However, further stratification of cases by SPA produced small numbers and unstable incidence rates.

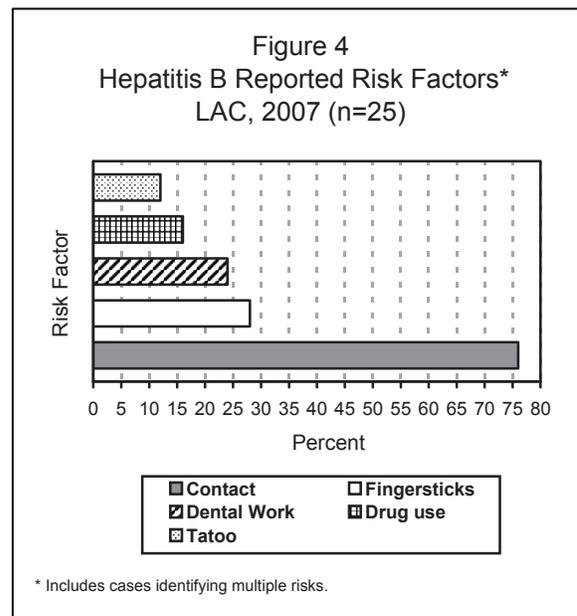
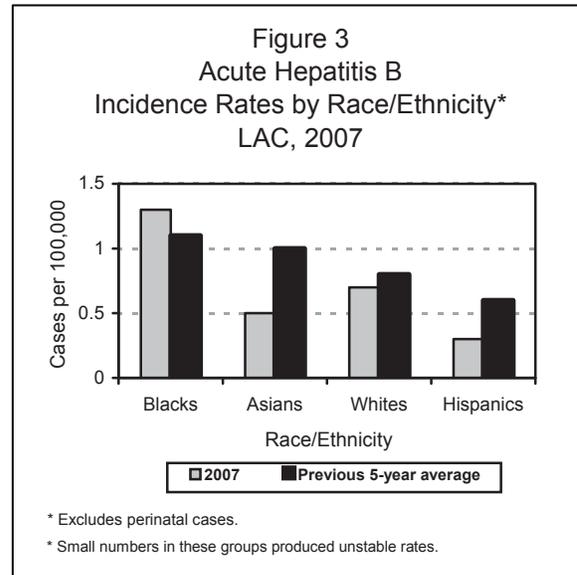
Severity of Illness: There was one reported hepatitis B related death in 2007. Fifty-seven percent of reported cases were hospitalized. The age range of those hospitalized was 22-87 years. The median age was 41 years.

Risk Factors: Risk factors were identified in 45% (n=25) of confirmed cases (including some cases with multiple risk factors). Of those with risk factors, contact with a person with a confirmed or suspected acute or chronic Hepatitis B infection (n=19, 76%) was the most common risk factor reported, followed by receiving fingersticks (n=7, 28%), recent dental work (n=6, 24%), drug use (n=4, 16%), and tattoo (n=3, 12%) (Figure 4).

COMMENTS

In LAC, there were 315 suspect cases in 2007 that were initially reported to have acute hepatitis B in comparison to the 403 suspects reported for 2006. In both years, the percentage of cases that met the CDC/CSTE criteria for confirmation ranged from 15-17%. Most cases that are not confirmed as meeting the CDC/CSTE criteria are missing documentation of clear evidence of liver involvement (e.g., the liver enzyme levels are normal or missing).

In 2007, all acute hepatitis B cases were aged 15 years or older. The incidence rate was highest in the 35-44 age group (1.4 per 100,000). In comparison to other age groups, the incidence rate increased in those over 65 years of age (0.9 per 100,000). Risk factors were identified in six (67%) out of the nine confirmed cases over 65 years of age (including some cases with multiple risk factors). Of those over 65 years of age with identified risk factors, 100% reported receiving fingersticks in the 6 months prior to the





onset of symptoms. In 2008, Los Angeles County Department of Public Health (LAC DPH) will use an enhanced questionnaire for investigation of persons aged ≥ 50 yrs confirmed with acute hepatitis B to gather additional risk factor data for these cases including possible health care exposures.

PREVENTION

The absence of acute hepatitis B in children under age 19 is evidence of the successful immunization strategy to eliminate HBV transmission in LAC. This strategy includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years. In addition, in LAC, hepatitis B vaccine is provided to high-risk groups at the Public Health Clinics at no charge.

New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization, particularly for adults with the highest rates of transmission. Development and implementation of such strategies is possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, promoting hepatitis health education aims at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults and increasing awareness and knowledge in the community.

ADDITIONAL RESOURCES

Centers for Disease Control and Prevention. Viral Hepatitis B - <http://www.cdc.gov/hepatitis/>

Hepatitis B Vaccine Information Infants, Children, and Adolescents - <http://www.cdc.gov/hepatitis/HBV/VaccChildren.htm>

Hepatitis B Vaccine Information Adults - <http://www.cdc.gov/hepatitis/HBV/VaccAdults.htm>

Publications:

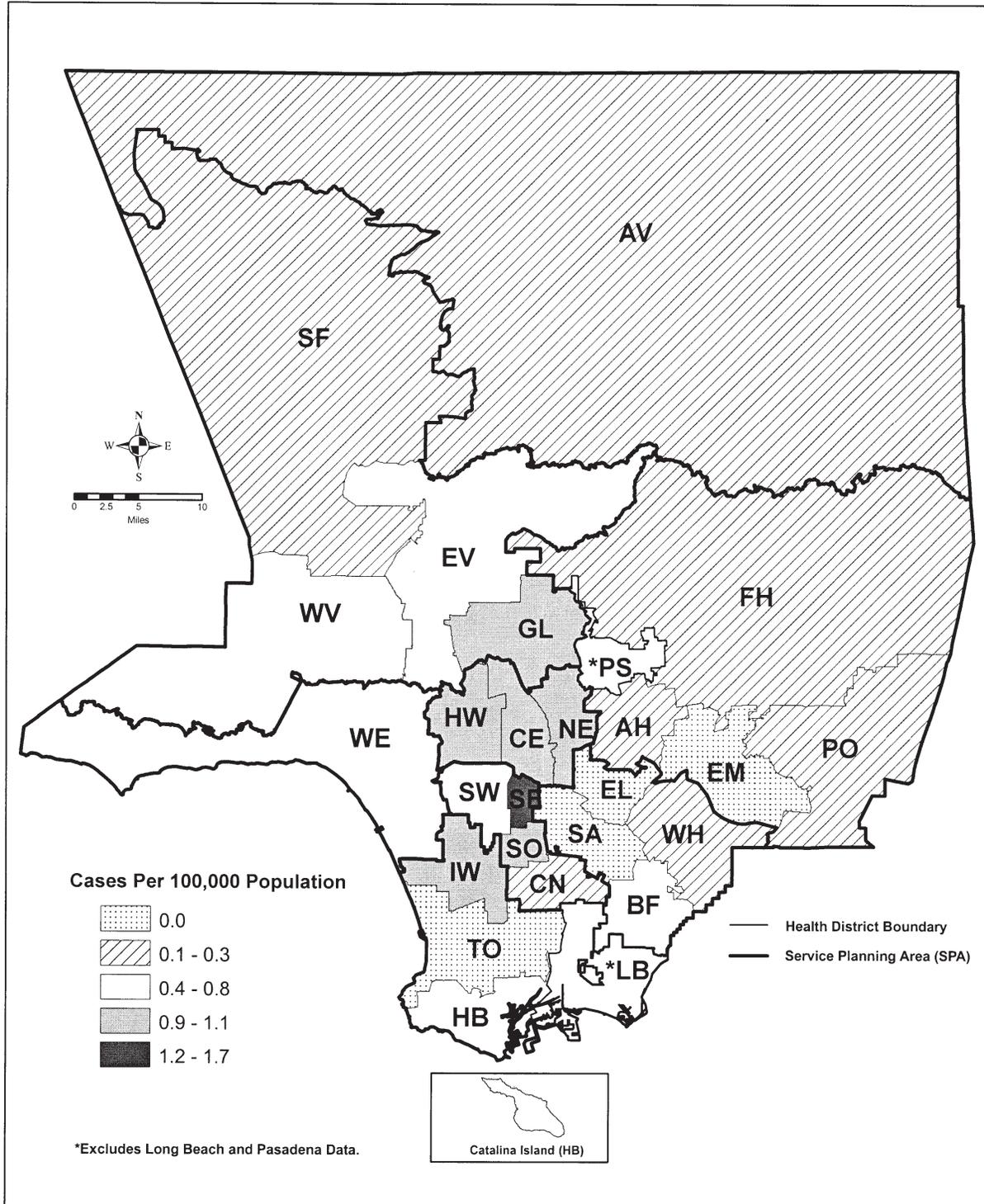
Centers for Disease Control and Prevention (2003). Transmission of hepatitis B and C viruses in outpatient settings--New York, Oklahoma, and Nebraska, 2000-2002. *Morbidity and Mortality Weekly Report*, 52(38), 901-906. Retrieved October 31, 2008, from the CDC Web site: www.cdc.gov/mmwr/PDF/wk/mm5238.pdf

Centers for Disease Control and Prevention (2005). Transmission of hepatitis B virus among persons undergoing blood glucose monitoring in long-term care facilities--Mississippi, North Carolina, and Los Angeles County, California, 2003-2004. *Morbidity and Mortality Weekly Report*, 54(9), 220-223. Retrieved October 31, 2008, from the CDC Web site: www.cdc.gov/mmwr/preview/mmwrhtml/mm5409a2.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 31, 2008, from the CDC Web site: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5702a1.htm>



Map 8. Hepatitis B Rates by Health District, Los Angeles County, 2007*

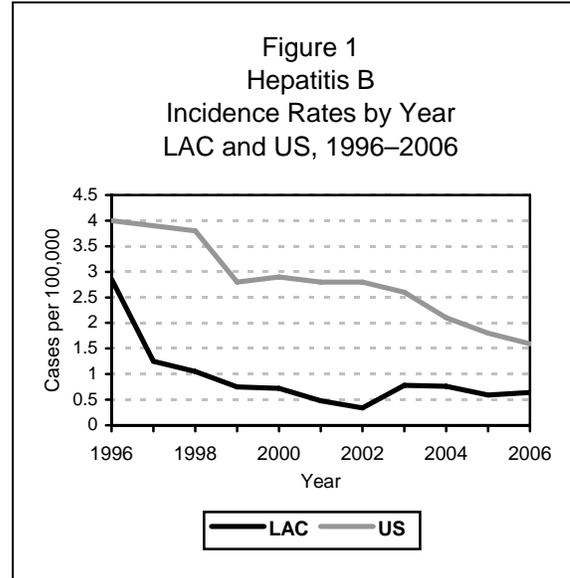


HEPATITIS B, ACUTE (NONPERINATAL)

CRUDE DATA	
Number of Cases	62
Annual Incidence ^a	
Los Angeles	0.64
California	1.18 ^b
United States	1.59 ^b
Age at Diagnosis	
Mean	41
Median	41
Range	15-84 years

^a Cases per 100,000 population.

