County of Los Angeles Adult Viral Hepatitis Prevention Plan 2010 - 2015

A Report of the

Los Angeles Adult Viral Hepatitis Coalition

and

County of Los Angeles Department of Public Health
June 2010

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Acknowledgements

The Los Angeles County Adult Viral Hepatitis Prevention Plan 2010-2015 is a product of the dedicated efforts of the many partners, stakeholders, and Department of Public Health staff from across Los Angeles County. In particular, the discussions during the Hepatitis Coalition meetings in July and December 2008 and June 2009 were instrumental in the development of this plan. We would like to extend our gratitude to the following groups and individuals:

Los Angeles County Department of Public Health, Hepatitis Advisory Committee
Los Angeles County Viral Hepatitis Coalition
Hep B Free LA Coalition
Los Angeles Hepatitis C Task Force
Viral hepatitis healthcare providers
Community-based organizations that provide viral hepatitis services
Community advocates
California State Adult Viral Hepatitis Prevention Coordinator, Rachel McLean

Executive Summary

Bold and incremental changes are pivotal in the design and implementation of a collaborative, comprehensive, and systematic effort to reduce morbidity and mortality from viral hepatitis in Los Angeles County (LAC). The Los Angeles County Department of Public Health (LAC DPH) proposes a five year Viral Hepatitis Prevention Plan for 2010-2015. The principal intent of this effort is to design and implement a multi-faceted approach directed towards reducing the burden of disease from viral hepatitis. This can be accomplished by decreasing the incidence of new infections from viral hepatitis (primary prevention) and by decreasing risks for progression to chronic liver disease, including cirrhosis and liver cancer (secondary prevention), improving screening activities for acute and chronic viral hepatitis, and improving standards of care for viral hepatitis, particularly in priority populations.

This plan outlines how LAC proposes to address viral hepatitis through three overarching goals: 1) Reduce the number of people newly infected with viral hepatitis, 2) reduce morbidity and mortality due to viral hepatitis, and 3) improve quality of life for people chronically infected with and affected by viral hepatitis. Four strategic directions were developed to address these goals that will serve as the central elements in this plan. These four strategic directions that will guide the adult viral hepatitis prevention efforts in LAC are: 1) Improving surveillance and data use, 2) targeting and integrating services, 3) educating the public and providers, and 4) driving policy change.

The Los Angeles County Adult Viral Hepatitis Prevention Plan aligns with the California Department of Public Health Strategic Framework for Adult Viral Hepatitis Prevention[1] and the Los Angeles County Department of Public Health Strategic Plan 2008-2011.

How to Use This Plan

The Los Angeles County Adult Viral Hepatitis Prevention Plan is intended to be used by all partners and stakeholders to prevent and control hepatitis A, B, and C infection.

The LAC DPH Hepatitis Advisory Committee and the LAC Viral Hepatitis Coalition are jointly responsible for the development of the LAC Adult Viral Hepatitis Prevention Plan 2010-2015. There are six sections in this plan:

Section 1: Introduction

- Describes Los Angeles County and viral hepatitis key stakeholders
- Illustrates viral hepatitis activities in Los Angeles County through a logic model

Section 2: Overview of Adult Viral Hepatitis

- Provides an epidemiological profile of hepatitis A, B, and C
- Describes viral hepatitis prevention priority populations in Los Angeles County

[1] California Department of Public Health, Strategic Framework for Adult Viral Hepatitis Prevention in California, September 22 and 23, 2008, Sacramento, California.

Section 3: Viral Hepatitis Activities in Los Angeles County

- Describes viral hepatitis activities in testing, vaccination, and education and public awareness in Los Angeles County
- Provides a description of the needs identified by members of the Hep B Free LA Coalition and the Hepatitis C Task Force in their respective communities

Section 4: Strategic Directions and Initiatives

- Describes the plan's four strategic directions: 1) improving surveillance and data use, 2) targeting and integrating services, 3) educating the public and providers, and 4) driving policy change
- Describes specific initiatives or action steps within each strategic direction to achieve the plan's goals

Section 5: Monitoring and Evaluation Plan

- Provides population indicators and performance measures for Los Angeles County Department of Public Health viral hepatitis activities

Section 6: Appendices

Section 1: Introduction

Los Angeles County is a diverse, multicultural community of 10 million residents covering 4,084 square miles. Approximately 27% of California's residents live in LAC.[2] Nearly half (46%) of Los Angeles residents are Latino, 30% are White, 13% Asians Pacific Islanders (API), 9% are African-American and less than 1% American Indian/Alaskan Native.[3] Foreign-born residents constitute 41% of the population, including a large proportion of immigrants from hepatitis B-endemic countries in Asia, Sub-Saharan Africa, and Eastern Europe.[4]

There are many populations in LAC at a uniquely high risk for viral hepatitis infection, such as international travelers, immigrants from viral hepatitis endemic countries, injection drug users, men who have sex with men, and people living with HIV. Injection drug use currently accounts for most hepatitis C transmission in the U.S. Asian and Pacific Islanders (API) are particularly at higher risk for hepatitis B, with rates of infection 30-40 times higher than the general U.S. population. Nearly 1 in 10 APIs in the U.S. are chronically infected with hepatitis B, one-third or more are unaware of their hepatitis B status, and approximately 25% will die of hepatitis B-related liver disease.[5,6]

Due to the expansive geographic area and the diversity of the population in LAC, the key stakeholders described below play an integral part in meeting the needs of the community and assisting with the hepatitis efforts throughout the County.

[2] Los Angeles County Online http://lacounty.info/statistical_information.htm
[3] Los Angeles County Office of Health Assessment and Epidemiology, 2008
[4]:U.S. Census Bureau, Census 2000, Summary File 1 and Summary File 3. http://www.census.gov/prod/2003pubs/c2kbr-34.pdf Accessed November 14, 2008.
[5] Nguyen M, Keeffe E. Chronic Hepatitis B and Hepatitis C in Asian Americans. Review in Gastroenterological Disorders 003;3(3):125-134.
[6] http://www.cdc.gov/media/pressrel/2008/r080918.htm

1.1 Key Stakeholders

The Department of Public Health Hepatitis Advisory Committee (HAC), Hep B Free LA Coalition, Hepatitis C Task Force and the Adult Viral Hepatitis Coalition are the organizing partners involved and responsible for developing and implementing this plan. The Adult Viral Hepatitis Prevention Coordinator for the Los Angeles County Department of Public Health collaborates with these groups/organizations to consolidate and enhance efforts to address viral hepatitis.

Adult Viral Hepatitis Coalition

The Adult Viral Hepatitis Coalition is comprised of all interested stakeholders to make recommendations regarding viral hepatitis service needs of the community. This Coalition facilitates collaboration among stakeholders working toward the elimination of viral hepatitis, and the prevention of chronic liver disease due to viral hepatitis infection; and offers recommendations regarding viral hepatitis prevention and control efforts, and the Viral Hepatitis Prevention Plan.

Hep B Free LA

The Hep B Free LA Coalition is a local constituency of service providers who convene quarterly meetings to share best practices, learn more about hepatitis B, and collaborate on hepatitis B community-based screening events with agencies from county, state, and national levels. In particular, the mission of this coalition is to increase the quality of life and improve access to care for Los Angeles County's Asian and Pacific Islander (API) communities affected by hepatitis B through advocacy, prevention, education and research. The Hep B Free LA Coalition serves as an advocacy group by increasing access to community hepatitis B testing and vaccination services for API adult communities of LAC. This Coalition has launched numerous initiatives to increase access to hepatitis B screening and vaccinations for adult API communities.

Hepatitis C Task Force

The Hepatitis C Task Force is a group of private and public agencies, advocates and concerned individuals working in collaboration to prevent the spread of hepatitis C and

improve the quality of life of affected individuals. This Task Force conducts an annual Viral Hepatitis Summit to present emerging data, infection trends and interventions. Since May 2002, the Task Force has conducted annual conferences, community trainings, monthly organizing meetings, and produced web-based and printed resource materials, such as a comprehensive directory of hepatitis C resources in Los Angeles County, to help people living with hepatitis C and their service providers. The Task Force's mission is to shape policy and advocate for the needs of people at risk for and living with hepatitis C infection in Los Angeles.

Department of Public Health Hepatitis Advisory Committee (HAC)

This committee is made up of DPH partners who provide viral hepatitis services or activities throughout LAC. The primary goal of the DPH HAC is to create and implement the Adult Viral Hepatitis Prevention Plan for Los Angeles County, to facilitate collaboration among DPH members who are engaged in viral hepatitis activities and/or who work with clients at risk for viral hepatitis, to assist in developing a coordinated approach to viral hepatitis prevention, and to offer recommendations on viral hepatitis prevention and control efforts.

Adult Viral Hepatitis Prevention Coordinator for the Los Angeles County Department of Public Health

The Adult Viral Hepatitis Prevention Coordinator (AVHPC) for the Los Angeles County Department of Public Health is responsible for improving collaborations across LAC DPH independent programs regarding 1) education and training; 2) prevention and outreach; 3) advocacy and community planning; 4) screening, testing and surveillance; and 5) counseling, care and treatment activities within the Department of Public Health. The AVHPC collaborates with federal, state and local stakeholders in order to seek additional resources for screening and vaccination activities, networks with community-based organizations, and serves as a liaison with the Los Angeles County Hep B Free LA Coalition and the Hepatitis C Task Force and a secretariat for the Adult Viral Hepatitis Coalition. This position is funded by the Centers for Disease Control as part of a nationwide project to address issues around adult viral hepatitis.

California State Adult Viral Hepatitis Prevention Coordinator

The State Adult Viral Hepatitis Prevention Coordinator (AVHPC) is housed under the California Department of Public Health, Center for Infectious Diseases, Division of Communicable Diseases, Sexually Transmitted Disease Control Branch. The State AVHPC works with community-based organizations, local health officials, and state agencies to promote the integration of viral hepatitis services into settings serving adults at-risk for viral hepatitis and to develop a five-year statewide viral hepatitis strategic plan. The statewide plan will outline a coordinated, comprehensive, culturally appropriate, and systematic approach to prevent the transmission of viral hepatitis and limit the progression and complications of chronic hepatitis B and C in California.

1.2 Adult Viral Hepatitis Program Logic Model

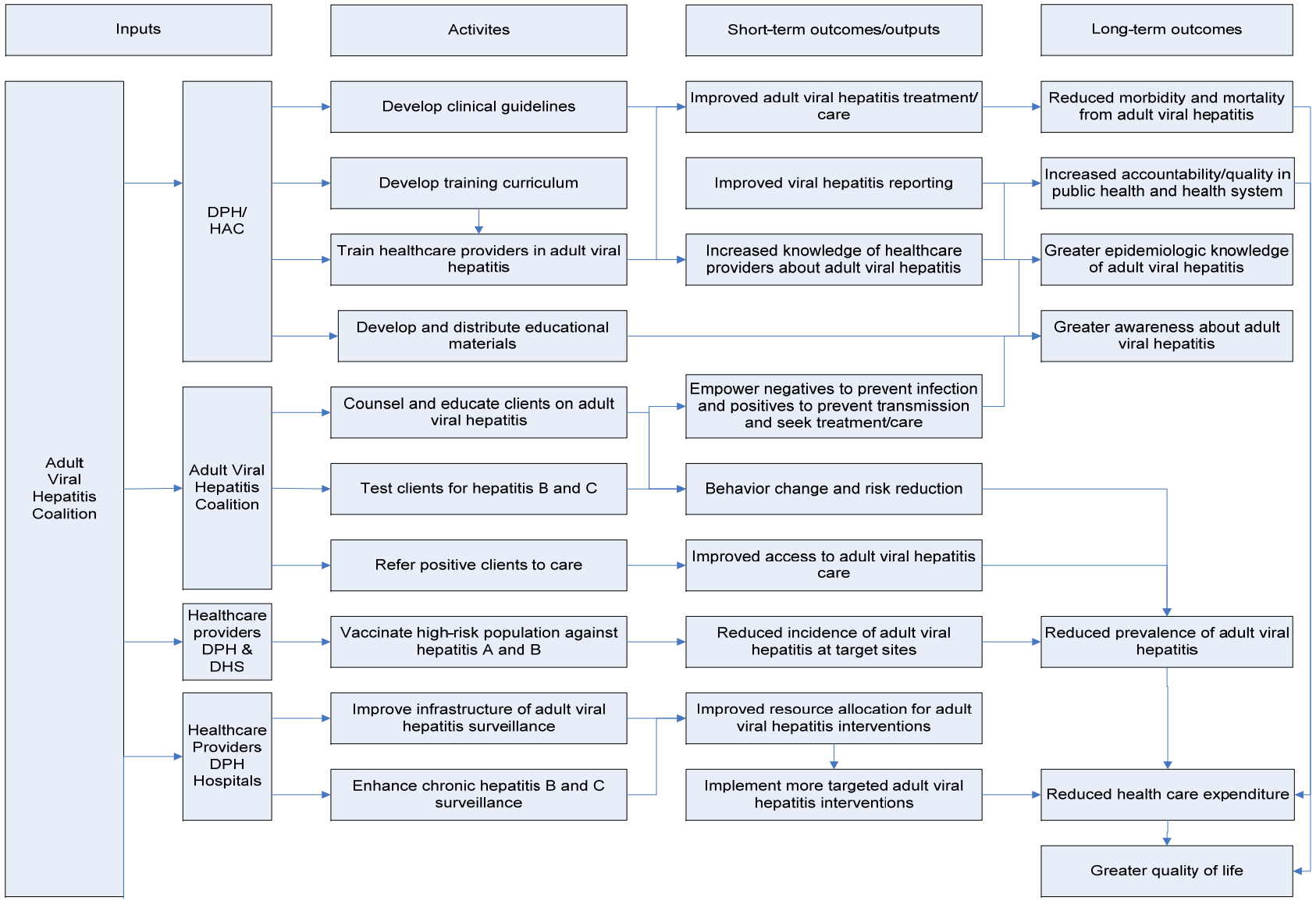
The adult viral hepatitis logic model for Los Angeles County (Figure 1.1) has been developed from input by the Adult Viral Hepatitis Coalition. This logic model outlines ongoing activities with collaborating partners as well as activities that will be developed. A logic model provides a framework for a program and its evaluation plan, which illustrates the program's day-to-day activities and how they connect to the program's outcomes.