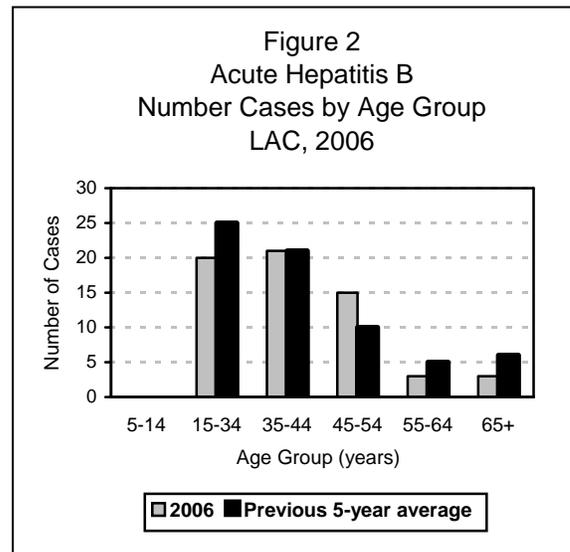
^b Calculated from 2007 Summary of notifiable diseases issue of MMWR (56:853-863).



DESCRIPTION

Hepatitis B is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure (via sex or drugs) to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2–10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection. Overall, hepatitis B is more prevalent and infectious than HIV.

For the purpose of surveillance, ACDC uses the CDC/CSTE criteria for acute hepatitis B. The criteria include: 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done).



DISEASE ABSTRACT

- The incidence rate for acute hepatitis B slightly increased from the previous year (Figure 1); there were 62 cases confirmed for 2006 versus 57 cases in 2005.
- The greatest numbers of confirmed acute cases were in persons aged 15-44 years and the majority of cases were males.
- Multiple sex partners, predominately in MSM, remain the most frequently identified risk factor.
- No outbreaks were reported in 2005.

STRATIFIED DATA

Seasonality: None.

Age: Cases ranged in age from 15 to 84 years (the median age was 41) with 66% occurring in those aged under 45 years (Figure 2).

Sex: The male-to-female rate ratio was 3.8:1. The number of cases in males exceeded those in females in all ethnic groups.

Race/Ethnicity: The highest number of cases was seen in Latinos (n=26) which is consistent with the previous five-year average, followed by whites (n=21), Asians (n=10), and blacks (n=4) respectively (Figure 3).

Location: SPA 4 (n=16) had the most cases, followed by SPA 2 (n=15), SPA 3 (n=6), SPA 6 (n=6), SPA 7(n=6), SPA 8 (n=6), SPA 5 (n=3), and SPA 1 (n=2) respectively.

Severity of Illness: Among all acute HBV cases in 2006, there were no fatalities reported.

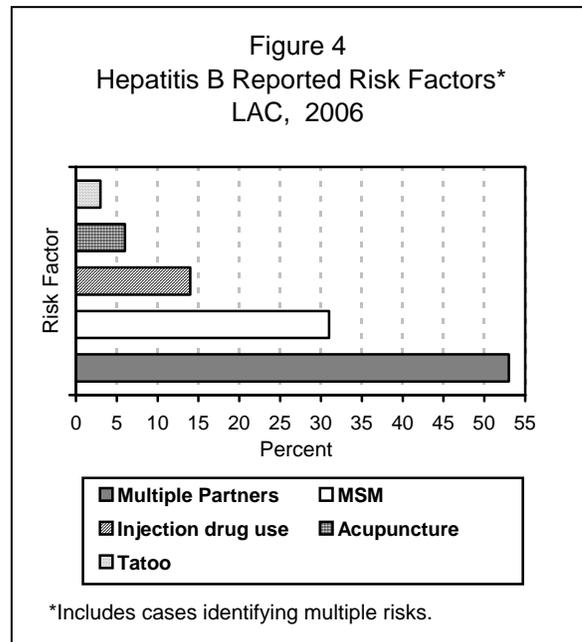
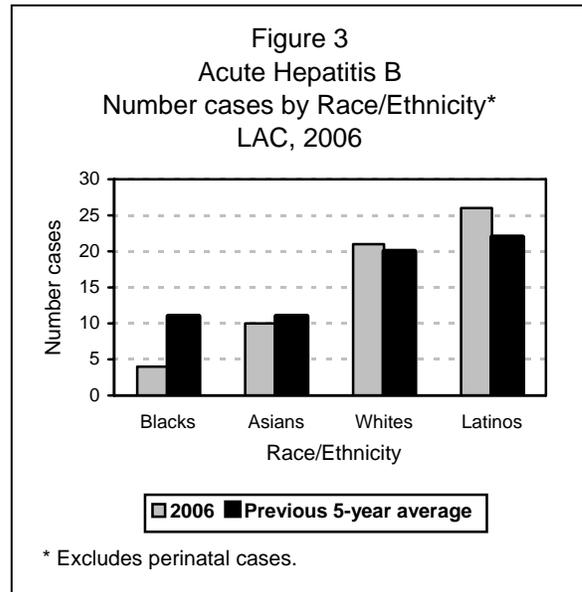
Risk Factors: Risk factors were identified in 58% (N=36) of confirmed cases (including some cases with multiple risk factors). Of those with risk factors, multiple sexual partners (n=19, 53%) was the most common risk factor reported, followed by MSM (n=11, 31%), injection drug use (n=5, 14%), acupuncture (n=2, 6%), and tattoo (n=1, 3%) (Figure 4).

COMMENTS

In LAC, there were 403 cases initially reported to have acute hepatitis B in comparison to the 381 cases reported for 2005. In both years, the percentage of cases that met the CDC/CSTE criteria for confirmation was similar (~15%). Most cases that are not confirmed as meeting the CDC/CSTE criteria are missing documentation of clear evidence of liver involvement (e.g., the liver enzyme levels are normal or missing).

In 2006, all acute hepatitis B cases were aged 15 years or older. Sixty-six percent were in younger adults aged 15-44 years. People with multiple sexual partners and MSM continue to be at risk for hepatitis B; thus, preventive efforts including education and vaccinations should continue to focus on these high-risk populations. In LAC, hepatitis B vaccine is provided to high-risk groups at the Public Health District Health Centers at no charge in an effort to reduce hepatitis B incidence.

Only 58% of the cases had an identified risk factor for acute hepatitis B. LAC DPH will use a new risk factor form in 2007 and it is hoped that better identification of risk factors, to aid in prevention programs, will follow.



PREVENTION

Decreasing rates of acute hepatitis B in children under age 19 is evidence of the successful immunization strategy to eliminate HBV transmission in LAC. The immunization strategy includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years.

New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization particularly for adults with the highest rates of transmission. Development and implementation of such strategies is possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, promoting hepatitis health education aims at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults and increasing awareness and knowledge in the community.

ADDITIONAL RESOURCES

CDC Viral Hepatitis B - www.cdc.gov/ncidod/diseases/hepatitis/slideset/index.htm

CDC Viral Hepatitis Resource Center - www.cdc.gov/ncidod/diseases/hepatitis/resource/index.htm#pubs

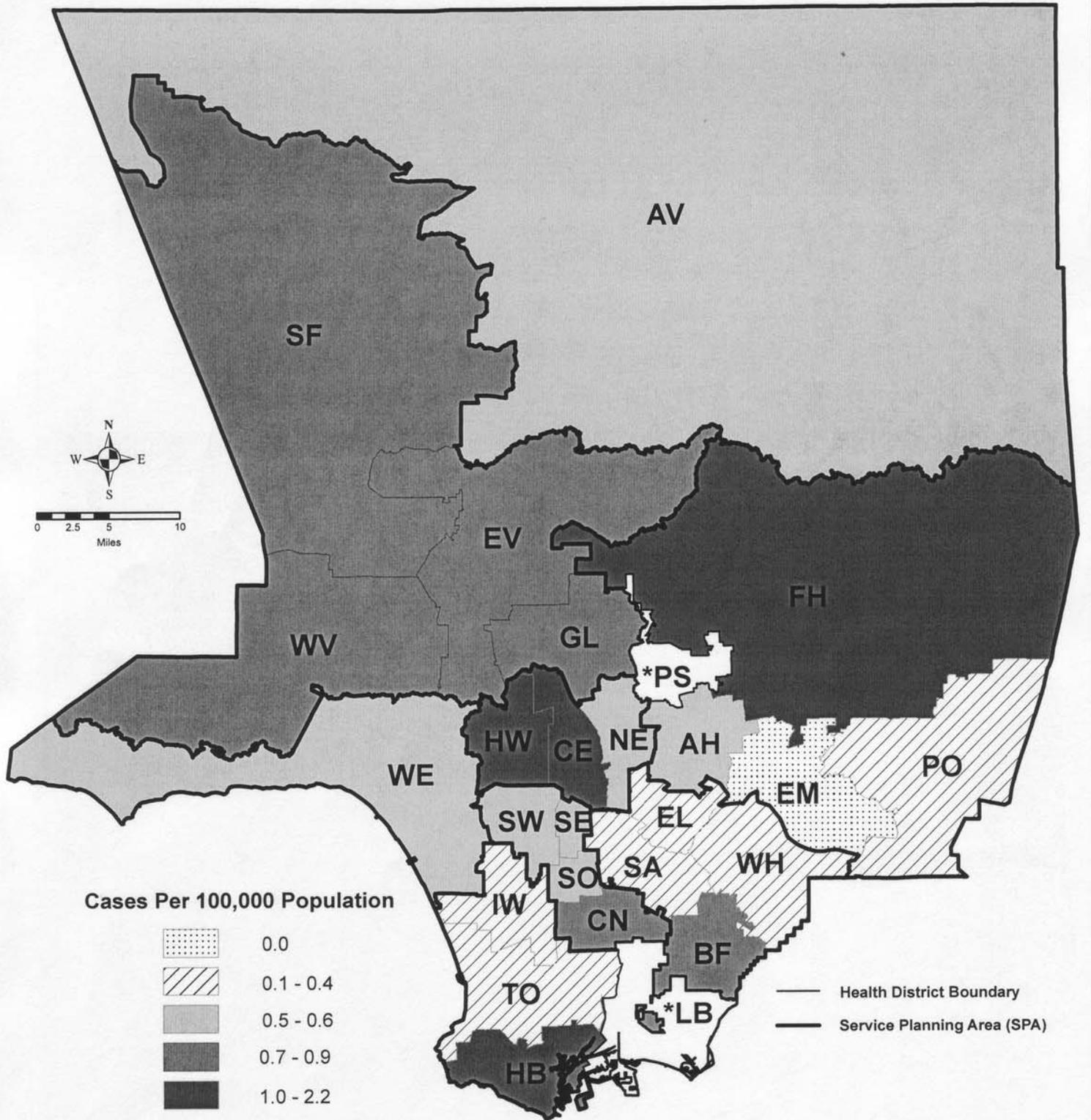
Hepatitis B Vaccine Information - www.cdc.gov/ncidod/diseases/hepatitis/b/factvax.htm

Publications:

Transmission of hepatitis B virus among persons undergoing blood glucose monitoring in long-term care facilities--Mississippi, North Carolina, and Los Angeles County, California, 2003-2004. MMWR 2005; 54(9):220-223. Available at: www.cdc.gov/mmwr/preview/mmwrhtml/mm5409a2.htm

Transmission of hepatitis B and C viruses in outpatient settings--New York, Oklahoma, and Nebraska, 2000-2002. MMWR 2003; 52(38):901-906. Available at: www.cdc.gov/mmwr/PDF/wk/mm5238.pdf

Map 6. Hepatitis B Rates by Health District, Los Angeles County, 2006*



*Excludes Long Beach and Pasadena Data.





HEPATITIS B, ACUTE (NON-PERINATAL)

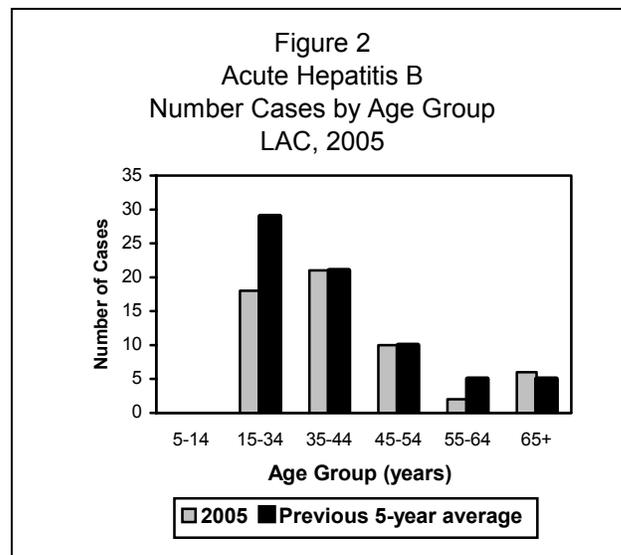
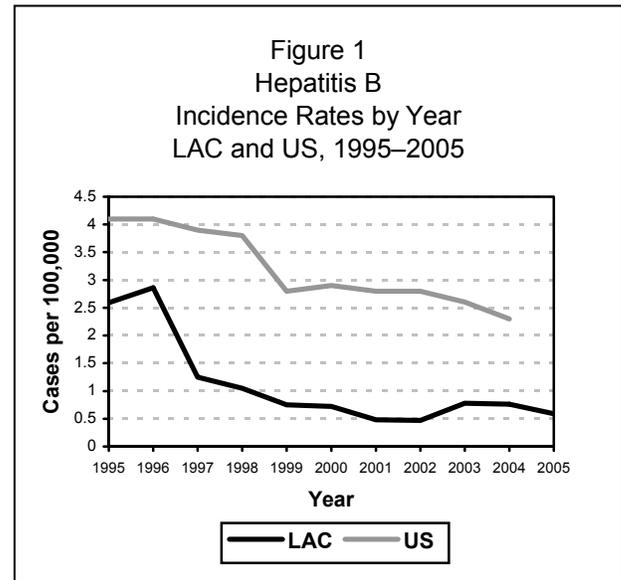
CRUDE DATA	
Number of Cases	57
Annual Incidence ^a	
Los Angeles	0.59
California	N/A
United States	N/A
Age at Diagnosis	
Mean	42
Median	39
Range	18–92 years
Case Fatality	
LA County	0.0%
United States	N/A

^a Cases per 100,000 population.

DESCRIPTION

Overall, hepatitis B is more prevalent and infectious than AIDS. Hepatitis B is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure (via sex or drugs) to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2–10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection.

For the purpose of surveillance, ACDC uses the CDC/CSTE criteria for acute hepatitis B which include: 1) discrete onset of symptoms and 2) jaundice *or* elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, *and* anti-HAV IgM negative, if done).





DISEASE ABSTRACT

- The incidence rate for acute hepatitis B has decreased from the previous year (Figure 1); there were only 57 cases confirmed for 2005 versus 72 cases in 2004.
- All acute cases were among young adults aged 18 years or older and the majority of cases were males.
- Men who have sex with men (MSM) was the most frequently identified risk factor.
- No outbreaks were reported.

STRATIFIED DATA

Seasonality: None.

Age: Cases ranged in age from 18 to 92 years (the median age was 39) with 68% occurring in those aged under 45 years (Figure 2).

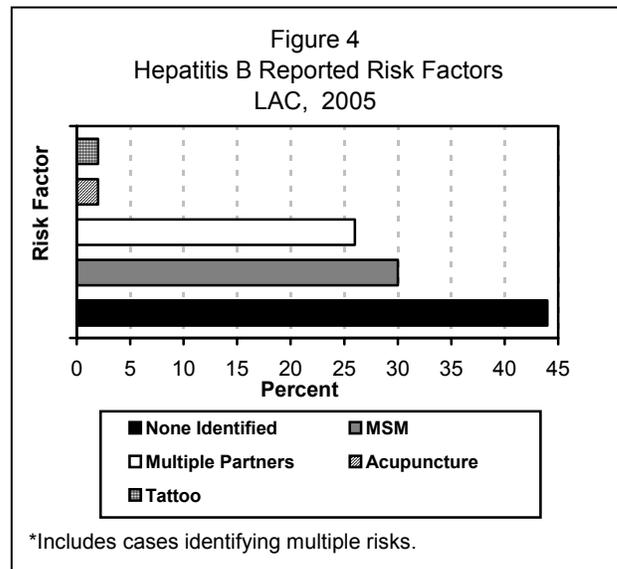
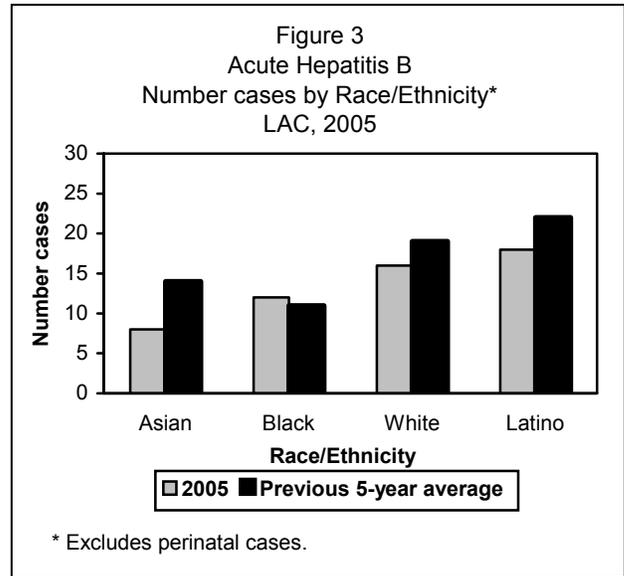
Sex: The male-to-female rate ratio was 3.8:1. The number of cases in males exceeded those in females in all ethnic groups.

Race/Ethnicity: The highest number of cases was seen in Latinos (n=18) followed by Whites (n=16), Blacks (n=12) and Asians (n=12) respectively (Figure 3).

Location: SPA 4 (n=14) had the most cases, followed by SPA 2 (n=10), SPA 7 (n=8), SPA 8 (n=8), SPA 6 (n=7), SPA 5 (n=5), SPA 3 (n=4), and SPA 1 (n=1) respectively.

Severity of Illness: Among all acute HBV cases in 2005, there was one fatality (case fatality rate=2%).

Risk Factors: Risk factors were reported for 56% of the cases (including some cases with multiple risk factors). MSM (n=17, 30%) was the most common risk factor reported in 2005, followed by having multiple sexual partners (n=15, 26%) acupuncture (n=1, 2%), and tattoo (n=1, 2%) (Figure 4).



COMMENTS

In LAC, there were 381 cases initially reported to have acute hepatitis B in comparison to the 291 cases reported for 2004. Even though there was a 31% increase in the number of cases reported, there was a 21% decrease in the number of cases confirmed because, upon further investigation, cases meeting the CDC/CSTE criteria for acute hepatitis B has decreased from 2004 to 2005 with 72 (25%) and 57 (15%) cases confirmed respectively, paralleling a decrease of cases in from 2003 to 2004. In 2004, ACDC thought a possible reason for decrease was due to the new use of the CDC/CSTE criteria for determining if a reported case of acute hepatitis B actually met the surveillance case definition. Now, ACDC has been implementing the CDC/CSTE criteria for two years, the data indicate that the incidence rate for acute hepatitis B has truly decreased from the previous year and that the decrease in acute hepatitis B may be due to a true decrease in disease incidence, perhaps due to increased vaccination.



In 2005, all acute hepatitis B cases were aged 18 years or older. Sixty-eight percent were in younger adults aged 18-44 years. People with multiple sexual partners and MSM continue to be at risk for hepatitis B; thus, preventive efforts including education and vaccinations should continue to focus on these high-risk populations. In LAC, we provide hepatitis B vaccine to special high-risk group at the STD clinics to in an effort to reduce hepatitis B incidence.

PREVENTION

Decreasing rates of acute hepatitis B in children under age 19 is evidence of the successful immunization strategy to eliminate HBV transmission in LAC. The immunization strategy includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years.

New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization particularly for adults with the highest rates of transmission. Development and implementation of such strategies is possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, promoting hepatitis health education aims at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults and increasing awareness and knowledge in the community.