The following logic model outlines viral hepatitis activities and their short- and long-term outcomes in Los Angeles County. For example, ongoing activities include: 1) developing a training curriculum for clinicians and improving the existing training curriculum for paraprofessionals, 2) development and distribution of educational materials, 3) counseling and educating adult clients on adult viral hepatitis, 4) testing clients for hepatitis B and C, and 5) vaccinating high-risk populations for hepatitis A and B. Examples of activities in the logic model that will be developed are improving infrastructure of adult viral hepatitis surveillance and enhancing chronic hepatitis B and C surveillance (refer to Section 3: Strategic Directions and Initiatives for further information on the current and future activities). The goal is for these activities to

produce the short-term and long-term outcomes over time that are listed in the logic model.

The schematic below depicts the chronological flow of events starting with the *inputs* (resources such as employees, money and equipment) required to conduct the intended viral hepatitis *activities*. The arrows illustrate the chronological flow from *inputs* to *activities* to specific *short-term outcomes* and subsequent *long-term outcomes*.

Figure 1.1: Adult Viral Hepatitis Logic Model for Los Angeles County



Section 2: Overview of Viral Hepatitis

2.1 Background

The term hepatitis indicates inflammation of the liver. Infection resulting from hepatitis viruses A, B, and C represent a significant cause of liver disease in Los Angeles County (LAC) and around the world as well as in the U.S. In 2006, approximately 800,000-1.4 million United States (U.S.) residents were living with chronic hepatitis B infection.[7] An estimated 3.2 million of the U.S. population is infected with chronic hepatitis C, three times the number of those with HIV.[8] However, this is likely to be an underestimate because these numbers do not include people who are homeless or incarcerated; hepatitis C rates have been found to be high in these groups. Moreover, the vast majority of persons infected with chronic hepatitis B and/or C are unaware of their status. Chronic hepatitis B and C result in significant suffering from liver disease, liver cancer, cirrhosis, liver failure and death. Total U.S. medical expenditures for people living with chronic viral hepatitis are roughly $15 billion per year.[9] In 2007, total hospital charges in California associated with liver disease or liver cancer for patients infected with hepatitis B (HBV) and/or hepatitis C (HCV) was approximately $1.8 billion.[10]

Acute infection with a hepatitis virus may result in conditions ranging from few or no symptoms to self-limiting symptomatic disease to liver failure. Adults with acute hepatitis A or B are usually symptomatic; persons with acute hepatitis C may be either asymptomatic (subclinical) or symptomatic. Typical symptoms of acute hepatitis are non-specific and consist of fatigue, loss of appetite, nausea, vomiting and yellow discoloration of the eyes or skin (jaundice).

Specific diagnosis is best made initially by liver enzyme tests followed by confirmatory serology for hepatitis A, B, and C. Further studies such as viral load or a liver biopsy may be indicated in certain cases. There is no specific treatment for hepatitis A, and it does not lead to chronic

[7] MMWR, Recommendations for Identification and Public Health Management of Persons with Chronic Hepatitis B Virus Infection, September 19, 2008.
[8] http://www.cdc.gov/hepatitis/C/cFAQ.htm#statistics
[9] Centers for Disease Control and Prevention. Recommendations for prevention and control of hepatitis C virus (HCV) and HCV-related chronic disease. MMWR. 1998: 47 (No. RR-19):1-39.
[10] California Department of Public Health Immunization Branch, Office of Statewide Health Planning and Development Hospitalization Discharge Data, 2007.

infection but in 0.3% of cases can result in death. Hepatitis B and C both can develop into chronic infection. Medical treatment options are available for both chronic hepatitis B and C.

Table 2.1 provides an overview of the modes of transmission and strategies for prevention including vaccination. For additional information about viral hepatitis, please refer to *Appendix IV: Useful Websites*.

Table 2.1: Hepatitis A, B, and C Overview

Hepatitis	Transmission	Prevention	Types of Infection	Treatment	High risk groups
A caused by the hepatitis A virus (HAV)	•Found in feces of HAV-infected individuals •Spread through close personal contact (e.g., unprotected sex or sharing a household item with risk of blood contamination), consuming food or drink contaminated with HAV (it is a little up in the air about the bloodborne nature of hep A transmission- you don't really see hep A from blood transfusions for example so I might caution against putting in "household item with blood"	•HAV vaccine is the best preventive measure, the vaccine is approved for persons 12 months of age and older •For recent HAV exposure or imminent travel to areas where HAV is common, hepatitis A vaccine is preferred. Immune Globulin should be used for persons younger than 12 months or older than 40 years of age, or for persons of any age who are immunocompromised, or who have been diagnosed with chronic liver disease, or who for any other reason cannot receive hepatitis A vaccine. •Proper hand washing after toilet use (and any contact with feces), before preparing and eating food	•There is no chronic infection •No repeat infection	•No treatment for HAV Supportive care •Avoid alcohol	•Persons exposed to HAV-infected individuals •Persons traveling to countries where HAV is common (all except Canada, Western Europe, Japan, Australia, and New Zealand) •Men who have sex with men •Injecting and non-injecting drug users •Persons with chronic liver disease
B caused by the hepatitis B virus (HBV)	•Found in blood (and certain body fluids) •Spread through unprotected sex with an HBV infected person, sharing needles or "works" when shooting drugs, exposure to needlesticks or sharps on the job •Mother-to-child transmission •Exposure to infected blood can be a risk for transmission	•HBV vaccine is the best preventive measure •The vaccine should be given to all children at 0-2 month, 1 to 4 months, and 6 to 18 months (three different immunizations). •Combination hepatitis A and B vaccine available and given in a similar 3-dose schedule •Infants born to HBV-infected mothers should be given hepatitis B immune globulin (HBIG) and vaccine within 12 hours of birth •Condom use reduces transmission •Practice safer injection, don't share needles, cookers, cottons, water, etc. •Healthcare workers handle needles and sharps with care •Avoid sharing personal care items (e.g., razors, toothbrushes)	•Acute and chronic infection	•Medical evaluation for liver disease •Antiviral medications available for treatment, but do not cure HBV •Liver transplant (last resort) •HAV vaccination •Avoid alcohol	•Healthcare workers and patients exposed to blood •Persons traveling to countries where HBV is common •Persons exposed to HBV-infected individuals •Immigrants and children of immigrants from areas with high HBV rates such as Asia, Africa, Pacific Islands, Eastern Europe •Sexually active individuals with multiple partners •Persons with STDs •Men who have sex with men •Injection drug users •Persons with severe kidney disease
C caused by the hepatitis C virus (HCV)	•Found in blood (and certain body fluids) •Spread through sharing needles or "works" when shooting drugs, exposure to needlesticks or sharps on the job •Possible mother-to-child transmission Possible sexual transmission in the presence of HIV, otherwise not common	•No vaccine available to prevent HCV •Condom use reduces transmission • Practice safer injection, don't share needles, cookers, cottons, water, etc. •Healthcare workers handle needles and sharps with care •Avoid sharing personal care items (e.g., razors, toothbrushes)	•Acute and chronic infection	•Medical evaluation for liver disease •Drugs are available for treatment (combination therapy is gold standard) •HAV and HBV vaccination •Avoid alcohol •Liver transplant (last resort)	•Injection drug users •Recipients of clotting factors made before 1987 •Hemodialysis patients and others exposed to blood •Recipients of blood or solid organ transplants before 1992 •Infants born to HCV-infected mothers •Persons with undiagnosed abnormal liver test results •Persons with HIV

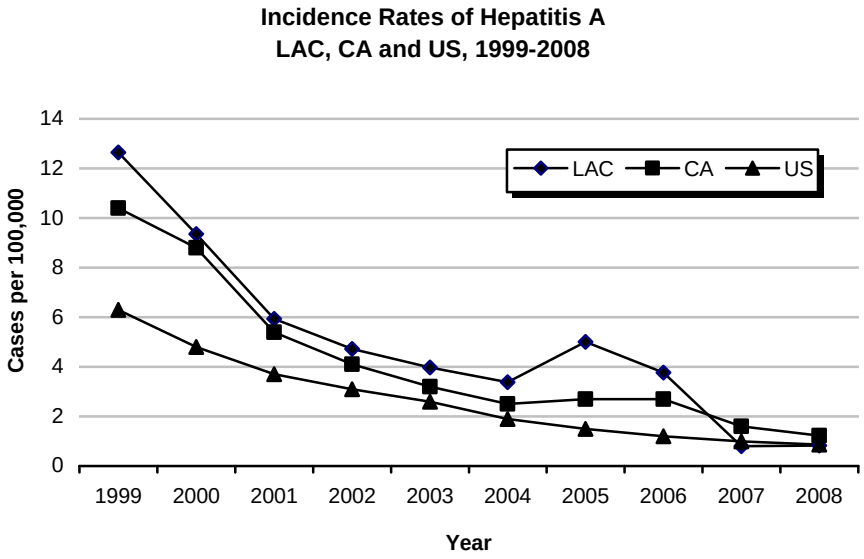
Source: Immunization Action Coalition - www.immunize.org

2.2 Epidemiological Profile for Los Angeles County[11]

Hepatitis A

In 2007, there were an estimated 25,000 new hepatitis A virus infections in the United States.[12] However, it must be noted that many people who are infected, especially children under six years of age, never have symptoms and are never reported to public health officials. The official number of reported hepatitis A cases is much lower than the actual number of cases. In LAC, the number of new reported cases of hepatitis A virus (HAV) per year is highest in those between the ages of 15-54 years. Since 1999, the annual incidence of hepatitis A in LAC has steadily declined (Figure 2.1), and is now below the U.S. incidence rate of 0.90/100,000. A rate of 0.82/100,000 (or 80 cases) for acute hepatitis A in LAC was reported in 2008.[13]

Figure 2.1: Incidence of Acute Hepatitis A in Los Angeles County 1999-2008



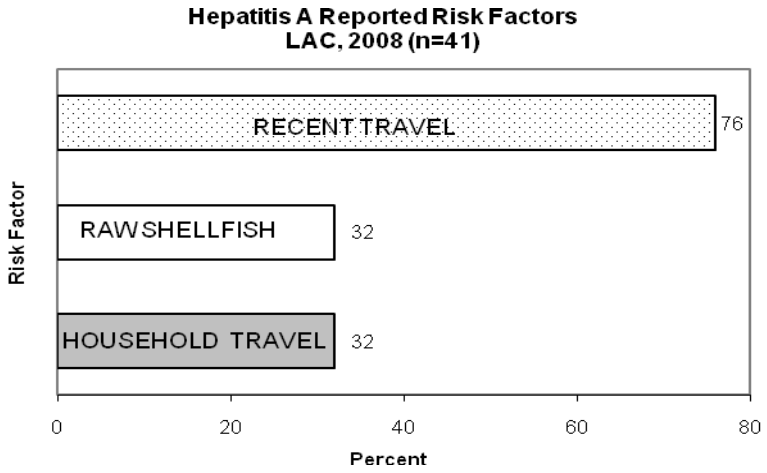
Source: Acute Hepatitis A Annual Report 2008, Acute Communicable Disease Control Program, Los Angeles County Department of Public Health

Of the 80 reported Hepatitis A cases in LAC, 53% (n= 41) had an identifiable risk factor. Of those with risk factors, international travel (n = 31, 76%) was the most common risk factor

[11] Refer to http://publichealth.lacounty.gov/acd/Report.htm to obtain the latest summary of morbidity for acute hepatitis A,B, and C in LAC.
[12] http://www.cdc.gov/hepatitis/A/aFAQ.htm (Accessed May 27, 2009)
[13] Los Angeles County Department of Public Health Acute Communicable Disease Control, Acute Hepatitis A Annual Report for 2008.