ADDITIONAL RESOURCES

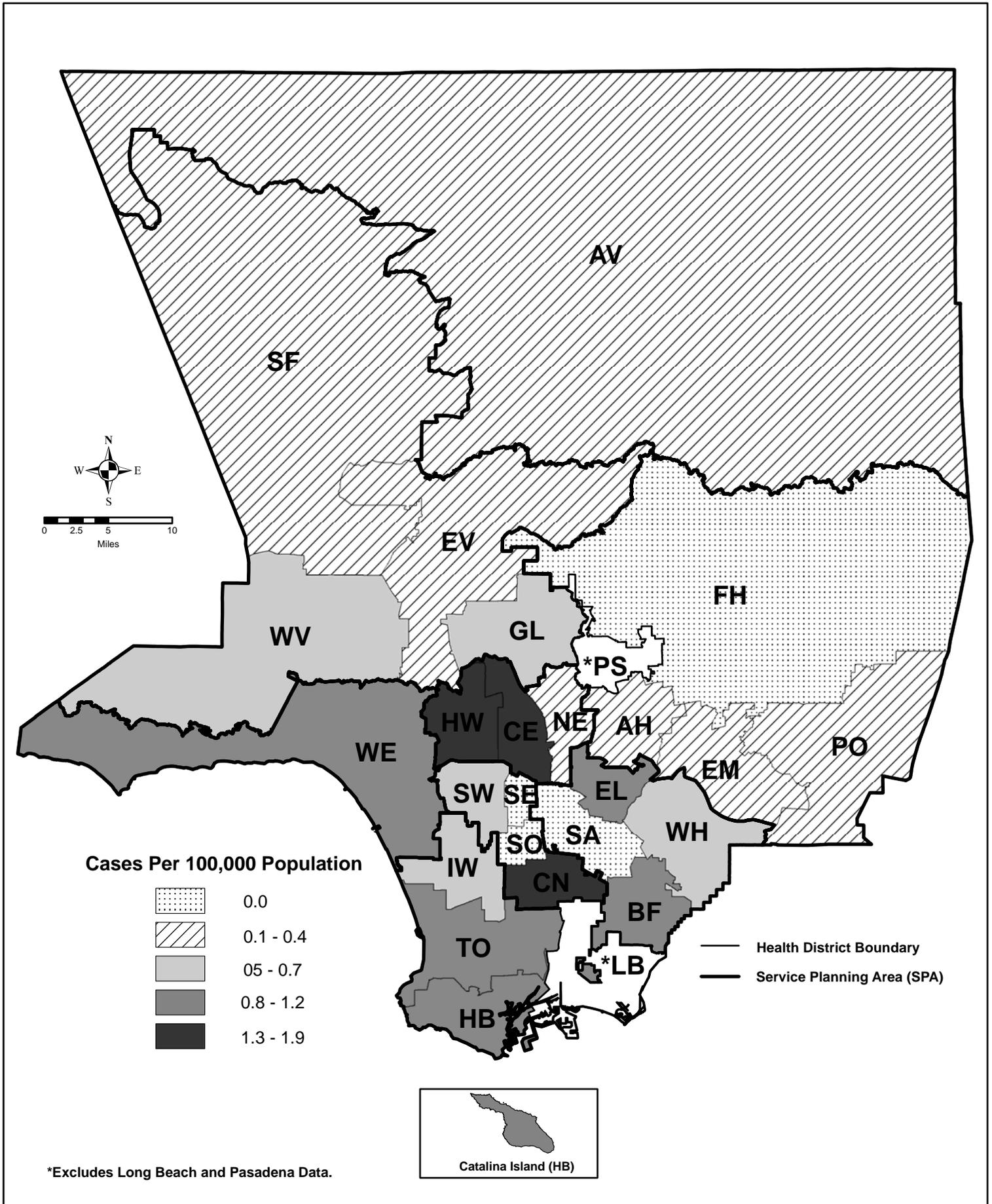
Epidemiology and Prevention of Viral Hepatitis slide set available at:
www.cdc.gov/ncidod/diseases/hepatitis/slideset/hep_b/slide1.htm

CDC Publications regarding viral hepatitis at: www.cdc.gov/ncidod/diseases/hepatitis/resource/pubs.htm

General information available at: www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm and www.hepb.org

Immunization information available at: www.immunize.org

Map 8. Hepatitis B Rates by Health District, Los Angeles County, 2005*

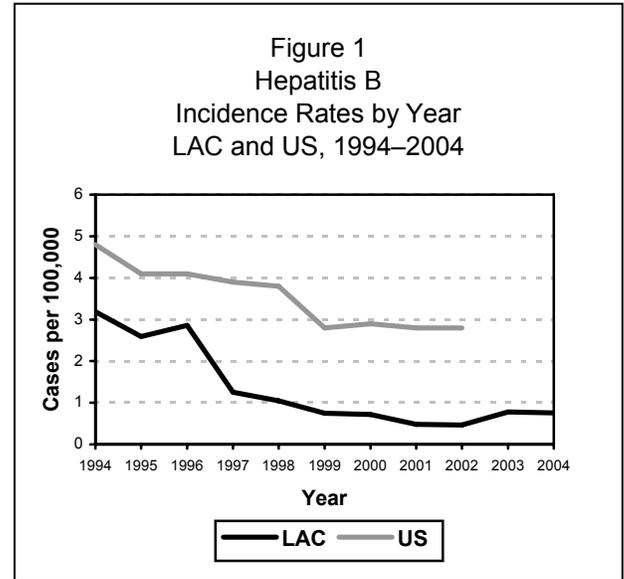




HEPATITIS B, ACUTE (NON-PERINATAL)

CRUDE DATA	
Number of Cases	72
Annual Incidence ^a	
Los Angeles	0.76
California	N/A
United States	N/A
Age at Diagnosis	
Mean	41
Median	38
Range	16–87years
Case Fatality	
LA County	0.0%
United States	N/A

^a Cases per 100,000 population.

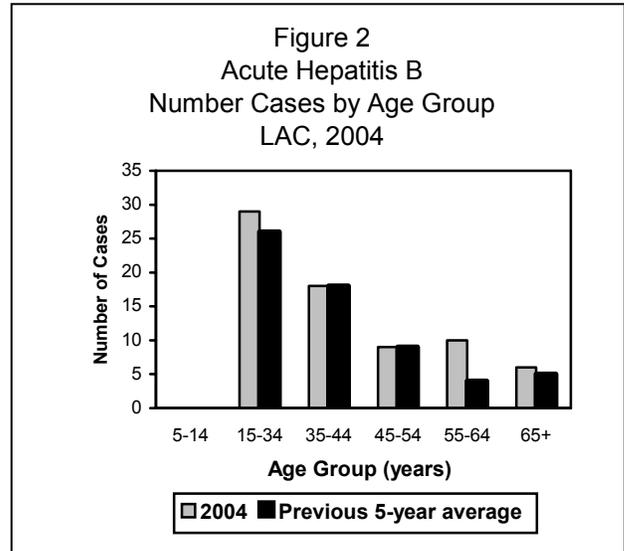


DESCRIPTION

Hepatitis B is more prevalent and infectious than AIDS. Hepatitis B is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure (via sex or drugs) to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2–10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection.

For the purpose of surveillance, LAC uses the CDC/CSTE criteria for acute hepatitis B which include:

- 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done).





DISEASE ABSTRACT

- In 2004, the number of cases of acute hepatitis B remained nearly the same as 2003 (Figure 1).
- All acute cases were among young adults aged 16 years or older and the majority of cases were males.
- Multiple sexual partners remained the most frequently identified risk factor.
- One outbreak was investigated in 2004.

STRATIFIED DATA

Seasonality: None.

Age: Cases ranged in age from 16 to 87 years (the median age was 38) with 68% occurring in those aged under 45 years (Figure 2).

Sex: The male-to-female rate ratio was 2.8:1. The number of cases in males exceeded those in females in all ethnic groups.

Race/Ethnicity: The highest number of cases was seen in Whites (n=24) followed by Latinos (n=23), Asians (n=12) and Blacks (n=12) respectively (Figure 3).

Location: SPA 2 (n=19) had the most cases, followed by SPA 4 (n=14), SPA 3 (n=11), SPA 7 (n=8), SPA 8 (n=8), SPA 5 (n=7), SPA 6 (n=5).

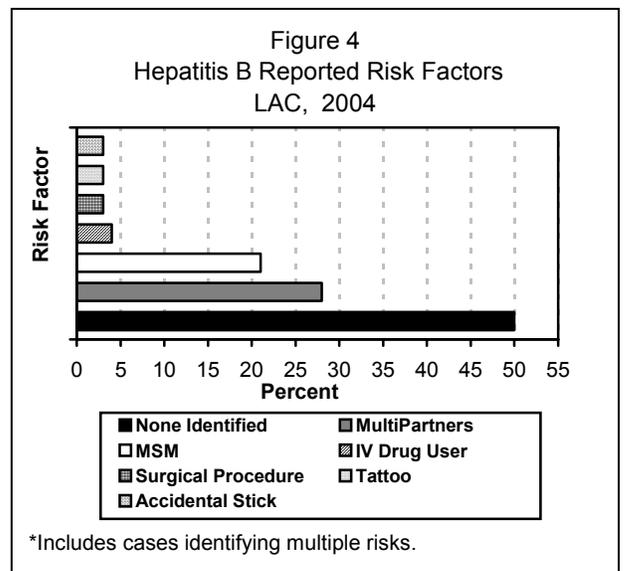
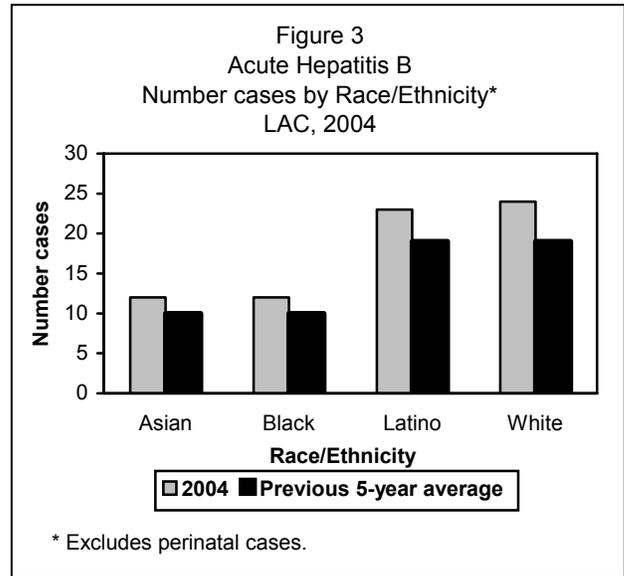
Severity of Illness: Among all acute HBV cases in 2004, there were no fatalities reported.

Risk Factors: Risk factors were reported for 50% of the cases (including some cases with multiple risk factors). Having multiple sexual partners (n=20, 28%) was the most common risk factor reported in 2004, followed by MSM (n=15, 21%), and IV drug user (n=3, 4%) (Figure 4).

PREVENTION

Decreasing rates of acute hepatitis B in children under age 19 is evidence of the successful immunization strategy to eliminate HBV transmission in LAC. The immunization strategy includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years.

New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization particularly for adults with the highest rates of transmission. Development and implementation of such strategies is possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, promoting hepatitis health education aims at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults and increasing awareness and knowledge in the community.





COMMENTS

In 2004, the number of cases of acute hepatitis B remained nearly the same as 2003. All acute hepatitis cases were aged 16 years or older. Sixty-five percent were in younger adults aged 16-44 years. No risk factor was identified in 50% of cases. This may indicate hesitancy of the interviewee to reveal information considered sensitive. Changes in interviewing techniques to obtain this information may be useful. ACDC is in the process of revising our hepatitis epidemiology form. This revised form will serve as a new tool for our district public health nurses to conduct interviews; it is hoped that the information collected will improve the identification of risk groups that can be targeted for the prevention of hepatitis B as well as improving general surveillance for the disease.

In January 2004, ACDC investigated an outbreak in a retirement center. Eight residents were determined to have acute hepatitis B. Four of them had the signs and symptoms of acute hepatitis B, but their dates of onset were in 2003, so they were not counted as cases for the year 2004. The other four cases tested positive for hepatitis B IgM+ but they did not show any signs and symptoms and did not meet the CDC/CSTE surveillance criteria for acute hepatitis B. Therefore, they were unable to be counted as acute cases in year 2004 but they were counted as part of the outbreak investigation. The results of our investigation indicated that the spread of infection was most likely due to inappropriate infection control measures while providing fingersticks (to test blood sugar levels) in the facility. Our findings were summarized in the CDC publication Morbidity and Mortality Weekly Report (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5409a2.htm>) and are fully detailed in the Special Reports of 2004. Emphasizing the importance of good handwashing techniques and standard precautions can prevent nosocomial infection.

Ongoing observations in data collection and analysis will provide a more accurate description of this infection in the future. People with multiple sexual partners and MSM continue to be at risk for hepatitis B; thus, preventive efforts including education and vaccinations should continue to focus on these high-risk populations. In LAC, we provide hepatitis B vaccine to special high-risk group at the STD clinics to in an effort to reduce hepatitis B incidence.

ADDITIONAL RESOURCES

Epidemiology and Prevention of Viral Hepatitis slide set available at:
www.cdc.gov/ncidod/diseases/hepatitis/slideset/hep_b/slide1.htm

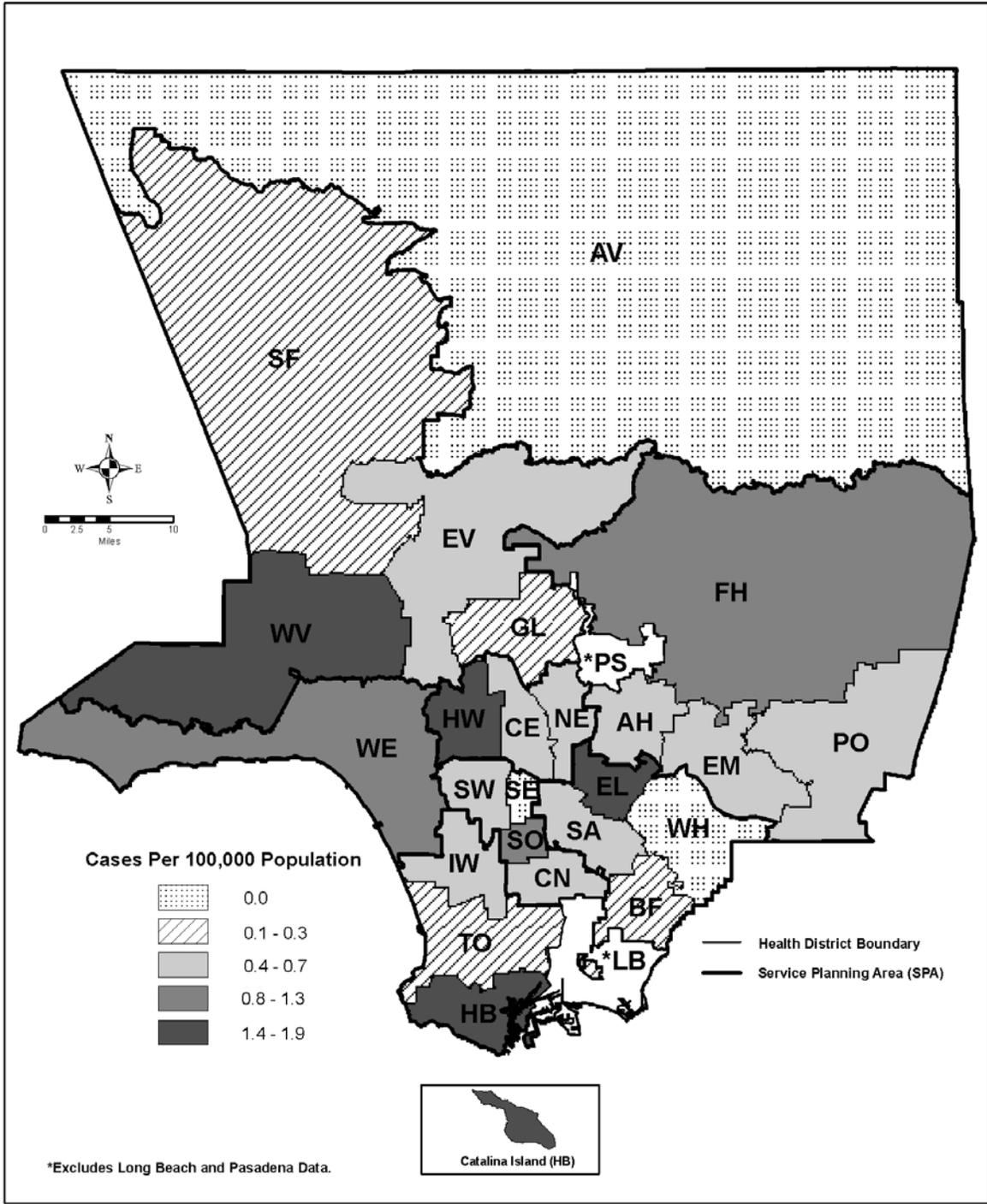
CDC Publications regarding viral hepatitis at: www.cdc.gov/ncidod/diseases/hepatitis/resource/pubs.htm

General information available at: www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm and www.hepb.org

Immunization information available at: www.immunize.org



Map 8. Hepatitis B Rates by Health District, Los Angeles County, 2004*

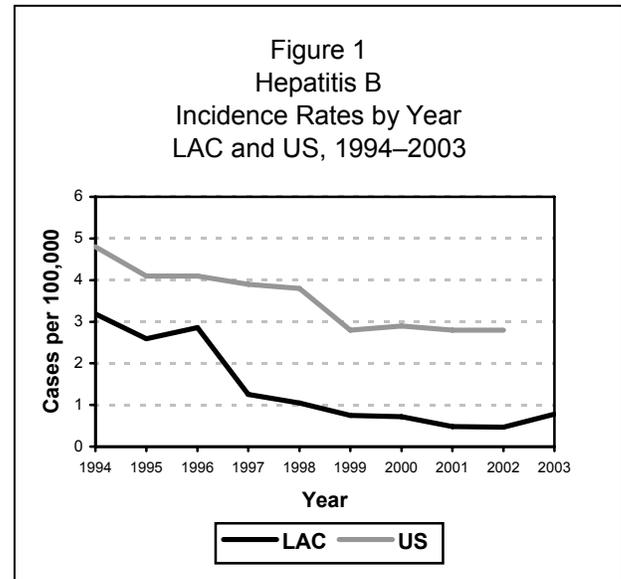




HEPATITIS B, ACUTE (NON-PERINATAL)

CRUDE DATA	
Number of Cases	73
Annual Incidence ^a	
Los Angeles	0.78
California	N/A
United States	N/A
Age at Diagnosis	
Mean	42
Median	41
Range	19-81years
Case Fatality	
LA County	0.0%
United States	N/A

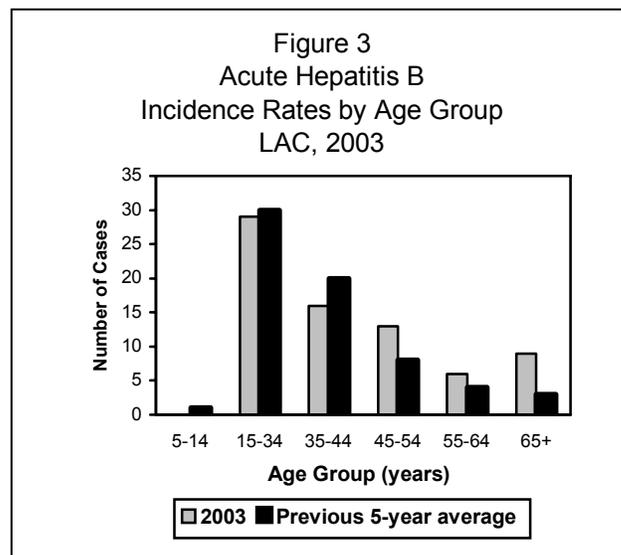
^a Cases per 100,000 population.



DESCRIPTION

Hepatitis B is more prevalent and infectious than AIDS. Hepatitis B is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2–10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection.

For the purpose of surveillance, LAC uses the CDC/CSTE criteria for acute hepatitis B which include: 1) discrete onset of symptoms and 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done).





DISEASE ABSTRACT

- The number of acute hepatitis B cases in LAC in 2003 was 73 in comparison to the 32 acute cases for 2002 (Figure 1). The most significant increase was in persons aged >45 years.
- All acute cases were among adults aged 19 years or older and the majority of cases were young, adult males.
- Multiple partners, predominately in MSM (men who have sex with men), remains the most frequently identified risk (Figure 1).

STRATIFIED DATA

Seasonality: None.

Age: Cases ranged in age from 19 to 81 years (the median age was 41) with 62% occurring in those aged under 45 years (Figure 3).

Sex: The male-to-female rate ratio was 1.2:1. The number of cases in males exceeded those in females in all ethnic groups.

Race/Ethnicity: The highest number of cases were seen in Whites followed by Latinos, Asians and Blacks respectively (Figure 4).