(Figure 2.2). The second most common mode of HAV transmission was eating raw shellfish (n = 13, 32%) followed by contact with a household member or sexual partner who had HAV (n = 13, 32%). These data indicate that it is important to educate international travelers and consumers of raw shellfish about HAV prevention by vaccination.

Figure 2.2: Reported Hepatitis A Risk Factors in Los Angeles County, 2008



Source: Acute Communicable Disease Control Program, Los Angeles County Department of Public Health

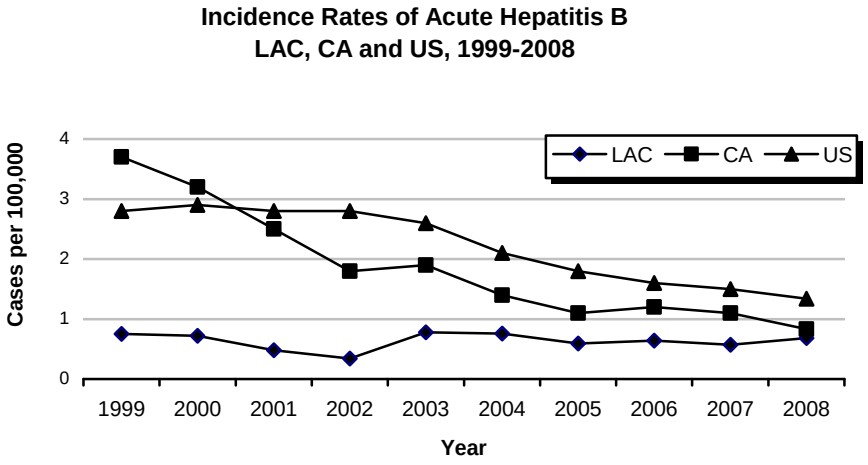
Hepatitis B

In 2006, there were an estimated 46,000 new hepatitis B virus infections in the U.S. Like hepatitis A, many cases are asymptomatic and are not diagnosed or reported to health authorities. Only a small percentage of adults (2-10%) who acquire acute hepatitis B will develop chronic disease; most will go on to develop immunity to HBV with no permanent sequelae. However, children who acquire hepatitis B at birth or in early childhood are much more likely to develop chronic disease. Nationally, an estimated 800,000 to 1.4 million persons have chronic hepatitis B virus infection.[14] In the United States, half of those that are infected with chronic hepatitis B are Asian Pacific Islanders.[15] The incidence of acute hepatitis B was highest among those between the ages 55-64 years old in LAC, and the majority of cases were male.[16] Contact with a

[14] http://www.cdc.gov/hepatitis/B/bFAQ.htm#statistics (Accessed May 27, 2009)
[15] http://www.cdc.gov/media/pressrel/2008/r080918.htm (Accessed May 27, 2009)
[16] Los Angeles County Department of Public Health Acute Communicable Disease Control, Acute Hepatitis B Annual Report for 2008.

person who has confirmed or suspected acute or chronic hepatitis B infection was the most frequently identified risk factor. According to 2008 data, the incidence rate of acute hepatitis B has increased slightly from the previous year (from 0.57 to 0.68 per 100,000) (Figure 2.3). In 2008, there were 66 reported cases of acute hepatitis B in LAC. There are no published data on chronic hepatitis B rates in LAC.

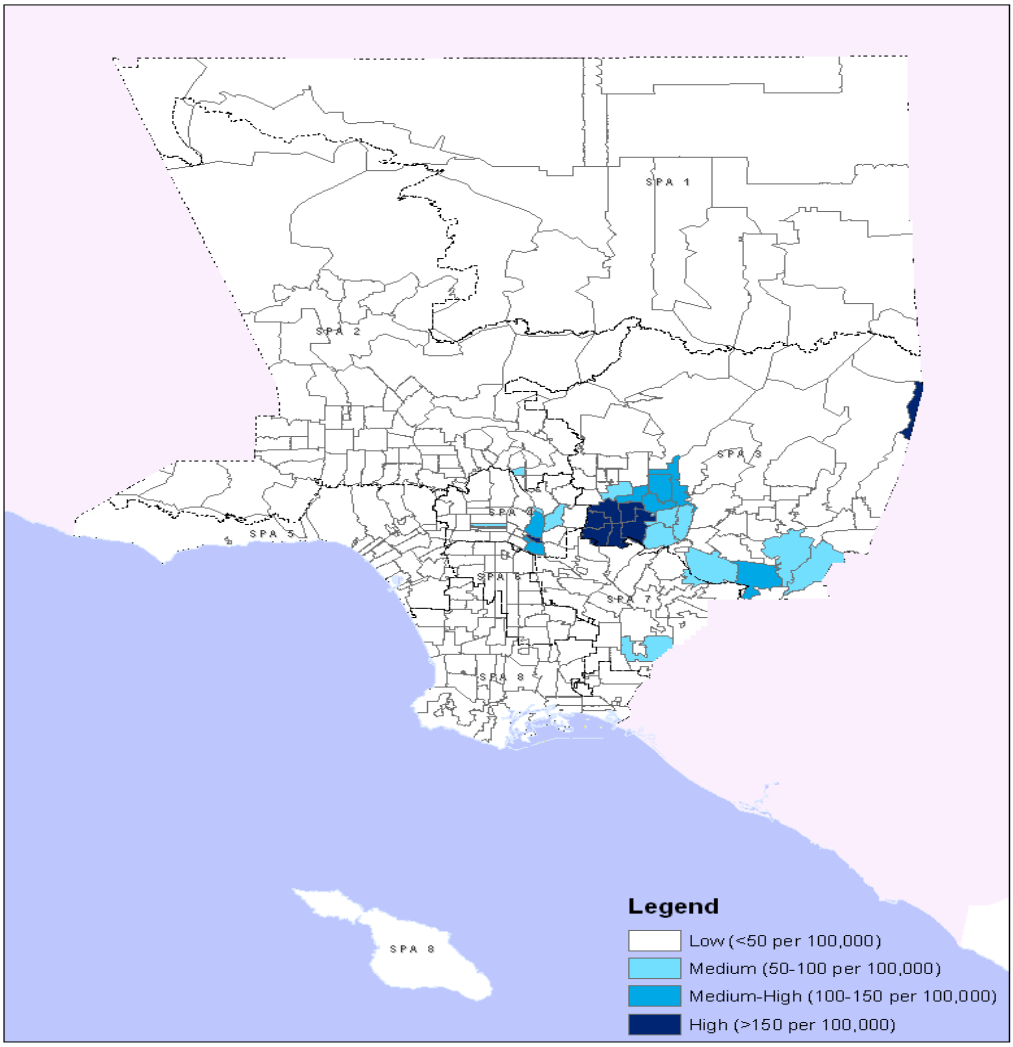
Figure 2.3: Incidence of Acute Hepatitis B in Los Angeles County 1999-2008



Source: Acute Hepatitis B Annual Report 2008, Acute Communicable Disease Control Program, Los Angeles County Department of Public Health http://publichealth.lacounty.gov/acd/diseases/HepB.pdf

Cases of chronic hepatitis B are not evenly distributed across LAC. There are relatively high concentrations in the San Gabriel Valley and in downtown Los Angeles. This may reflect the relatively high prevalence of Asians and Pacific Islanders and people with a history of intravenous drug use, respectively, in these areas (see Figure 2.4). Because of the unreliable rates of reporting, we choose to only report relative prevalence of hepatitis B by zip code rather than absolute rate. Data such as these can assist in directing resources for prevention efforts and screening.

Figure 2.4: Relative density of reported Hepatitis B Cases by zip code, 2003-2008

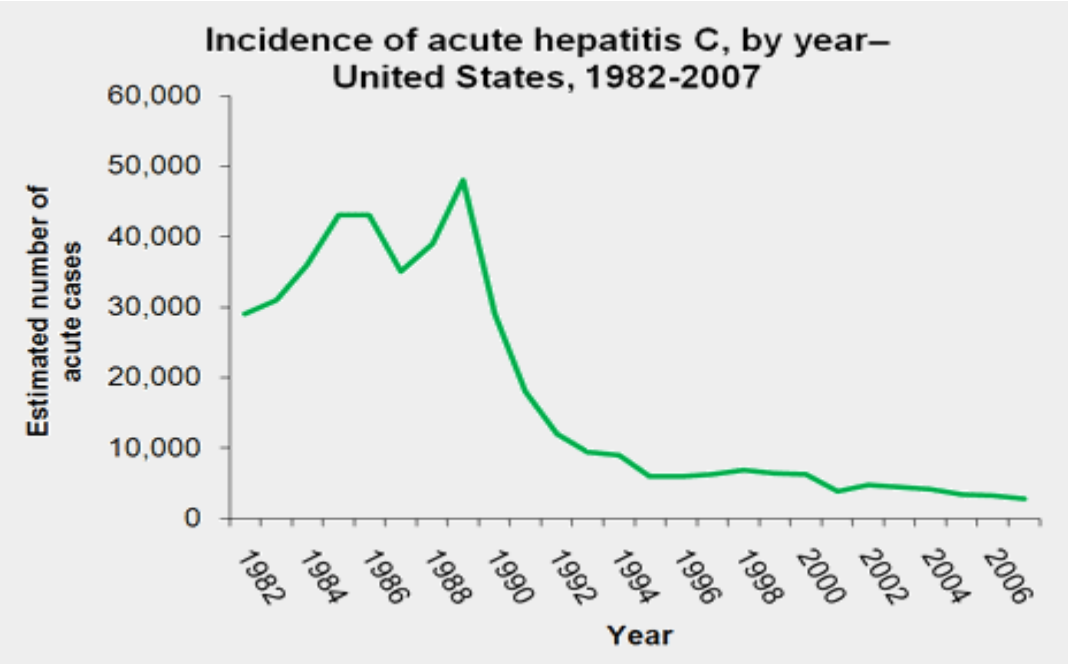


Hepatitis C

In 2007, there were an estimated 17,000 new hepatitis C infections in the U.S.[17] Acute hepatitis C incidence has declined in the U.S. (Figure 2.5);[18] similar trends of confirmed new cases of acute hepatitis C have also been observed in LAC (Figure 2.5). In addition, an estimated 134,000 people are chronically infected with hepatitis C in LAC with an overall prevalence of 1.3%.[19]

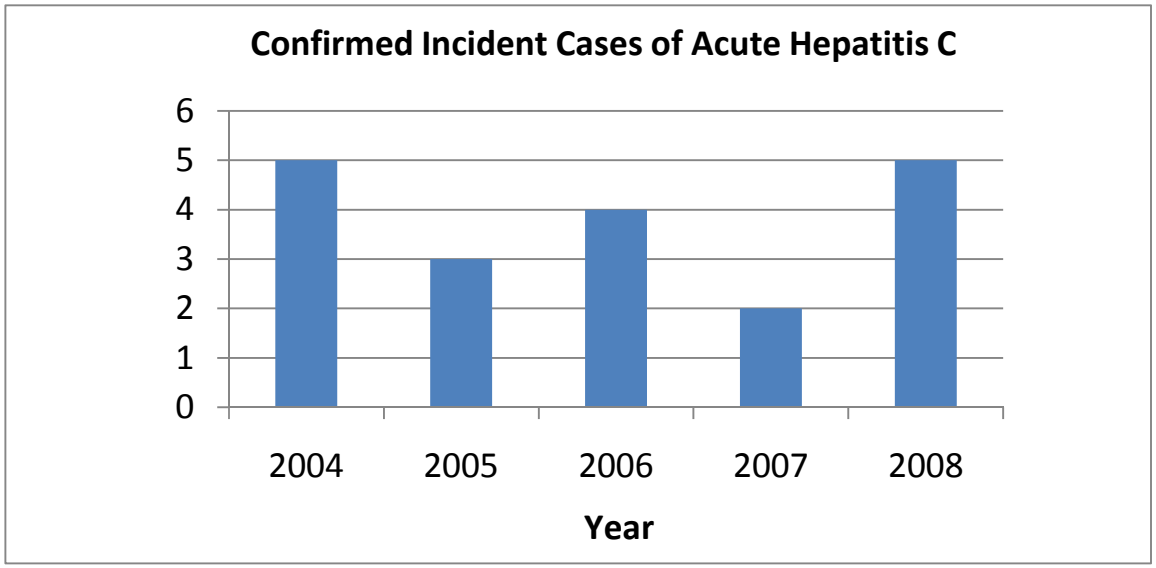
[17] http://www.cdc.gov/hepatitis/C/cFAQ.htm#statistics (accessed June 16, 2009)
[18] http://www.cdc.gov/mmwr/PDF/ss/ss5702.pdf (accessed May 19, 2009)
[19] Wise M, Estimating the Number of Chronic Hepatitis C Infections in Los Angeles County. Los Angeles County Department of Public Health Office of Health Assessment and Epidemiology, March 2008.