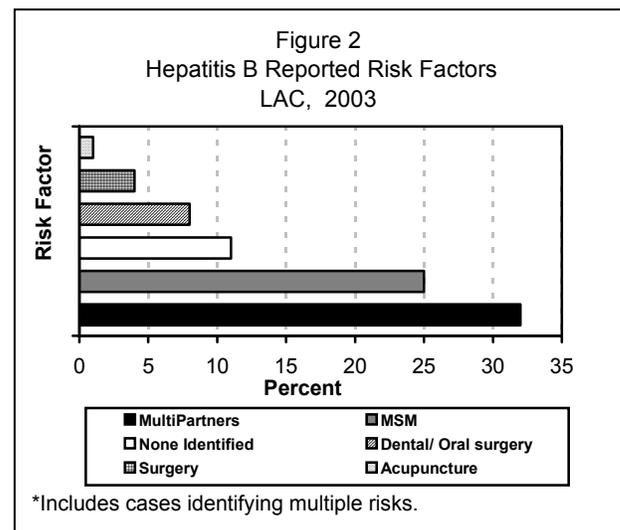
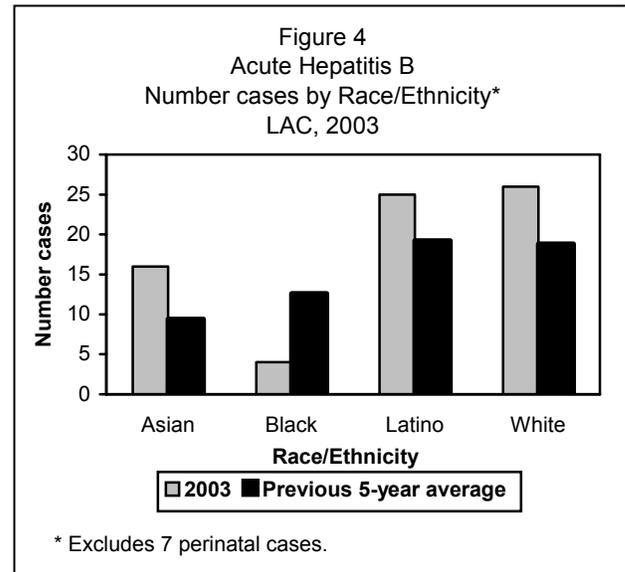
Location: SPA 2 (n=18) and SPA 4 (n=18) had the most cases, respectively, followed by SPA 8 (n=11), SPA 3 (n=9), SPA 7 (n=8), SPA 6 (n=2), SPA 1 (n=2), and SPA 5 (n=1).

Severity of Illness: Among all acute HBV cases in 2003, there were no fatalities reported.

Risk Factors: Risk factors were reported for 75% of the cases (including some cases with multiple risk factors). Having multiple sexual partners (23 cases, 32%) was the most common risk factor reported in 2003, followed by MSM (18 cases, 25%), and recent dental or oral surgical procedures (6 cases, 8%) (Figure 2).

PREVENTION

Decreasing rates of acute hepatitis B in children under age 19 is evidence of succeeding immunization strategy to eliminate HBV transmission in LAC. The immunization strategy includes: preventing perinatal HBV transmission by screening all pregnant women for HBsAg and providing immunoprophylaxis to infants of HBV-infected women, routine immunization of all infants, and catch-up vaccination of all previously unvaccinated children aged < 19 years.





New strategies are needed to reduce high-risk behaviors and provide resources for low-cost hepatitis B immunization for all, particularly for adults with the highest rates of transmission. Development and implementation of such strategies is possible through collaboration between public health, community-based organizations, and other agencies that serve target populations. Additionally, promoting hepatitis health education aims at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults and increasing awareness and knowledge in the community.

COMMENTS

Notably, there was one nosocomial hepatitis B outbreak in 2003; three cases of acute hepatitis B patients 72, 74, and 75 years old were diagnosed in December, 2003. They were all residents of a single retirement home. Subsequent investigation by ACDC in 2004 revealed a total of 8 people with newly diagnosed exposure to hepatitis B. All patients were diabetic and the most likely cause of this outbreak was contaminated, shared diabetic equipment.

The number of acute hepatitis B cases in LAC in 2003 was 73 compared to 32 acute cases in 2002. Most of the cases occurred in young, sexually active males. It remains to be explained why there was a doubling of hepatitis B cases in 2003. All cases of acute hepatitis B are investigated and educated by public health nurses. Based on crude frequencies of reported risk factors by both men and women, MSM and people with multiple sexual partners continue to be at greatest risk for hepatitis B; thus, preventive efforts including education and vaccination should continue to focus on these high risk populations.

Surveillance for hepatitis B is passive and dependent solely upon reports from providers and laboratories. Ongoing improvements in reporting, data collection, and analysis should provide a more accurate description of this infection in the future.

ADDITIONAL RESOURCES

Epidemiology and Prevention of Viral Hepatitis slide set available at:
www.cdc.gov/ncidod/diseases/hepatitis/slideset/hep_b/slide1.htm

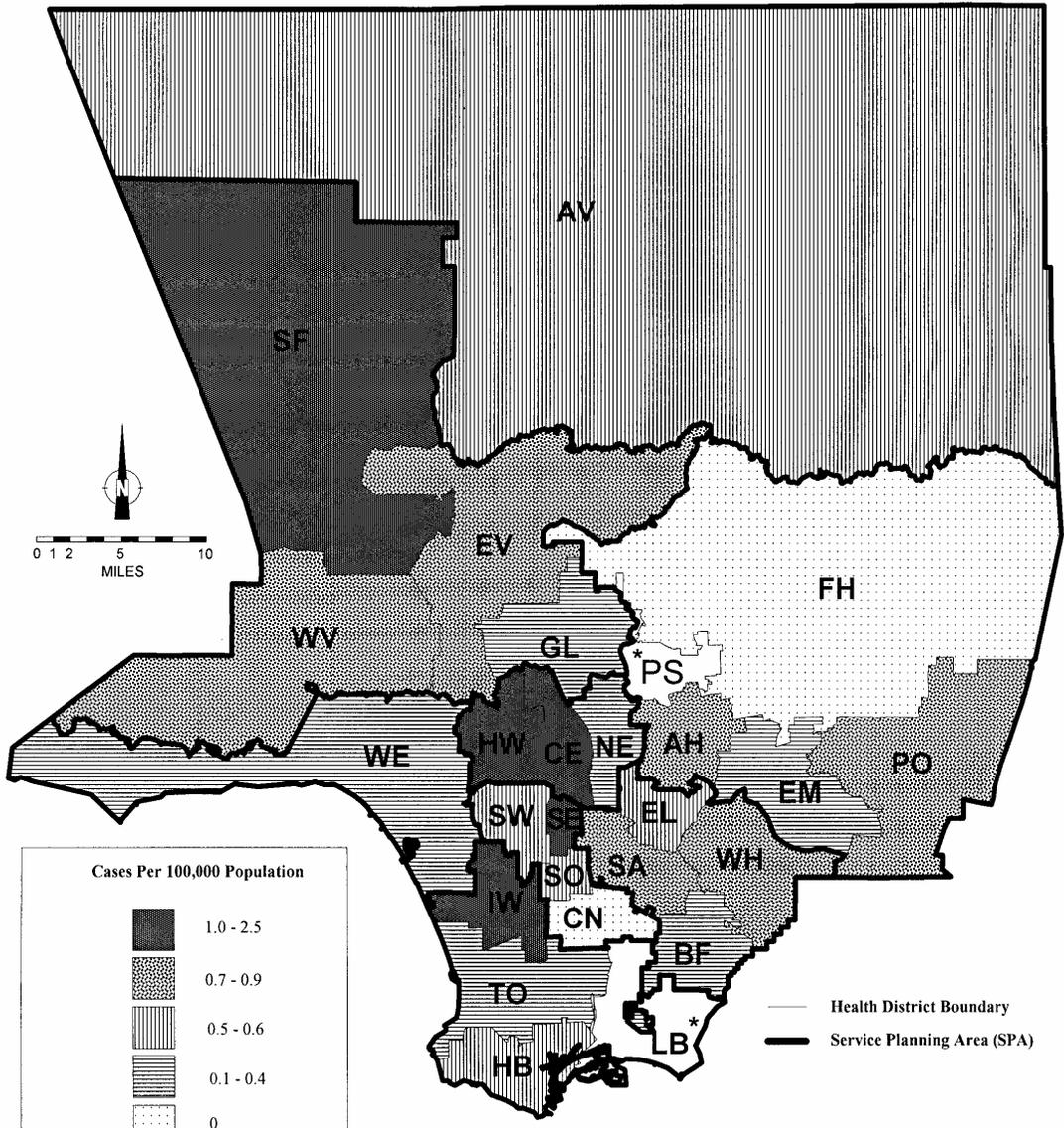
CDC Publications regarding viral hepatitis at: www.cdc.gov/ncidod/diseases/hepatitis/resource/pubs.htm

General information available at: www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm and www.hepb.org

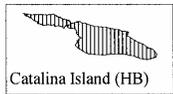
Immunization information available at: www.immunize.org



MAP 7. Hepatitis B Rates by Health District, Los Angeles County, 2003*



*Excludes Long Beach and Pasadena Data.





HEPATITIS B, ACUTE (NON-PERINATAL)

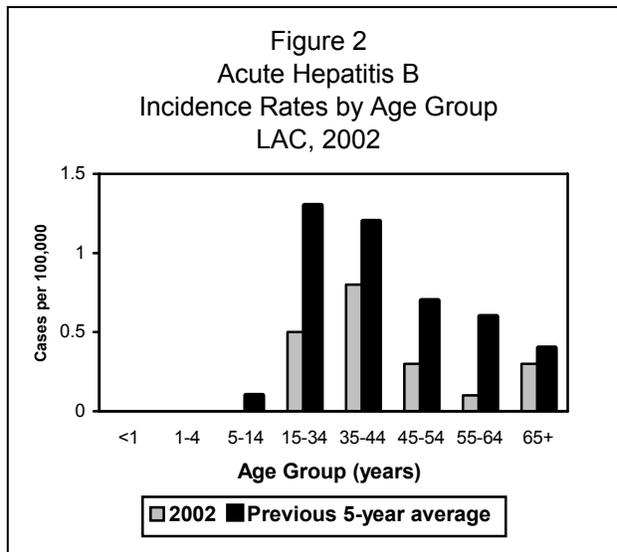
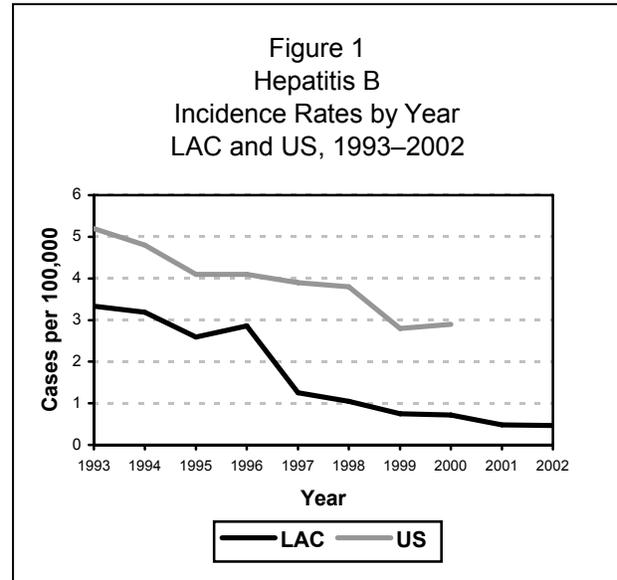
CRUDE DATA	
Number of Cases	32
Annual Incidence ^a	
LA County	0.5
United States	N/A
Age at Diagnosis	
Mean	40
Median	36
Range	19–92 years
Case Fatality	
LA County	0.0%
United States	N/A

^a Cases per 100,000 population.

DESCRIPTION

Hepatitis B is more prevalent and infectious than AIDS. Hepatitis B is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV), a DNA-virus of the Hepadnaviridae family. It is also spread from mother to child at birth or soon after birth. The CDC/CSTE criteria necessary for diagnosis of acute hepatitis B include: 1) discrete onset of symptoms, with 2) jaundice or elevated aminotransferase levels, and 3) appropriate laboratory tests to confirm acute hepatitis B diagnosis (i.e., HBsAg positive or anti-HBc IgM positive, if done, and anti-HAV IgM negative, if done). Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever.

The number of reported acute hepatitis B cases in the US has declined from an average of 24,000 per year in the 1980's to about 7,844 in 2001. Approximately 2–10% of adults infected with HBV are unable to clear the virus within six months and become chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15–25% of those with chronic infection.





DISEASE ABSTRACT

- For a full discussion of all reported acute hepatitis B cases occurring in LAC, see the following report describing perinatal hepatitis B.
- A 27% decrease in number of cases occurred in 2002 from the previous year.
- All acute cases were among adults aged 19 years or older and the majority of cases were young, adult males.
- Cases have been decreasing among all age groups since 2001.
- Multiple partners, predominately in MSM (men who have sex with men) remain the most frequently identified risk (Figure 5). Nearly 25% of all acute cases denied all risk factors.
- There were 7,953 chronic hepatitis B cases reported in LAC in 2002. The majority of cases (75%) cases were among men.

STRATIFIED DATA

Seasonality: None.

Age: Cases range in age from 19 to 92 years, median age 36 years. A decrease has been seen in the number of cases across all age groups (Figure 2).

Sex: The male-to-female rate ratio was 3:1. The number of cases in males exceeded those in females in all ethnic groups.

Race/Ethnicity: The highest rates occurred among Blacks (0.6 per 100,000) followed by Latinos (0.4 per 100,000), Asians (0.3 per 100,000) and Whites (0.2 per 100,000), respectively (Figure 3).

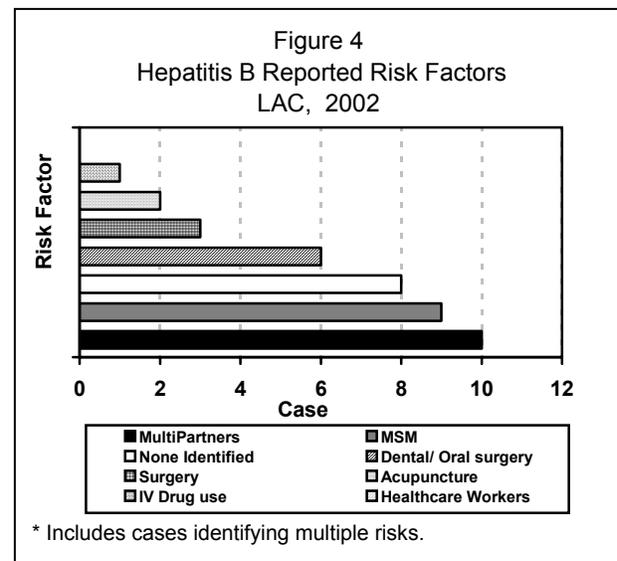
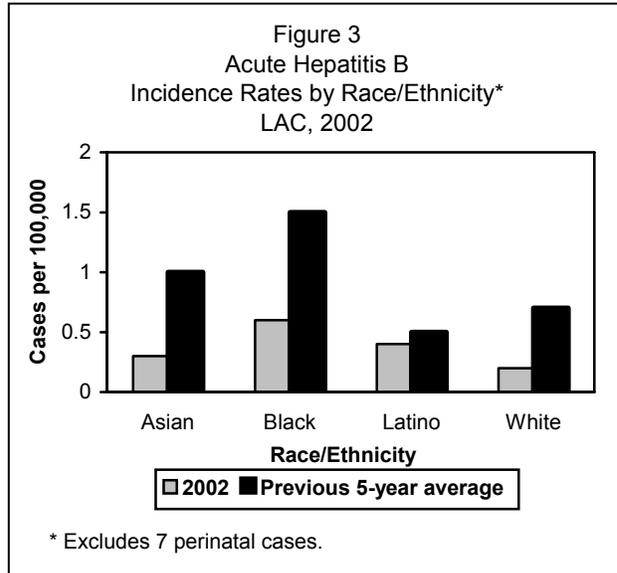
Location: SPA 4 (n=8) and SPA 7 (n=6) had the most cases, respectively, followed by SPA 2 (n=5), SPA 5 (n=4), SPA 8 (n=4), SPA 6 (n=2), SPA 3 (n=2), and SPA 1 (n=1).

Severity of Illness: Among all acute hepatitis B cases in 2002, there was one nosocomial fatality (case fatality rate=0.3%). Most cases (62%) reported jaundice and elevated liver enzymes.

Risk Factors: Risk factors were reported for 75% of the cases (including some cases with multiple risk factors). Having multiple sexual partners (n=10, 30%) was the most common risk factor, followed by MSM (28%), and recent dental or surgical procedures (18%, Figure 4).

PREVENTION

Since 1992, rates of acute hepatitis B have been decreasing among those under age 15. This suggests that the strategy of prophylaxis of newborns of chronic carrier mothers and universal hepatitis B immunization of all infants is succeeding.





The current approach of vaccination for adolescents and others at high risk, as well as education aimed at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults, should continue. Ongoing improvements in data collection and analysis will provide a more accurate description of this infection in the future.

COMMENTS

Excluding perinatal cases, in 2002, there were 32 cases designated as acute hepatitis B following investigation. All were aged 19 years or older. Based on crude frequencies of reported risk factors by both men and women, MSM and people with multiple sexual partners continue to be at greatest risk for hepatitis B; thus, preventive efforts should continue to focus on these high risk populations.

The decrease in the number of non-perinatal acute hepatitis B cases in 2002 is likely attributable to the changes in the criteria for investigation and classification rather than a true reduction in infection. Surveillance for hepatitis B is passive and dependent solely upon reports from providers and laboratories. Additional information is obtained through patient interview and further investigation. Only when a case report meets both the clinical case definition and is laboratory confirmed can it then be diagnosed as an acute case. However, the majority of these case reports do not provide supporting clinical or demographic information, thus presenting difficulties for public health follow-up.

Healthcare workers are also at substantial occupational risk of acquiring the hepatitis B virus. Over 12,999 cases of HBV infection occur among healthcare workers each year in the US and 200 die. The risk of acquiring HBV after needle stick exposure to an HBV carrier is estimated to range from 27% to 43%. During 2002, there were no reported cases in LAC among healthcare workers.

In 2002, there was one nosocomial hepatitis B outbreak—a cluster of three nosocomial acute hepatitis B cases was reported at a long-term care facility. All three case-patients were laboratory-confirmed with acute hepatitis B and were insulin-dependent type-2 diabetics, residents in long-term care and admitted to the same unit. One of the cases died during the acute phase of the HBV infection; moreover, the attending geriatrician attributed the death to fulminant liver failure secondary to acute hepatitis B infection. Although poor glove use appears to have contributed to this outbreak, a shared contaminated glucometer was the most likely vehicle for transmission.

There were 7,953 chronic hepatitis B reports in LAC in 2002; chronic cases, unlike acute cases, are not routinely investigated or interviewed, so risk factor information is unavailable.

ADDITIONAL RESOURCES

Epidemiology and Prevention of Viral Hepatitis slide set available at:
www.cdc.gov/ncidod/diseases/hepatitis/slideset/hep_b/slide1.htm

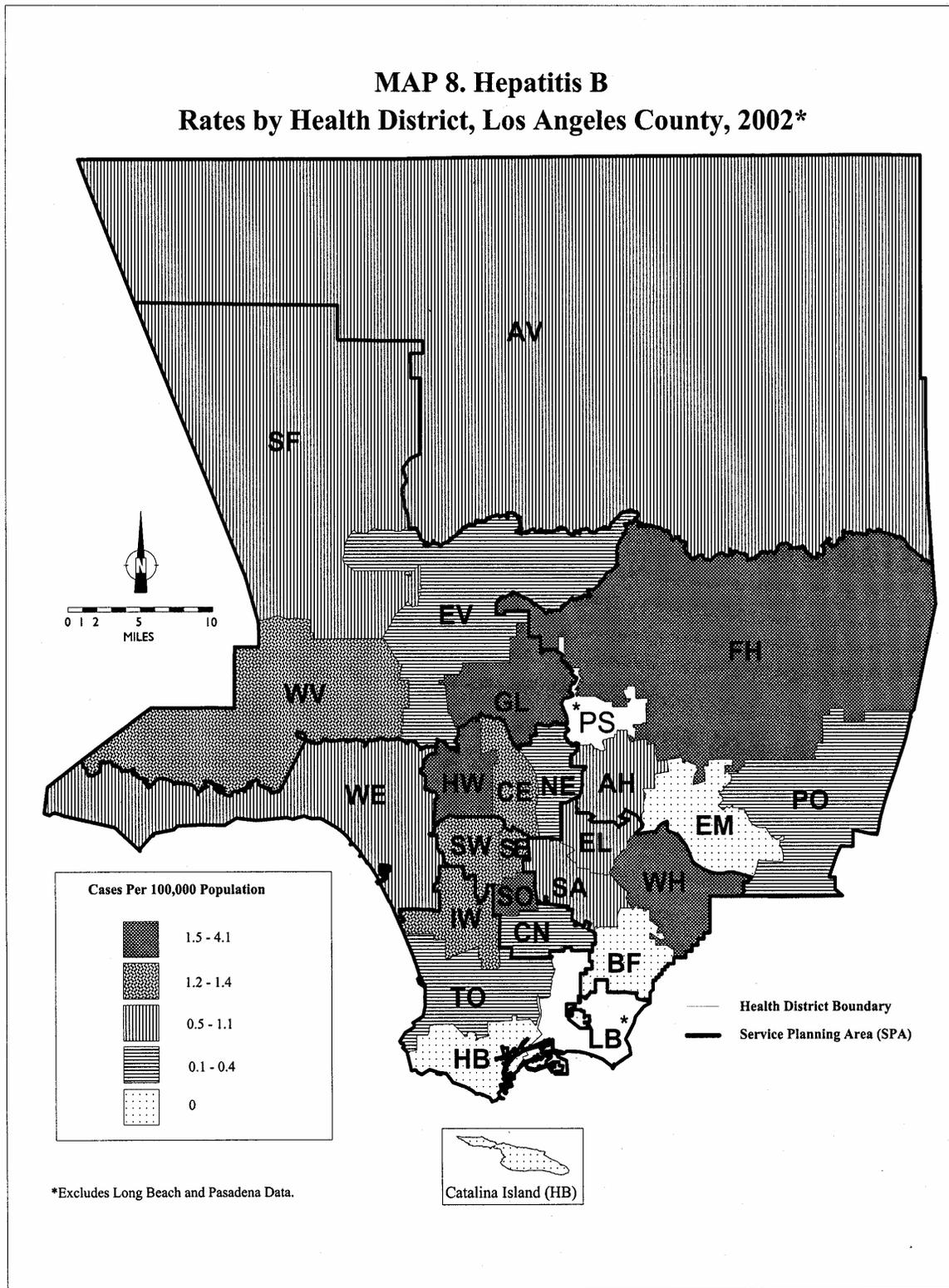
CDC Publications regarding viral hepatitis at: www.cdc.gov/ncidod/diseases/hepatitis/resource/pubs.htm