Figure 2.5: Incidence of Acute Hepatitis C in the U.S. 1982-2007*



*Until 1995, acute hepatitis C was reported as acute hepatitis non-A non-B. (Accessed June 1, 2010)
Source: http://www.cdc.gov/hepatitis/PDFs/disease_burden.pdf

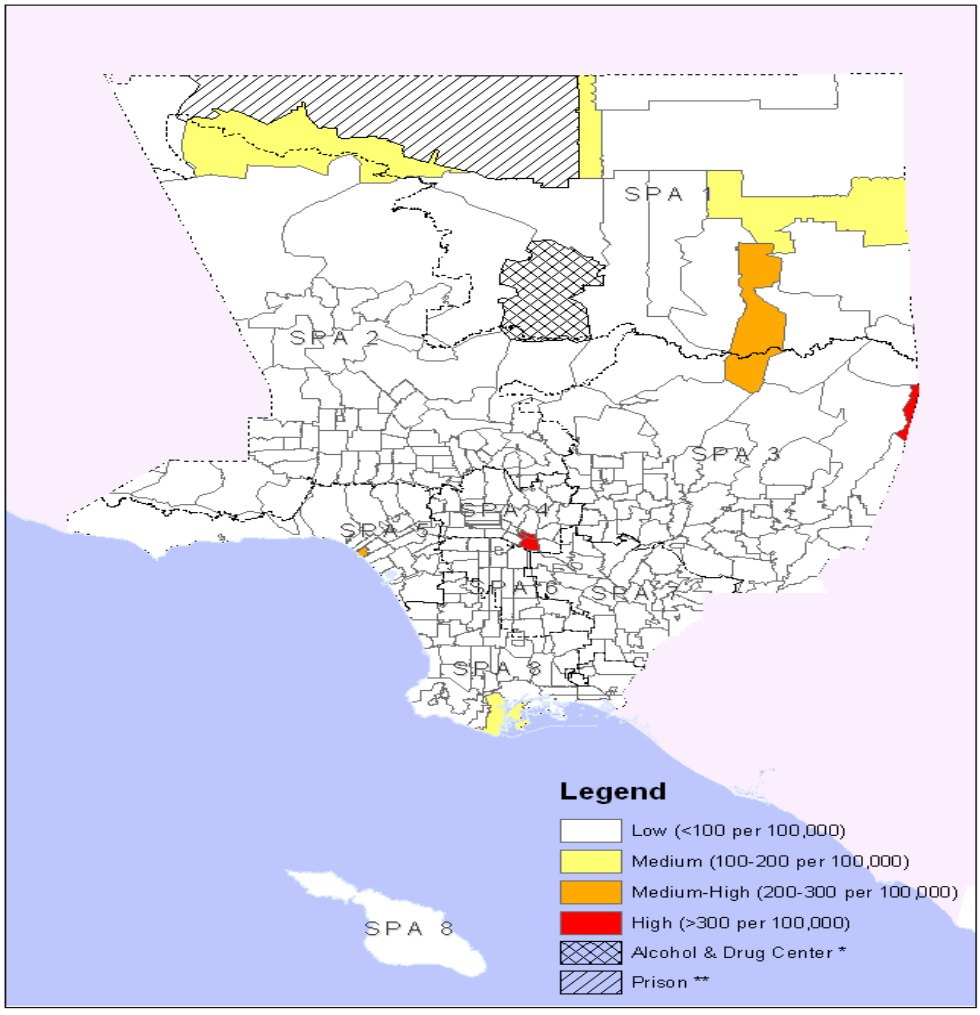
Figure 2.6: Confirmed Incident Cases of Acute Hepatitis C in Los Angeles County



Source: Acute Hepatitis C Annual Reports 2004, 2005, 2006, 2007, and 2008Acute Communicable Disease Control Program, Los Angeles County Department of Public Health: http://publichealth.lacounty.gov/acd/diseases/HepC.pdf

There are several areas across LAC where the reported relative prevalence of hepatitis C is concentrated (Figure 2.7). For example, the Antelope Valley (SPA 1) reflects a proportionally high prevalence of hepatitis C, as well as Downtown Los Angeles (SPA 4), the South Bay area (SPA 8), and along the boarder of San Bernardino County (SPA 3). This may reflect the increased injection drug use in these areas. Accessibility to hepatitis C testing should be increased in those regions and among populations where it is known to be prevalent. Similar to hepatitis B, we only reported relative prevalence by zip code rather than absolute rate.

Figure 2.7: Relative density of reported Hepatitis C cases by zip code, 2003-2008



Preliminary Information based on disease reported.
* Increased number of reports due to Alcohol and Drug Rehabilitation Center Reporting
** Increased number of reports due to Prison Reporting

Hepatitis B and HIV Co-Infection

In the U.S., 6-14% of HIV-infected persons are chronically infected with hepatitis B. Infection with HIV increases the risk of chronic HBV infection, and HIV/HBV co-infection is associated with more rapid progression to liver disease.

Hepatitis C and HIV Co-Infection

One-third of all people with HIV in the U.S. are co-infected with hepatitis C virus (HCV). Among HIV-infected injection drug users (IDU), the HCV co-infection rate is 50-90%.[20] Co-infection with HIV and HCV is associated with higher hepatitis C viral loads and more rapid progression to liver disease compared to HCV infection alone.

In 2004, the LAC DPH HIV Epidemiology Program compared data from the HIV/AIDS Reporting System (HARS) and the LAC DPH Acute Communicable Disease Control Program's hepatitis C database. Of the 19,794 persons living with AIDS at the end of July 2004, 901 (4.6%) also had chronic HCV infection. Among the 10,634 HIV (non-AIDS) cases reported through July 2004, 360 (3.4%) individuals were also identified as being co-infected with hepatitis C. When analysis was limited to IDUs living with HIV/AIDS in Los Angeles County, the co-infection rate escalates to approximately 56%, which is consistent with national co-infection estimates among IDUs.[21]

2.3 Viral Hepatitis Treatment

Regular follow-up by an experienced doctor is recommended for individuals with chronic hepatitis B and C. A healthcare professional should be aware of the patient's use of prescription medications, supplements, or over-the-counter medications as they can potentially damage the liver. Furthermore, alcohol should be avoided because it can cause additional liver damage.

[20] Alter, MJ. (2006). Epidemiology of viral hepatitis and HIV co-infection. *Journal of Hepatology* 44: S6-S9.
[21] An Epidemiological Profile of HIV and AIDS Los Angeles County 2004, HIV Epidemiology Program Los Angeles County Department of Public Health, p. 62.

Hepatitis B

Short-term or acute infection with hepatitis B is managed supportively with rest, adequate nutrition, and fluids, although some people may need to be hospitalized. People with long-term or chronic infection (greater than 6 months) with hepatitis B virus infection should seek the care or consultation of a doctor with experience treating hepatitis B. About 15%–25% of people with chronic hepatitis B develop serious liver conditions, such as cirrhosis (scarring of the liver), liver cancer or even death. Approximately 2,000–4,000 people die every year from hepatitis B-related liver disease.[22]

Several medications, example interferon (injection) and lamivudine (pills) have been approved for hepatitis B treatment, and new drugs are in development. However, not every person with chronic hepatitis B needs to be on medication, and the drugs may cause side effects in some patients. Response to hepatitis B treatment is variable in different patients and must be evaluated and followed up on an individual basis.[23] About half of the patients infected with hepatitis B respond to currently used treatments.

Hepatitis C

There is no medication available to treat acute hepatitis C infection. Doctors usually recommend rest, adequate nutrition, and fluids. Treatment options for chronic hepatitis C should be discussed with a doctor who specializes in treating hepatitis. The treatment most often used for hepatitis C is a combination of two medicines, interferon (injection) and ribavirin (pills). However, not every person with chronic hepatitis C needs or will benefit from treatment. In addition, the medications may cause serious side effects in some patients.

Response to treatment is variable in different patients and it depends on (1) the type of hepatitis C virus or genotype and (2) other illnesses that may be present, such as HIV infection.

[22] http://cdc.gov/hepatitis (Accessed June 18, 2009)
[23] Antiviral Therapy for Adults with Chronic Hepatitis B: A Systematic Review for a National Institutes of Health Consensus Development Conference. Ann Intern Med, 2009;150: 111-124

Combination treatment for about 6 months to a year has been shown to eliminate the virus in about half of infected patients.[24]

2.4 Priority Target Populations

This strategic plan will target the priority high risk populations in LAC as described in Table 2.2.[25] Priority target populations for hepatitis A (HAV), hepatitis B (HBV) and hepatitis C (HCV) were identified in accordance with the Centers for Disease Control and Prevention's (CDC) designated high-risk groups and inputs from the Los Angeles County Viral Hepatitis Coalition members.

Table 2.2: Priority Populations for Viral Hepatitis in Los Angeles County

High Risk Groups	HAV	HBV	HCV
International Travelers	√	√	
Men who have sex with men (MSM)	√	√	√
Injection/Non-injection drug users (IDU)	√	√	√
Incarcerated Populations		√	√
Infants born to infected mothers		√	
Sex partners of infected persons		√	√
Sexually active persons with multiple partners		√	√
Household contacts of chronic hepatitis persons		√	
Occupational exposure		√	√
Asian Pacific Islanders (APIs)		√	

Source: http://www.cdc.gov/hepatitis

Emerging Data in HCV and MSM

Recent studies indicate that MSM are at a heightened risk of sexual transmission of HCV in the U.S. and Europe.[26,27,28,29,30] In recent years, more reports from Europe and the U.S. explore the

[24] http://digestive.niddk.nih.gov/ddiseases/pubs/chronichepc/index.htm
[25] http://www.cdc.gov/hepatitis/Resources/Professionals/PDFs/ABCTable_BW.pdf
[26] G Van Den Berk, W Blok, H Barends, and others. Rapid Rise of Acute HCV Cases among HIV-1-infected Men Who Have Sex with Men, Amsterdam. CROI 2009. Abstract 804.
[27] Ghosn, C Larsen, L Piroth, and others. Evidence for Ongoing Epidemic Sexual Transmission of HCV (2006 to 2007) among HIV-1-infected Men who Have Sex with Men: France. 16th Conference on Retroviruses and Opportunistic Infections (CROI 2009). Montreal, Canada. February 8-11, 2009. Abstract 800.
[28] S Fishman, K Childs, D Dieterich, and others. Age and Risky Behaviors of HIV-infected Men with Acute HCV Infection in New York City Are Similar, but not Identical, to those in a European Outbreak. CROI 2009. Abstract 801.
[29] D Fierer, S Fishman, A Uriel, and others. Characterization of an Outbreak of Acute HCV Infection in HIV-infected Men in New York City. CROI 2009. Abstract 802.

possibility that HCV is sexually transmitted among HIV-positive MSM. Experts once thought that HCV was almost exclusively transmitted by direct blood-to-blood contact but now concede that sexual transmission is possible. LAC plans to target adult viral hepatitis efforts towards this emerging priority population.

[30] K Hoover, K Workowski, S Follansbee, and others. Hepatitis Screening of HIV-infected Men Who Have Sex with Men: 8 US Clinics. CROI 2009. Abstract 803.

Section 3: Viral Hepatitis Activities in Los Angeles County

This section outlines viral hepatitis activities in Los Angeles County (LAC) divided into three parts: 1) testing, 2) vaccination, and 3) education and public awareness. As part of a preliminary needs assessment, members of the Hep B Free LA Coalition and the Hepatitis C Task Force have identified the needs in their respective communities. The identified needs are described under *Community Needs Assessment* at the end of this section.

3.1 Testing Activities

The Office of AIDS Programs and Policy (OAPP) partners with three agencies to provide multiple morbidity testing services on mobile testing units. The multiple morbidity testing services provide screenings for hepatitis B and C, syphilis, Chlamydia, gonorrhea, and HIV within a single visit. Data from January to December 2008 is shown in Table 3.1.

Table 3.1: Hepatitis and HIV Testing Data from OAPP-funded Multiple Morbidity Testing Units, January – December 2008

	Hepatitis B	Hepatitis C
# of Tests	1,020	905
# of Positive Results	44 (4.3%)	360 (39.8%)
# of Cases with HIV Co-Infection	4 (0.4%)	0

Source: OAPP Funded Multiple Morbidity Testing Unit Data (Jan 1, 2008 – December 31, 2008)

Data from January to December, 2008 from OAPP funded HIV counseling and testing sites[31] (Table 3.2), indicates that out of the 35,484 HIV tests performed in LAC during that time, 689 test-takers self reported as hepatitis B (HBV) positive and 1,014 self-reported as hepatitis C (HCV) positive. Out of those who reported being positive for HBV or HCV, 19 (2.8 %) were reported positive for both HBV and HIV and 20 (2.0%) were reported co-infected with HCV and HIV.

[31] HIV counseling and testing data from OAPP funded HCT sites

Table 3.2: Self-reported Hepatitis B and C Status among Clients Tested for HIV, January – December 2008 (N = 35,484)

Characteristic	n		%
Self-report Hepatitis B infected	689		1.9%
Co-infected HIV/Hepatitis B	**n**	**%**	
	19	2.8%	
Self-report Hepatitis C infected	1,014		2.9%
Co-infection HIV/Hepatitis C	**n**	**%**	
	20	2.0%	

Source: OAPP Funded HIV Counseling and Testing Data (Jan 1, 2008 – December 31, 2008)

Hepatitis B screenings targeting the Asian Pacific Islander (API) population are being done throughout LAC at health fairs, Vietnamese American Cancer Foundations, the Asian Pacific Liver Center, and API festivals in LAC.

3.2 Vaccination Activities

Several activities at both the Department of Public Health (DPH) and at the community levels are being done or have been done to improve screening and testing for hepatitis. For example, the LAC DPH is collaborating with the Los Angeles County Sheriff's Department to vaccinate individuals in the County jails. The Sexually Transmitted Disease Program (STDP) has been vaccinating incarcerated individuals in the K6G unit of the men's county jail, which houses men who have sex with men (MSM) and transgender individuals against hepatitis A and B.

Routine hepatitis A and B vaccines are being administered to MSM, injection drug users (IDUs), and patients with chronic liver disease in various STD clinics.
Table 3.3 illustrates the aggregate number of hepatitis A and B and A/B combination vaccine doses given January-December 2008 at in the STD clinics operated by Community Health Services and in the STDP clinics and Immunization clinics operated by the Immunization Program. In addition, aggregate vaccination data (January-December 2008) from the AIDS Healthcare Foundation's Men's Wellness Center (AHF MWC), the Los Angeles Gay and Lesbian Center's Sexual Health Program (LAGLC), Simms-Mann Adult Clinic, North Hollywood Adult Clinic and Special Projects are provided in the table below.

Table 3.3: Summary of Adult Vaccination Data (Jan-Dec 2008)

VACCINATION	A	B	A/B	TOTAL
TOTAL	1,628	3,451	3,213	8,292

Source: Immunization Program Adult Hepatitis 2008 Summary Usage Data

Table 3.4 summarizes 2008 data from the STDP on hepatitis A and B vaccination history, and STD history (including HIV, hepatitis A, B and C, any hepatitis and Hepatitis/HIV Coinfection). Data is collapsed by the following priority populations: MSM/W, those who were ever IDUs, those who IDUs in the last 12 months, and those who have 2 or more sex partners in the last 12 months.

Table 3.4: Hepatitis A & B Vaccination History Data from LAC STD Clinics, Jan-Dec 2008

	Hepatitis A Vaccination History					Hepatitis B Vaccination History			
	Total Visits[32]	**Full***	**Partial****	**Never*****	**Unknown**	**Full***	**Partial****	**Never*****	**Unknown**
All clients	25,945	3,146	556	7,382	14,852	5,609	972	7,382	11,982
MSM/W	2,192	566	121	399	1,106	760	170	399	863
IDU ever	426	49	20	131	226	75	28	131	192
IDU (last 12 months)	120	14	3	30	73	22	6	30	62
≥ 2 sex partners (last 12 months)	15,588	2,037	359	4,369	8,823	3,560	626	4,369	7,033

Source: STD Program, Department of Public Health STD Clinic Data (Jan- Dec 2008)
*Full vaccination series for hepatitis A = 2 doses and a full vaccination series for hepatitis B = 3 doses
**Partial vaccination series for hepatitis A = 1 dose and a partial vaccination series for hepatitis B = 1 or 2 doses
***Never been vaccinated

Hepatitis A/B Vaccination of High-Risk Inmates in Los Angeles County Men's Central Jail

One of the programs to address priority populations is the Hepatitis A/B vaccination program at the County Men's Jail. The Los Angeles County Department of Public Health STD Program and the Los Angeles Sheriff's Department (LASD) launched a pilot project in August 2007 to vaccinate men detained at the LAC Men's Central Jail K6G Unit. Individuals in the K6G Unit are at high risk of viral hepatitis because the vast majority are men who have sex with men

[32] New visits in which an intake form (H2541) was administered.

(MSM), men who have sex with men and women (MSM/W) and transgenders. Approximately a quarter of these individuals are also injection drug users (IDU). In the 18 months since the project began over 2,700 doses of vaccine have been given to 1,165 individuals. It is estimated that fifty percent of the men in the K6G Unit start a series of vaccine. Three percent of those vaccinated receive single antigen hepatitis A or B vaccine whilst 97% receive combination hepatitis A/B vaccine, using an accelerated schedule. Of these, approximately 60% receive the first three doses within a three week period. The project won the Los Angeles County Annual Productivity and Quality Award.

Building on the successful vaccination efforts in the K6G Unit, Public Health Nurses of LASDs Infection Control Unit, together with nurses from Community Health Services provided 642 incarcerated men with their first dose of hepatitis B vaccine over the course of four days. Approximately 350 of those individuals received their second dose and only 135 received the third dose. Using the accelerated dosing schedule in the jails enables the nurses to vaccinate a significantly higher proportion of incarcerated individuals with three doses. Within the jails, personnel are attempting to build on the current vaccination programs, but with limited nursing staff available expanding vaccination efforts become difficult.

3.3 Education and Public Awareness Activities

In LAC, all substance abuse treatment providers are required to elicit history of infection with STDs and hepatitis from newly-enrolled clients. If a client self-reports symptoms suggestive of a STD, HIV, or hepatitis, the drug treatment provider coordinates to link the client into medical care as part of his/her treatment plan. While receiving medical treatment they are required to be tested for other STDs, HIV, and hepatitis A, B and C. The client is treated immediately for a STD, however, upon discharge from the treatment program they are given a referral to care if they are diagnosed with HIV or viral hepatitis.

Outreach to priority populations at venues such as syringe exchange programs (SEPs) is an excellent way to educate IDUs in LAC. Data from the RAND Corporation indicates that there are typically between 800 and 1,000 encounters every month with IDUs at six Los Angeles SEPs

located in different service planning areas across the County. The table below (Table 3.5) includes data from 6 syringe exchange programs located in LAC.

Table 3.5: LAC Syringe Exchange Program Data

LAC Syringe Exchange Program Data June 2007 – Feb 2009	
# of Encounters	
32	HCV testing and counseling
658	HIV/HCV prevention education
439	Referrals to HIV/HCV prevention education
986	Referrals to HCV testing and counseling

Source: RAND Corporation

Curriculum Development

Currently in LAC, there are multiple ways that the public and providers are being educated about viral hepatitis. In development by DPH partners is a curriculum for clinicians to improve screening, immunization, and provide information on treatment referral. *Prototypes*, A Center for Innovations in Health, Mental Health, and Social Services is contracted by OAPP to provide professional development trainings to HIV/AIDS and Alcohol and Other Drug (AOD) community providers. In addition, OAPP offered a plenary session on hepatitis at their HIV/AIDS Update in 2006 and 2008 HIV Prevention Counselor Recertification training. Finally, Hepatitis (along with other STDs) is discussed in the "Basic I: HIV Prevention Counselor Recertification" training which OAPP offer on an on-going basis.

The STDP provides a training “The ABC’s of Hepatitis" twice a year as a basic general education tool for members of the community at-large and to service providers. The STDP also provides occasional lectures on viral hepatitis at their continuing medical education meetings. Key and expert public health and academic faculty provide information on the current epidemiology, prevention, diagnosis, and clinical management of viral hepatitis.

Public Awareness Activities

In order to raise public awareness about viral hepatitis, DPH issued a press release for World Hepatitis Day in 2008 and 2009. In addition, for World Hepatitis Day in 2009, the LAC Board of Supervisors presented a proclamation on viral hepatitis to representatives of LAC DPH, the Hep B Free LA Coalition and the Hepatitis C Task Force. In conjunction with World Hepatitis Day, the Hep B Free LA Coalition held a community seminar and free hepatitis screenings at a local community-based organization.

3.4 Community Needs Assessment

A comprehensive needs assessment of viral hepatitis related services in LAC would assist service providers, government representatives, and other community and County stakeholders to identify existing gaps and gain a comprehensive understanding of the current and potential viral hepatitis prevention challenges facing LAC.

Currently, through their work, the Hep B Free LA Coalition and the Hepatitis C Task Force of LAC have identified the viral hepatitis needs within the communities they serve. The Adult Viral Hepatitis Coalition plans to conduct a comprehensive needs assessment for LAC within the next two to three years. In the interim, the expertise of community partners will be used to identify service gaps and needs in communities highly impacted by viral hepatitis.

Hep B Free LA Coalition

Through its community linkages, the Hep B Free LA Coalition has an intimate understanding of what the HBV needs are in the API community. The vision of the Hep B Free LA Coalition is that all members of the Asian and Pacific Islander Community will have access to testing vaccination if susceptible, and treatment if chronically infected. The needs defined by the Hep B Free LA Coalition are therefore to increase the availability of these services, and the capacity/infrastructure to support this effort, particularly in communities with high numbers of APIs.[33,34] To date, over 5,000 residents have been screened (mostly in the Central and Eastern

[33] Nguyen M, Keeffe E. Chronic Hepatitis B and Hepatitis C in Asian Americans. Review in Gastroenterological Disorders 003;3(3):125-134.
[34] http://www.cdc.gov/media/pressrel/2008/r080918.htm

regions of LAC), with chronic infection rates between 5 to 6% (depending on the different Asian subgroups). Because of the geographic expansiveness of LAC and a lack of resources, many Pacific Islanders, Southeast Asians, and Filipinos in the Harbor area have not yet been reached; however, plans are currently underway to expand capacity to test and vaccinate these underserved API communities.

Approximately 60% of individuals classified within eight of the major Asian subgroups in LAC have immigrated from hepatitis B endemic countries (e.g., Vietnamese, Korean, Hmong, Cambodian, Thai, Chinese, Laotian, Bangladeshi). Many API within these subgroups are considered either monolingual (speaking only their native language) or have Limited English Proficiency (LEP).[35] As a result, many adult Asian subgroups are linguistically isolated and report difficulty navigating the LAC health care system. These conditions increase the likelihood for providers to miss opportunities to screen and vaccinate or for these communities to defer preventive health-related services entirely. Specific needs of the API community are outlined in Table 3.6:

Table 3.6: Needs of Communities Served by Hep B Free LA Coalition

Need #1	Education of priority populations including the API community about the importance of testing and vaccination
Need #2	Education of health care providers to encourage routine testing and vaccination of all susceptible APIs in their clinics and to decrease "missed opportunities" for testing and vaccination
Need #3	Access to resources and facilities for free/low-cost testing for HBV status
Need #4	Availability of free or low-cost vaccines at accessible venues, with accessible and flexible hours for the services (e.g., after work hours and on weekends)
Need #5	Access to linguistically and culturally competent health care providers (and resources) to manage and treat those identified as carriers
Need #6	Access to health care for all, and culturally/linguistically appropriate care for monolingual individuals
Need #7	Advocacy/education directed to policy-makers to address these unmet needs of life-saving and disease-reducing interventions

[36] Asian & Pacific Islander Demographic Profile, 2006

Need #8	Access to funding to increase capacity for viral hepatitis related services in all areas of LA County (e.g., screening, vaccinating and treatment for chronically infected hepatitis B patients)
Need #9	Access to hepatitis B vaccinations and screening services to monolingual and underserved API communities (e.g. Cambodian, Vietnamese, Thai, Hmong, and Pacific Islander populations)

Source: Data from Hep B Free LA Coalition on needs of communities they serve

Hepatitis C Taskforce

The Hepatitis C Task Force has not undertaken a formal needs assessment, and relies in large part on agency and consumer input combined with data provided by Los Angeles County Departments of Health Services and Public Health to guide its work. Based on information the Hepatitis C Task Force has gathered over the past eight years, Table 3.7 highlights the critical needs within the community that have been identified during this time period.