General information available at: www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm and www.hepb.org

Immunization information available at: www.immunize.org



MAP 8. Hepatitis B Rates by Health District, Los Angeles County, 2002*



HEPATITIS B, ACUTE (NON-PERINATAL)

CRUDE DATA	
Number of Cases	44
Annual Incidence ^a	
LA County	0.5
United States	N/A
Age at Diagnosis	
Mean	39
Median	38
Range	18-73 years
Case Fatality	
LA County	0.0%
United States	N/A

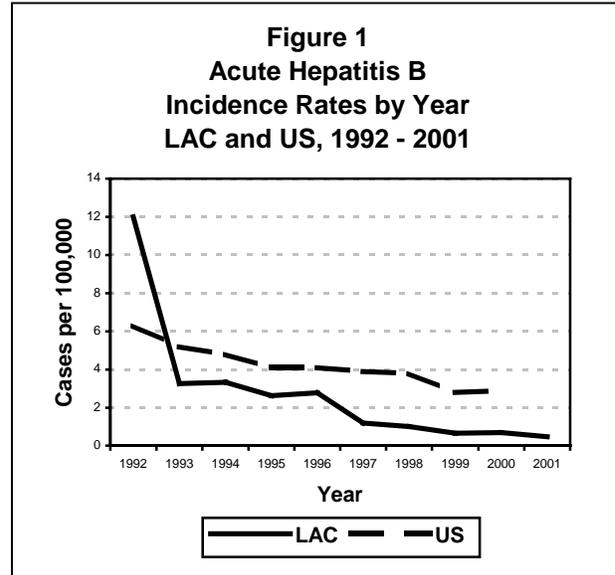
^a Cases per 100,000 population.

DESCRIPTION

Hepatitis B (HBV) is a DNA-virus of the Hepadnaviridae family and is more prevalent and infectious than AIDS. This highly infectious virus that attacks the liver is a vaccine-preventable disease transmitted through parenteral or mucous membrane exposure to the blood and other bodily fluids of individuals infected with the hepatitis B virus (HBV). It is also spread from mother to child at birth or soon after birth. Symptoms, which occur in less than half of those acutely infected, may be very mild and flu-like, including: anorexia, nausea, fatigue, abdominal pain, muscle or joint aches, jaundice and mild fever. Approximately 2-10% of adults infected with HBV are unable to clear the virus within six months and are considered to be chronic carriers. Death from cirrhosis or liver cancer is estimated to occur in 15-25% of those with chronic infection.

DISEASE ABSTRACT

- For a full discussion of perinatal HBV cases, see the following report describing perinatal HBV. The number of non-perinatal acute cases for 2001 was 44, which was a 32% decrease from the 65 cases in 2000.
- All acute cases were adults aged 18 years or older and the majority of cases were young, adult males.
- Cases have been decreasing among all age groups since 2000.
- Having multiple partners, predominately among men who have sex with men (MSM), remains the most frequently identified risk factor (Figure 5). Nearly half of all acute cases deny all risk factors.



STRATIFIED DATA

Seasonality: None

Age: Cases ranged in age from 18 to 73, with a median age of 38. An increase was seen in cases among adults aged 35-44 (Figure 3). Adults aged 18-44 accounted for 37% of cases.

Sex: The male-to-female rate ratio was 2.3:1. The number of cases in males exceeded those in females in all ethnic groups except in Asians.

Race/Ethnicity: The highest rates were seen in Blacks (1.23 per 100,000) followed by Asians (.7 per 100,000) and Whites (.55 per 100,000), respectively (Figure 4).

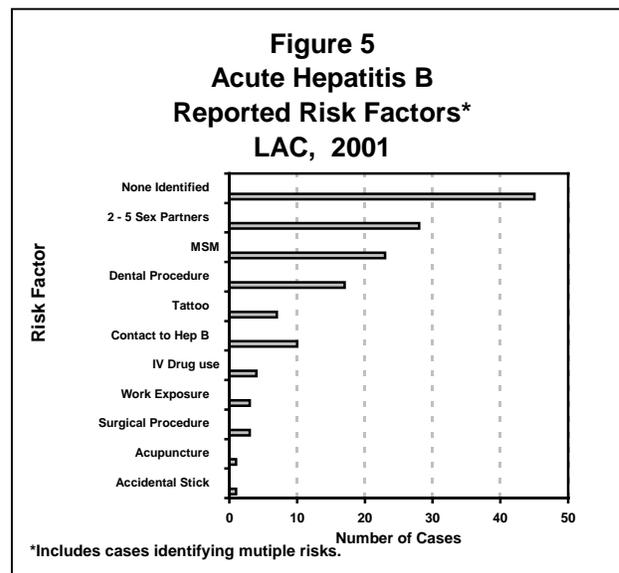
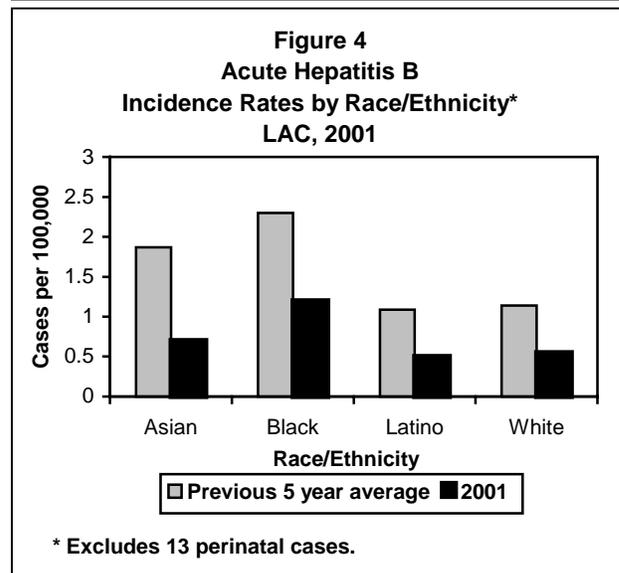
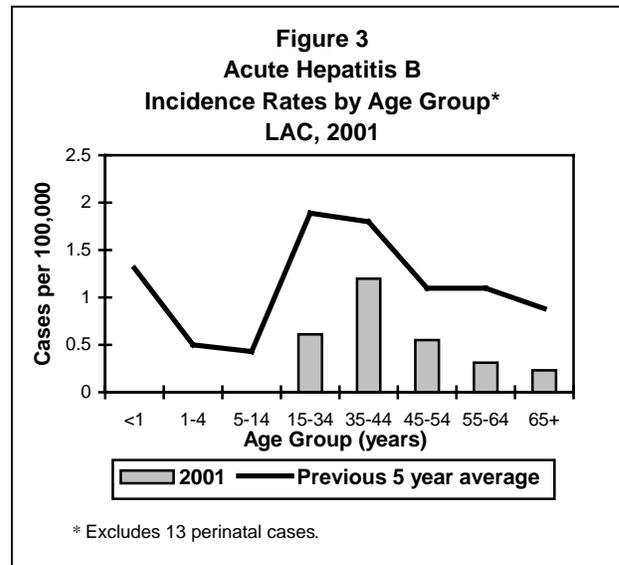
Location: SPA 4 (Metro) and SPA 2 (San Fernando) had the most cases (n=9), respectively, followed by SPA 3 (San Gabriel, n=8), SPA 8 (South Bay/Long Beach, n=6), SPA 1 (Antelope Valley, n=5), SPA 6 (South Area, n=4), and SPA 7 (East LA Area, n=3). The West Area (SPA 5) had no reported cases.

COMMENTS

The substantial decrease in the number of non-perinatal acute hepatitis B cases in 2001 is likely attributable to the changes in the criteria for investigation and classification rather than a true reduction in infection. Surveillance for hepatitis B is passive and dependent solely upon reports from providers and laboratories. Additional information is obtained through patient interview and further investigation. Only when a case report meets both the clinical case definition and is laboratory confirmed can it then be diagnosed as an acute case. However, the majority of these case reports do not provide supporting clinical or demographic information, thus presenting difficulties for public health follow-up.

Decreasing rates of acute hepatitis B since 1992 in those under age 15 suggest that the strategy to reduce hepatitis B among infants and children through prophylaxis of newborns of chronic carrier mothers and universal hepatitis B immunization of all infants is succeeding.

Excluding perinatal cases, in 2001, there were



44 cases designated as acute hepatitis B following investigation. All were aged 18 years or older (see perinatal hepatitis B report for hepatitis B in infants). Based on crude frequencies of reported risk factors by both men and women, MSM and people with multiple sexual partners continue to be at greatest risk for hepatitis B; thus, preventive efforts should continue to focus on these high risk populations.

Health care workers are also at substantial occupational risk of acquiring the hepatitis B virus. Over 12,999 cases of HBV infection occur among health care workers each year in the US and 200 die. The risk of acquiring HBV after needle stick exposure to an HBV carrier is estimated to range from 27% to 43%.

There were 12,931 chronic hepatitis B reports in LAC in 2001; 51% were in younger adults aged 18-44 years. Chronic cases, unlike acute cases, are not routinely investigated or interviewed, so risk factor information is unavailable.

The current approach of vaccination for adolescents and others at high risk, as well as education aimed at eliminating, reducing, or mitigating high-risk behaviors in sexually active adults, should continue. Ongoing improvements in data collection and analysis will provide a more accurate description of this infection in the future.

ADDITIONAL RESOURCES

Epidemiology and Prevention of Viral Hepatitis slide set available at:
www.cdc.gov/ncidod/diseases/hepatitis/slideset/hep_b/slide1.htm

CDC Publications regarding viral hepatitis at:
www.cdc.gov/ncidod/diseases/hepatitis/resource/pubs.htm

General information available at: www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm and
www.hepb.org

Immunization information available at: www.immunize.org

Information regarding the control and reporting of hepatitis B in LAC is available at the LAC DHS Acute Communicable Disease Control website:
www.lapublichealth.org/acd/procs/b73/b73index.htm