Table 3.7: Needs of Communities Served by Hepatitis C Task Force

Need #1	Access to low-cost, Hepatitis C treatment services (interferon + ribavarin)
Need #2	Availability of hepatitis C testing coupled, wherever possible, with HIV testing
Need #3	Increased accessibility to testing in those regions and among populations where hepatitis C is known to be prevalent (e.g., the Antelope Valley, locations in Downtown Los Angeles and among injection drug users)
Need #4	Advocacy for the development and enhancement of systems of hepatitis C prevention, screening, and treatment
Need #5	Education of the public, consumers, medical professionals, community leaders and community based organizations about HCV
Need #6	De-stigmatization of hepatitis C for people living with the virus

Next Steps for Needs Assessment

A comprehensive, countywide needs assessment would be valuable for many reasons, especially to further investigate the gaps identified by the Hep B Free LA Coalition and the Hepatitis C Taskforce. A comprehensive, community needs assessment will be conducted by collecting both

qualitative and quantitative data on adult viral hepatitis-related services in Los Angeles County. The following avenues will be utilized to identify gaps and needs:

- The Hep B Free LA Coalition, the Hepatitis C Task Force, and the Adult Viral Hepatitis Coalition,
- Hepatitis epidemiologic studies,
- Hepatitis surveillance systems,
- Focus group interviews,
- Key informant interviews, and
- Community surveys with priority populations

Examining both the qualitative and quantitative data together will provide a more comprehensive picture of community needs. When these needs are overlaid with available resources, this information will help service providers, government representatives, and other community and county stakeholders identify existing gaps and better target services within the community.

Section 4: Strategic Directions & Initiatives

Los Angeles County's (LAC) diverse demographic and geographic landscape present(s) many challenges to developing a coordinated and effective response to viral hepatitis. Given the enormity of the task of reducing morbidity and mortality of adult viral hepatitis in LAC, it is important to have a strategic plan in place. This section outlines how LAC plans to address viral hepatitis through three overarching goals:

- Reduce the number of people newly infected with viral hepatitis (incidence)
- Reduce morbidity and mortality due to viral hepatitis
- Improve quality of life for people chronically infected with and affected by viral hepatitis

To achieve the goals listed above, the following four strategic directions have been identified:

1. Improving surveillance and data use
2. Targeting and integrating services
3. Educating the public and providers
4. Driving policy change

Each strategic direction has a corresponding objective(s) followed by a list of initiatives that will be carried out in order to achieve the objective. In addition, potential barriers/challenges in accomplishing the objectives are listed.

Strategic Direction #1: Improving Surveillance & Data Use

The Los Angeles County Department of Public Health (LAC DPH) currently has a system in place for surveillance and assessment of all acute cases of viral hepatitis through DPH Acute Communicable Disease Control (ACDC). Reports of acute viral hepatitis (either a single lab test which is a marker of acute disease or a written report of acute disease by a healthcare provider) are received passively by DPH. District Public Health Nurse investigators interview these reported cases of acute viral hepatitis to determine risk factors and severity of illness.

ACDC staff review these reports and classify the cases as acute, chronic, or false. The majority of cases investigated in this way are determined to be false because of the low specificity of screening laboratory tests. People who are more than 50 years of age with acute hepatitis B and C are re-interviewed by ACDC staff to identify potential healthcare associated causes of infection. ACDC uses the Visual Confidential Morbidity Report (VCMR) electronic reporting system for tracking acute hepatitis A, as well as acute and chronic viral hepatitis B (HBV) and C (HCV) cases reported from LAC medical providers, health facilities, and laboratories.

Reports of chronic hepatitis B and C (either by relevant laboratory test or by written report from a healthcare provider) are passively received by DPH. Other than the perinatal hepatitis B program (which investigates all reports of chronic hepatitis B in women age 15-45) these reports are not investigated by DPH personnel. A challenge to surveillance for chronic HBV and HCV is the inconsistent inclusion of race/ethnicity and geographic information (patient address) in laboratory reports for HBV and HCV. This creates many duplicate reports, making it difficult to identify individual HBC and HCV cases in LAC. However, the data that has been collected was processed using SAS version 9.2 in order to remove as many duplicates as possible. The data was then analyzed using geocoding software in order to map areas of chronic hepatitis B and C cases based on available zip codes. The maps were then used to determine those zip codes/areas with the highest relative rates of chronic hepatitis B and C infections. This information is being used as a starting point to develop a more comprehensive surveillance system.

Objective 1.1: Develop an enhanced viral hepatitis surveillance system

Initiatives:

- Develop programs and obtain resources to ensure reports of chronic hepatitis HBV and HCV are de-duplicated to allow for accurate analysis and interpretation.
- Work with community partners and providers to improve reporting to LAC DPH, with special emphasis on providing complete demographic data via electronic reporting
- Develop an accurate epidemiological profile of chronic viral hepatitis morbidity and mortality in LAC by using existing databases

- Identify disproportionately impacted communities using geographic information systems to map reported viral hepatitis cases
- Collaborate with the public health laboratory director and private laboratory directors to ensure that labs are following CDC guidelines to report acute HBV and HCV cases and confirm and report cases of chronic HBV and HCV
- Develop pilot study to interview a randomly selected population of HBV and HCV cases to determine relative morbidity and treatment history

Barriers/Challenges:

- Staff and resources are currently not dedicated to follow-up chronic HBV and/or HCV cases reported to DPH
- There is no Federal Government funding for surveillance for chronic HBC or HCV, unlike dedicated funding for HIV surveillance
- Laboratories reporting HBV and HCV cases electronically to DPH often do not provide demographic data including race/ethnicity and address which makes it difficult to de-duplicate cases
- There is an overwhelming number of cases of chronic HBV and HCV reported every year (10,000+) making individual case follow-up impractical

Strategic Direction #2: Targeting & Integrating Services

This strategic direction is to improve prevention services through vaccination and testing efforts for those who are at high-risk, and to obtain referrals to medical services for those diagnosed with viral hepatitis. Some examples of these activities are: Hepatitis A and B vaccination of incarcerated individuals at the K6G Unit in the men's county jail, hepatitis B testing targeting the API community, and viral hepatitis education through syringe exchange programs.

Objective 2.1: Coordinate, integrate, and enhance viral hepatitis counseling, testing, and vaccination activities into existing programs serving priority populations

Initiatives:

- Promote collaboration among Adult Viral Hepatitis Coalition members to provide targeted vaccine services for hepatitis A and B
- Promote and expand community-based activities to locate, screen, and identify people in need of hepatitis A and B vaccine
- Assist public health departments and CBOs with the integration of viral hepatitis prevention, education, testing and vaccination into settings serving adults living with and at risk for HBV and HCV
- Encourage providers to use the California Immunization Registry (CAIR) vaccine registry to facilitate vaccination with the recommended vaccines at the appropriate schedules and avoid unnecessary duplicative vaccination
- Utilize Syringe Exchange Programs in LAC to increase access to viral hepatitis testing, vaccination, and linkages to care among IDUs
- Incorporate hepatitis B and C testing and counseling services into existing STD, HIV/AIDS, drug treatment, mental health, jail and syringe exchange programs
- Increase hepatitis B vaccinations for priority populations in LAC

Barriers/Challenges:

- Periods of inconsistent vaccine supply and challenges in identifying appropriate venues for vaccine storage
- Limited licensed staff available for administering immunizations
- Lack of capacity among healthcare providers to implement routine immunization for viral hepatitis specifically related to the following:
    - Indications for screening and testing for viral hepatitis A, B, and C
    - Type of screening and additional tests available
    - Available resources to individuals who test positive
    - Incorporation of screening into vaccine protocols

Objective 2.2: Strengthen and develop viral hepatitis referral to care and treatment services

Initiatives:

- Collaborate with all healthcare providers within LACs public and private hospitals to ensure that staff receives training on viral hepatitis screening and available treatment services
- Implement an efficient referral system to assist those with chronic hepatitis B and C to access existing local treatment services resources
- Increase provider availability/willingness to treat chronic HBV/HCV through mentoring/training programs for medical providers with appropriate expertise
- Support Case Managers at the Immunization Program to refer pregnant women, and other adults identified as ABsAg positive during routine testing along with their household contacts and sexual and drug using partners, to follow-up testing and care

Barriers/Challenges:

- Limited capacity and funding streams in the publicly funded system to treat uninsured patients with chronic hepatitis B and C
- Need for effective systems to link persons with chronic hepatitis B and C into specialty care and treatment
- Limited knowledge among health care providers about available treatment resources in LAC

Strategic Direction #3: Educating the Public & Providers

This strategic direction focuses on increasing hepatitis awareness and education among priority populations, the general public, and health care providers. To help facilitate these activities, there are several programs or public awareness activities that have taken place or are in development in LAC. Some include: development of a curriculum to educate clinicians; a

hepatitis education training for the general public that has already been implemented; and public awareness activities to commemorate World Hepatitis Day.

Objective #3.1: Increase hepatitis awareness, education, and outreach to priority populations and the general public

Initiatives:

- Raise awareness about getting tested and increase knowledge about adult viral hepatitis among people at risk
- Launch viral hepatitis awareness initiatives such as hepatitis A and B vaccination and hepatitis B and C screening on World Hepatitis Day in 2010-2012 and social marketing campaigns.
- Develop a viral hepatitis Speakers Bureau to raise public awareness
- Conduct a community-wide needs assessment in collaboration with community partners and the Adult Viral Hepatitis Coalition
- Work with the Adult Viral Hepatitis Coalition to distribute educational material to at-risk communities
- Enhance DPH web-based information and resources for access by general public

Barriers/Challenges:

- Availability of trainers for ongoing training curriculum
- Lack of resources to launch a full scale curriculum
- Engage various stakeholders to participate in coordinated effort to improve public awareness and knowledge.
- Secure additional resources to fund expansion of education, social marketing, and awareness activities
- Resources to screen and vaccinate at outreach events such as World AIDS Day

Objective 3.2: Increase knowledge and awareness among health care providers to prevent and treat viral hepatitis

Initiatives:

- Raise awareness and increase knowledge about adult viral hepatitis among health care providers
- Develop provider toolkits summarizing key information (e.g., messages to empower patients to request hepatitis testing, hepatitis screening guidelines recommended by the CDC, and ordering and interpreting HBV serology)
- Provide guidance and technical assistance to local health partners about adult viral hepatitis prevention interventions
- Provide training to DPH and community-based service providers that serve the priority populations to ensure that their counseling and referral services provide current and accurate information
- Promote routine provider screening of groups at higher risk for chronic hepatitis B and C
- Increase provider participation at the Adult Viral Hepatitis Coalition meetings

Barriers/Challenges:

- Availability of trainers and resources to create, maintain and teach a full scale training curriculum
- Time and availability for providers to attend a training
- Addressing organizational barriers to implement reporting and routine screening
- Competing priorities of healthcare providers

Strategic Direction #4: Driving Policy Change

LAC Hepatitis Coalition partners plan to align efforts with local, state, and national stakeholders to drive policy change and to enhance viral hepatitis education, prevention, and treatment activities.

Advocacy strategies are used to inform or influence policy and can include activities such as one-on-one meetings, community meetings or forums, coalition building, public education campaigns, or media outreach. Several members of the Adult Viral Hepatitis Coalition in LAC engage providers and consumers in advocacy activities statewide and nationally.

Objective 4.1: Establish policies that promote the availability of adult viral hepatitis counseling, testing, education and treatment services for all individuals in Los Angeles County

Initiatives:

- Develop a viral hepatitis educational packet to promote visibility of the LAC Viral Hepatitis Coalition among policymakers, media, and community leaders. The packet should include a fact sheet for elected officials on the burden of disease in LAC, the cost/benefits of prevention/early detection of viral hepatitis, and racial disparities in viral hepatitis morbidity and mortality
- Collaborate with other community groups (HIV, hepatitis, STD, TB, racial disparities, tobacco, alcohol and drug) to leverage resources and develop shared messages
- Build relationships with local, state, and federal policymakers, media, and community leaders to promote awareness of viral hepatitis disease burden and service needs
- Conduct routine educational visits with federal legislators, state legislators, the LAC Board of Supervisors, and other officials
- Advocate for increased funding for viral hepatitis prevention and treatment activities
- Partner with local community leaders and County legislators to increase access to and expand syringe exchange programs

- Advocate to expand eligibility to public insurance programs and to increase access to care for the uninsured living with chronic hepatitis B and C
- Connect with national viral hepatitis and health policy groups

Barriers/Challenges:

- Need to raise awareness among legislators about the importance of viral hepatitis among the residents of Los Angeles County
- Need to organize hepatitis stakeholders to strengthen and unify advocacy efforts to promote viral hepatitis activities/awareness at a national scale

Section 5: Monitoring and Evaluation Plan

4.1 Background

The Adult Viral Hepatitis Prevention Plan contains numerous strategies to prevent the spread and burden of disease from viral hepatitis in Los Angeles. The Los Angeles County Department of Public Health (LAC DPH) will lead the effort to monitor and evaluate the implementation, progress, and outcomes of viral hepatitis-related programs within DPH. The current monitoring and evaluation (M&E) plan is DPH specific because of the availability of data sources to measure performance of DPH's hepatitis programs. Ultimately, all stakeholders, including community groups, Adult Viral Hepatitis Coalition members, and private sector healthcare providers will be incorporated into the M&E plan with the role of monitoring and evaluating their respective viral hepatitis-related programs in LAC.

This section outlines the evaluation plan developed and approved by the LAC DPH Adult Viral Hepatitis Advisory Committee, which includes population-level outcomes and specific measures of program effectiveness for countywide hepatitis activities. The M&E plan is aligned with the activities outlined in the logic model (refer to Section 1: Introduction). The logic model illustrates the activities that the Adult Viral Hepatitis Coalition members are currently implementing (and plan to implement in the future) and the short-and long-term outcomes of these activities. Not all activities in the logic model are included in the M&E plan due to the lack of data sources to measure performance.

A subset of the Hepatitis Advisory Committee will be contributing resources towards the evaluation plan. The following DPH units and partner agencies contribute data to the evaluation of hepatitis-related programs:

1. Sexually Transmitted Disease Program
2. Immunization Program
3. Acute Communicable Disease Control
4. Office of AIDS Programs and Policy
5. Los Angeles County Sheriff's Department Infection Control & Epidemiology Unit
6. LAC Department of Health Services Office of Planning, Data Quality and Analysis

Each LAC unit is responsible for collecting and reporting data on an annual basis to the DPH Adult Viral Hepatitis Prevention Coordinator. More information about each of these DPH programs is available in Appendix II.

4.2 Evaluation Measures

Out of the many strategies outlined in this prevention plan, the LAC DPH Hepatitis Advisory Committee opted to evaluate those that can be effectively monitored and evaluated using existing data systems. The approach is based on the LAC DPH Quality Improvement Plan which emphasizes the measurement of structure-process-outcome measures in the context of the short and long-term health outcomes that programs are intending to improve.

The DPH Hepatitis Advisory Committee developed population indicators to measure rates of hepatitis A and B in Los Angeles County. The performance measures in table 4.1 were developed around four goals (1) Increase hepatitis B and C testing for priority populations, (2) Better define prevalence of chronic hepatitis B and C (3) Increase hepatitis B vaccinations for priority populations and (4) Increase hepatitis A vaccinations for children. These performance measures are implemented at "target sites" that serve priority populations for LAC. Over time the goal is for the M&E process to continue to expand and capture comprehensive countywide data in the future.

Table 4.1: Population Indicators and Performance Measures for Hepatitis Activities in Los Angeles County

Population Indicators	
Goal	Reduce morbidity and mortality due to viral hepatitis A, B and C in Los Angeles County
#1	Rate of acute hepatitis A cases, adults
#2	Rate of acute hepatitis A cases, children under 18
#3	Rate of acute hepatitis B cases
#4	Rate of acute hepatitis C cases
Performance Measures	
Topic	Clients tested for hepatitis B and C
Goal	Increase hepatitis B and C testing for clients
#1	Proportion of clients who are tested for hepatitis B at target sites
#2	Proportion of clients who are tested for hepatitis C at target sites
Topic	Clients who are chronically infected with hepatitis B or C
Goal	Better define prevalence of chronic hepatitis B and C
#3	Proportion of clients who are chronically infected with hepatitis B at target sites
#4	Proportion of clients who are chronically infected with hepatitis C at target sites
Topic	Clients who are vaccinated for hepatitis B
Goal	Increase hepatitis B vaccinations for clients
#5	Proportion of high risk clients who completed all 3 doses of hepatitis B vaccine at target sites
Topic	Children who are vaccinated for hepatitis A
Goal	Increase hepatitis A vaccinations for children
#6	Proportion of children under 18 who completed both doses of hepatitis A vaccination series

Note: There is currently no mechanism to follow-up with individual cases of chronic hepatitis B and C in Los Angeles County. This evaluation plan does not include an indicator to measure the rate of acute hepatitis C cases due to the fact that the majority of cases are asymptomatic which makes the indicator very difficult to measure accurately.

4.3 Collecting and Analyzing Information

The main data sources are databases used by STD clinics, OAPP, LAC hospitals and outpatient clinics, Immunization Program, Infection Control and Epidemiology Unit at the LAC Men's Central Jail (see Appendix IV for list of databases). The target sites that are referenced in the above performance measures include the Los Angeles County Sheriff's Department Infection Control & Epidemiology Unit, STD clinics run by the STDP or Community Health Services, OAPP-funded clinics and HIV counseling and testing sites, and LAC hospitals and outpatient medical clinics. These sites were chosen because they collect relevant viral hepatitis data and are accessed by priority populations. On an annual basis, the AVHPC in partnership with the LAC DPH Quality Improvement Division will measure and report progress and outcomes based on the data collected from LAC DPH programs. The progress report will be presented annually to the DPH Hepatitis Advisory Committee and the Adult Viral Hepatitis Coalition members. In addition, the progress report will be available to stakeholders upon request.

Section 6: Appendices

The following section briefly highlights hepatitis-related activities within each of the programs and describes key organizing entities.

Appendix I: List of LAC Viral Hepatitis Coalition Members

Axelrod, Marisa
Bae, Ho
Bancroft, Elizabeth
Berger, Wendy
Bhatti, Laveeza
Bolan, Robert
Cachero, Army
Carpio, Felix
Chang, Mimi
Chaupette, Niva
Cohen, Phyllis
Crofford, Barbara
Daar, Eric
Edney-Meschery, Heather
Emlein, Deborah
Eng, Caroline
Estiandan, Jocelyn
Felderman, Jennifer
Fine, Gretchen
Fisher, Dennis
Flores, Bill
Flores, Joseph
Fong, Coleen
Fong, Tse-Ling
Forrest, Susan
Galadzhyan, Gohar
Garcia, Roberto
Gelberg, Lillian
Goldfarb, Georgia
Goodman, Brenda
Green, Joseph
Guerriere, Jenine
Gutierrez, Adriana
Halliday, Teresa
Handy, Eli
Harris, Carol
Harvey, Robert
Hatakeyoma, Jason
Hedman, Sean
Heimer, Deidre
Hernandez, Gavino
Hernandez, Omar
Hoh, John
Horton, Tiffany
Houston, Pamela
Hudson, Sharon
Huff, Patti
Jenkins, Danny
Jones, Larry
Jordan, Wilbert
Kawakami, Diana
Kilburn, David
Kim-Farley, Robert
King, Jan
Kirby, John
Kollipara, Aparna
Koretz, Ronald
Lai, Helen
Lam, Quoc
Land, Bradley
Lee, Eric D.
Lemme, Sue
Levee, Jim
Levin, Jules
Lewis, Krista
Liggins, Maxine
Lind, Darrell
Long, Anna
Luna, Deborah
luna, Sonia
Malek, Mark
Mangaong, Gil
Manthiram, Annam
Martin, Jillian
Martinelli, Helen
Matta, Gloria
Mattee, Jim
Maynard, Jane
McQuie, Hilary
Mercieca, Steve
Moite, Wanjiku
Montenegro, Marilyn
Moon, Scott
Morales, Susana
Moreno, Monica
Moriel, Juan
Mozian, Rita Rena
Muniz, Juan
Naa, Lisa M
Naylor, Rachel
Nelson, Alvin
Nickel, Harry
Noonan, Kristie
Nsilu, Pierre
Nyamathi, Adeline
Olufs, Cathy
Owens, Tia
Parada, Koy
Pandol, Stephen
Poordad, Fred
Puentes, Stephen
Raynold, Grace
Risley, Brian
Rohde, Jane
Rotnberg, Jill
Rumanes, Sophia
Sayles, Jennifer
Seal, Julie
Sebrio, Cecile
Simon, Stephen
Spiegel, Brennan
Steinberg, Jane
Stirland, Ali
Szeto, Emily
Tong, Myron
Watts-Troutman, Willie
Yeh, Julia

Appendix II: List of LAC DPH Hepatitis Advisory Committee Members

Elizabeth Bancroft, M.D.
Wendy Berger, M.P.H.
Deborah Davenport, RN, PHN, MS
Deborah Emlein
Jennifer Felderman, M.A.
Michael Green, Ph.D, MHSA
Susan Hathaway, RN, PHN, MPH
Robert Kim-Farley, M.D., M.P.H.
Aparna Kollipara, MSc, MS
Mitchell Kushner, M.D., M.P.H.
Mark Malek, M.D., M.P.H.
Rachel McLean, M.P.H.
Alvin Nelson-El Amin, M.D., M.P.H.
Michelle Parra, Ph.D
Mario Perez, MPH
Sheree Poitier, MD
Shobita Rajagopalan, M.D., FACP
Jane Rohde, M.P.H.
Jacqueline Rurangirwa, M.P.H.
Jennifer Sayles, M.D., M.P.H.
Ali Stirland, MBChB, MSc
Elaine Waldman, M.P.H.

Appendix III: List of Department of Public Health Programs

Substance Abuse Prevention and Control
http://publichealth.lacounty.gov/sapc/

The Substance Abuse Prevention and Control reduces community and individual problems related to alcohol and drug abuse through evidence-based programs and policy advocacy. All contracted treatment programs are required to provide education and information on tuberculosis and viral hepatitis.

Community Health Services

Community Health Services (CHS) provides healthcare services at 14 community health centers throughout the eight Service Planning Areas in Los Angeles County. There are 12 CGS STD clinics which offer hepatitis B and C screening, and hepatitis A and B vaccination to at risk clients. CHS Public Health Nurses currently conduct epidemiologic infections disease investigations for all acute cases of hepatitis referred from Acute Communicable Disease Control.

Office of AIDS Programs and Policy
http://publichealth.lacounty.gov/aids

The Office of AIDS Programs and Policy (OAPP) directs Los Angeles County's response to the HIV/AIDS epidemic. The OAPP Prevention Services Division monitors, collects and analyzes testing data for multiple diseases, including viral hepatitis. In addition, as required by the

standards of care developed by the Commission on HIV, Ryan White Care Act funded medical outpatient contracted clinics ensure that HIV infected persons receive hepatitis screening, vaccination and treatment.

Communicable Disease Control and Prevention Division
http://www.publichealth.lacounty.gov/cdcp

The Communicable Disease Control and Prevention Program reduces the risk factors and disease burdens of preventable communicable diseases for all persons and animals in Los Angeles County. There are nine programs under its purview.

Acute Communicable Disease Control
http://publichealth.lacounty.gov/acd

The Acute Communicable Disease Control (ACDC) Program prevents and controls communicable diseases utilizing the tools of surveillance, outbreak response, and education and preparedness activities. The ACDC program is responsible for setting hepatitis epidemiology standards, receiving viral hepatitis reports, investigating hepatitis outbreaks and recommending control measures. Program staff collects and maintains data on risk factors for hepatitis A, B and C infection and summarizes these data, along with all reported hepatitis cases, in the Multiple Morbidity Annual Report. This program also provides educational and training materials on viral hepatitis for Community Health Services staff at DPH.

Immunization Program
http://publichealth.lacounty.gov/ip

The Immunization Program improves immunization coverage levels to prevent infections for vaccine-preventable diseases. This program assures compliance with California Perinatal Hepatitis law, which requires pregnant women be tested for HBV, and if the mother is chronically infected with HBV, the infants and household contacts be immunized against hepatitis B. The program also distributes HBV and HAV vaccines to DPH departmental and community locations. A registry called California Immunization Registry (CAIR) maintains records of immunization efforts.

Sexually Transmitted Diseases Control Program
http://publichealth.lacounty.gov/std

The Sexually Transmitted Disease Control Program (STDP) prevents and controls sexually transmitted diseases in partnership with communities in Los Angeles County. STDPs activities include STD surveillance; community-based awareness and education; professional education, training, and medical consultation; patient education and partner counseling; quality assurance and program evaluation; and research and policy analysis/development. STDP also provides education and screening for STD and HIV at outreach events in the community, such as Hep Team LA for MSM, the Hepatitis C Taskforce, the Los Angeles Gay and Lesbian Center and AIDS Healthcare Foundation. The STDP also extended its hepatitis vaccination efforts to the K-6G unit, a special housing unit for gay-identified and transgender individuals, and to the general population among incarcerated individuals in Tower II.

Public Health Laboratory
http://publichealth.lacounty.gov/lab

The Public Health Laboratory protects the health of County residents through the provision of state-of-the-art high quality and cost effective laboratory reference, surveillance, diagnostic and consultative services. The laboratory supports epidemiologic investigations and programs to prevent and control infectious disease and pollution of air, water, and food. The laboratory provides laboratory services for County public health and personal health centers, four County hospitals, County environmental management and veterinary units, and private providers. The public health laboratory maintains a broad database of reported viral hepatitis cases and provides skills training for their staff.

HIV Epidemiology Program
http://publichealth.lacounty.gov/hiv

The HIV Epidemiology Program collects, analyzes, and disseminates HIV/AIDS surveillance and epidemiological data essential for the planning, implementation, and evaluation of programs and policies involving HIV and AIDS care, prevention, education, and research in Los Angeles County. Due to increasing numbers of individuals co-infected with HIV and viral hepatitis, HIV Epidemiology has a significant role in monitoring co-infected cases. The AVHPC has been

using the HIV disease management model to coordinate and integrate hepatitis prevention and care services.

Tuberculosis Control Program
http://publichealth.lacounty.gov/tb

The Tuberculosis Control (TB) Program prevents the transmission of tuberculosis within Los Angeles County through early detection of active disease and treatment of latent infection. The TB program works effectively through its coalition to partner with many diverse organizations that target populations at risk for contracting and spreading tuberculosis (e.g., travelers, minorities, homeless and incarcerated populations, people living with HIV/AIDS, and substance abusers). Several of these populations share common risks for viral hepatitis and provide an excellent venue for collaborative efforts between programs.

Department of Health Services
http://www.ladhs.org

The LAC Department of Health Services runs four hospitals: LAC+USC Healthcare Network, Harbor-UCLA Medical Center, Valley Care Olive View-UCLA Medical Center, and Rancho Los Amigos National Rehabilitation Center. This department also runs two multi-service ambulatory care-centers (MACC)-High Desert Health System and Martin Luther King, Jr., six comprehensive health centers, and numerous health clinics. A wide array of viral hepatitis related programs are provided through various specialties including Internal Medicine, Family Medicine, General Surgery and sub-specialties of Infectious Diseases, Gastroenterology and Transplantation. Harbor UCLA, LAC-USC and MLK MACC are actively involved in the care and treatment of viral hepatitis.

Appendix IV: Helpful Websites

The following is a list of websites that may be helpful for acquiring additional information about adult viral hepatitis. This list is not exhaustive.

- **American Association for the Study of Liver Diseases**
  https://www.aasld.org/eweb/StartPage.aspx

- **American Gastroenterological Association**
  http://www.gastro.org/wmspage.cfm?parm1=2

- **American Liver Foundation**
  http://www.liverfoundation.org

- **Asian Liver Center**
  http://liver.stanford.edu/

- **California Department of Public Health: Office of Viral Hepatitis Prevention**
  http://www.cdph.ca.gov/Programs/Pages/ovhp.aspx

- **Centers for Disease Control and Prevention: Viral Hepatitis**
  http://www.cdc.gov.ncidod/diseases/hepatitis/index.htm

- **CDC Hepatitis Coordinator Website Portal**
  http://www.cdc.gov/ncidod/diseases/hepatitis/resource/coordinators_portal.htm

- **CDC Advisory Council on Immunization Practices**
  http://www.cdc.gov/vaccines/recs/acip/default.htm

- **CDC Morbidity and Mortality Weekly Report**
  http://www.cdc.gov/mmwr/?s_cid=mmwr_online_e

- **Center Watch: Clinical Trials Listing Service**
  http://www.clinicaltrials.gov

- **County of Los Angeles Department of Public Health, Acute Communicable Disease Control**
  http://www.ph.lacounty.gov/acd/

- **County of Los Angeles Department of Public Health, Immunization Program**
  http://www.publichealth.lacounty.gov/ip/

- **County of Los Angeles Department of Public Health, Office of AIDS Programs and Policy**
  http://www.lapublichealth.org/aids

- **County of Los Angeles Department of Public Health, Service Planning Areas**
  http://www.lapublichealth.org/spa/index.htm

- **County of Los Angeles Department of Public Health, Sexually Transmitted Disease Program**
  http://www.lapublichealth.org/std/

- **Guide to Clinical Preventive Services, 2008 Infectious Disea**ses
  http://www.ahrq.gov/clinic/pocketgd08/gcp08s2b.htm#HepB

- **Harm Reduction Coalition**
  http://www.harmreduction.org/

- **HCV University**
  http://www.hcvu.org/

- **Hepatitis B Foundation**
  http://www.hepb.org/

- **Hepatitis C Caring Ambassadors**
  http://www.hepcchallenge.org/

- **Hepatitis C Support Project**
  http://www.hcvadvocate.org/

- **Hepatitis Foundation International**
  http://hepfi.org/

- **Hep C Taskforce Resource Guide**
  http://www.hepcTaskforceLA.org/resource_guide.htm

- **Hep Team Los Angeles**
  http://www.hepteam.com

- **Hepatitis Web Study**
  http://depts.washington.edu/hepstudy/

- **HIV and Hepatitis**
  http://www.hivandhepatitis.org/

- **Immunization Action Coalition**
  http://immunize.org/ and http://www.hepprograms.org/hepexpress/

- **Pacific AIDS Education and Training Center**
  http://familymedicine.medschool.ucsf.edu/paetc/

- **National AIDS Treatment and Advocacy Project**
  http://natap.org/

- **National Alliance of State and Territorial AIDS Directors (NASTAD)**
  http://nastad.org/Programs/viralhepatitis/

- **National Guideline Clearinghouse**
  http://www.guideline.gov/browse/browsecondition.aspx

- **The National Institute of Health: NIH Consensus Development Program**
  http://consensus.nih.gov/2002/2002HepatitisC2002116html.htm

- **National Library of Medicine**
  http://www.nlm.nih.gov/

- **National Viral Hepatitis Roundtable**
  http://www.nvhr.org/

- **O.A.S.I.S**
  http://www.oasisclinic.org

- **The Cochrane Collaboration**
  http://www.cochrane.org/index.htm

- **World Health Organization (WHO)**
  http://www.who.int/topics/hepatitis/en/

Appendix V: Inventory of Hepatitis Related Databases and Educational Materials in Los Angeles County

Table 1: Inventory of Hepatitis Related Databases and Educational Resources[36]

Name of Program	Name of Database (s)	Start Date	Stop Date	Notes	Educational Resource (s)
Office of AIDS Programs and Policy	HIV Information Resource System (HIRS)	2006	Current	Prevention data; Hepatitis B and Hepatitis C multiple morbidity	ABC's of Hepatitis for Non-Clinicians and CME/CE lectures
Office of AIDS Programs and Policy	Casewatch	2006	Current	RWCA* medical outpatient clinic data. Hepatitis A, B, and C Vaccine information	
Sexually Transmitted Disease Program	MYSIS PHIS CHS STD Clinic intake	2006	current	Hepatitis laboratory tests collected by PHL	
				CHS** Patient Encounter Form. PHIS collects only hepatitis A	
Sexually Transmitted Disease Program		2006	current	Clinic intake form, history of hepatitis A,B, C and hepatitis A and B vaccination	
Sexually Transmitted Disease Program		2007	2008 stopped collecting detailed data, vaccination continues	K6G inmate data, h/o Hepatitis A and B and vaccination	
Immunization Program	CAIR			Immunization hepatitis A and B	
Public Health Laboratory	Laboratory Information Services (LIS)	2000	Current	General database where all lab reports are entered. It provides requests for specific parameters and extracted data	Skills training material for lab technicians. Nothing for providers or lay people
Acute Communicable Disease Control Program	Visual Confidential Morbidity Report (VCMR)	2001	Current	All hepatitis reports are included. It is all summarized in the Multiple Morbidity Annual Report	Online ACDC materials. Health Education Program – a separate program has a list of all educational materials
Acute Communicable Disease Control Program	Hepatitis A Access databases	2005	Current	Risk factors for hepatitis A. Summarized in http://publichealth.lacounty.gov/acd/Report.htm	Relevant presentations on the ACDC website: http://publichealth.lacounty.gov/acd/Diseases/HepA.htm
Acute Communicable Disease Control Program	Hepatitis B Access databases	2003	Current	Risk factors for hepatitis B Summarized in http://publichealth.lacounty.gov/acd/Report.htm	Relevant presentations on the ACDC website: http://publichealth.lacounty.gov/acd/Diseases/HepA.htm
Acute Communicable Disease Control Program	Hepatitis C Access databases	2003	Current	Risk factors for hepatitis C Summarized in http://publichealth.lacounty.gov/acd/Report.htm	Relevant presentations on the ACDC website: http://publichealth.lacounty.gov/acd/Diseases/HepA.htm
Substance Abuse Prevention and Control	Los Angeles County Participant Reporting System (LACPRS)	FY 2005-2006	Current	Hepatitis C Client self-reported questions	

[36] Self-reported information from DPH partners
* RWCA—Ryan White Care Act
** Community Health Services (CHS) does not maintain data sets but reports all cases of hepatitis to ACDC. For training, they use web resources and ACDC-referred resources for their staff.

Appendix VI: Acronyms

Acronym	Meaning
ACDC	Acute Communicable Disease Control and Prevention
AIDS	Acquired Immune Deficiency Syndrome
AOD	Alcohol and Other Drugs
API	Asian Pacific Islander
ART	Antiretroviral Therapy
AVHPC	Adult Viral Hepatitis Prevention Coordinator
CAIR	California Immunization Registry
CDC	Centers for Disease Control and Prevention
CEU	Continuing Education Unit
CHS	Community Health Services
CME	Continuing Medical Education
DHS	Department of Health Services
DPH	Department of Public Health
ETV	Entecavir
FDA	Food and Drug Administration
FY	Fiscal Year
HAC	Hepatitis Advisory Committee
HARS	HIV/AIDS Reporting System
HAV	Hepatitis A Virus
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIRS	HIV Information Resource System
HIV	Human Immunodeficiency Virus
IDU	Injection Drug User
IG	Immune Globulin
LAC	Los Angeles County
LACPRS	Los Angeles County Participant Reporting System
LASD	Los Angeles County Sheriff's Department
LIS	Laboratory Information Services
M&E	Monitoring and Evaluation
MMTU	Multiple Morbidity Testing Units
MSM	Men who have Sex with Men
MSMW	Men who have Sex with Men and Women
OAPP	Office of AIDS Programs and Policy
RNA	Ribonucleic Acid
RWCA	Ryan White Care Act
SEP	Syringe Exchange Program
STD	Sexually Transmitted Disease
STDP	Sexually Transmitted Disease Program
SVR	Sustained Virological Response
TB	Tuberculosis
VCMR	Visual Confidential Morbidity Report

Appendix VII: Glossary of Clinical and Non-Clinical Terms

Clinical Terms

Acute – Acute refers to the short-term, initial stage of infection.

Antigen – A foreign substance that the body's immune system identifies as potentially harmful.

Asymptomatic – Without symptoms or signs of illness.

Chronic – An illness that lasts longer than six months.

Cirrhosis – Extensive scarring of the liver.

Endemic – A disease that occurs continuously in a particular population.

Epidemiology – Investigation of the causes of, and ways to control, diseases.

Hemodialysis – The process of filtering the accumulated waste products from the blood of a person whose kidneys are not functioning properly, using a kidney machine.

Hepatitis – Inflammation of the liver. It may be caused by a variety of agents, including viral infections, bacterial invasion, and physical or chemical agents. Symptoms include fever, jaundice, and, usually, an enlarged liver.

Jaundice – Yellowing of the skin and whites of the eyes.

Liver – The largest glandular organ in the body. It has many functions that include, but are not limited to the production of protein and cholesterol, the production of bile, the storage of sugar in the form of glycogen, and the breakdown of carbohydrates, fats, and proteins. The liver also breaks down and excretes many medications.

Perinatal – Transmission of an infectious disease from mother to infant.
It can happen in the uterus, or during or after birth.

Non-Clinical Terms

Evaluation - A study to determine the extent to which a program or project reached its goals.

Goal - A desired end result. Goals are typically not measurable but are usually supported by one or more measurable "objectives." For example the goal may be to increase student employment opportunities and a supporting objective might be to increase the number of employer co-op positions by 30% over the next 3 years.

Inputs - The resources that are used to make the project happen (such as people and equipment).

Logic model - A text or diagram which describes the logically-related parts of a program, showing the links between program objectives, program activities, expected program outcomes, and how those outcomes will be evaluated.

Mission - A brief, comprehensive statement of purpose. A mission statement simply describes why an organization or program exists, its calling or its specific tasks. A mission statement states a common direction to focus the individual and group efforts within an organization or group. It is generally longer and more operational than a vision statement.

Needs assessment - A structured process to determine the needs of a designated individual, group, or organization.

Objectives - Specific and measurable targets for accomplishing goals.

Outcomes - The long-term end goals that are influenced by the project, but that usually have other influences affecting them as well. Outcomes reflect the actual results achieved, as well as the impact or benefit, of a program.

Output - A type of performance measure that focuses on the level of activity in a particular program.

Performance measures - Tools or information used to measure results and ensure accountability.

Stakeholder - Any person or group with a vested interest in the outcome of a project or plan.