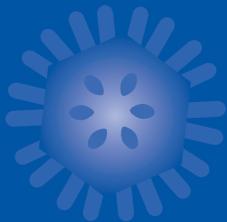
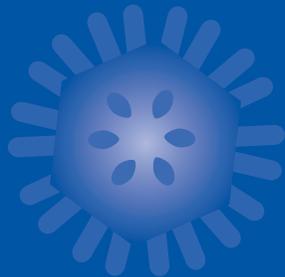


NEW YORK STATE DEPARTMENT OF HEALTH



Viral Hepatitis

Strategic Plan



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List of Abbreviations

ADAP	AIDS Drug Assistance Program
BCDC	Bureau of Communicable Disease Control
CDC	Centers for Disease Control and Prevention
CLEP	Clinical Laboratory Evaluation Program
CSTE	Council of State and Territorial Epidemiologists
DOCS	New York State Department of Correctional Services
EIA	Enzyme Immunoassay
ESAP	Expanded Syringe Access Program
FDA	Food and Drug Administration
HANYS	Healthcare Association of New York State
HAV	Hepatitis A virus
HBIG	Hepatitis B Immune Globulin
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
IG	Immune Globulin
LHD	Local Health Department
MCO	Managed Care Organization
MSSNY	Medical Society of the State of New York
NHANES III	Third National Health and Nutrition Examination Survey
NYCDOHMH	New York City Department of Health and Mental Hygiene
NYSACHO	New York State Association of County Health Officers
NYSDOH	New York State Department of Health
OASAS	Office of Alcohol and Substance Abuse Services
MSM	Men having sex with men
OMH	Office of Mental Health
PCR	Polymerase Chain Reaction
RIBA	Recombinant Immunoblot Assay
SEP	Syringe Exchange Program
STD	Sexually Transmitted Disease
SVR	Sustained Viral Response



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Executive Summary

Viral hepatitis represents a disease entity caused by at least five unrelated viruses, which attack the cells of the liver. The majority of viral hepatitis cases are due to the hepatitis A virus (HAV), hepatitis B virus (HBV), or hepatitis C virus (HCV). Hepatitis A is an acute self-limited disease caused by the HAV. Infection with HBV can produce a chronic infection which may lead to death from chronic liver disease or hepatocellular carcinoma. HCV infection is responsible for the majority of cases of parenterally transmitted non-A, non-B hepatitis, and in most individuals causes chronic liver disease.¹

HAV infection is one of the most frequently reported vaccine-preventable diseases in the United States. According to the CDC Third National Health and Nutrition Examination Survey (NHANES III) study conducted during 1988-1994, approximately 31.3% of the US population has ever been infected with HAV.² The costs associated with HAV infection are substantial. Between 11% and 22% of persons who have hepatitis A are hospitalized. Adults who become ill lose an average of 27 days of work. Health departments incur substantial costs providing postexposure prophylaxis to an average of 11 contacts per case. Average costs (direct and indirect) of hepatitis A range from \$1,817 to 2,459 per case for adults and from \$422 to \$1,492 per case for children <18 years of age.³ Fortunately, once someone has been infected with HAV they are immune for a lifetime and there are no chronic sequelae.

HBV and HCV infections are common chronic bloodborne viral infections in the United States. The estimated number of new hepatitis B and hepatitis C infections per year is approximately 78,000 and 25,000, respectively. Studies show that

4.9% of Americans have been infected with HBV, of whom 1.25 million are chronically infected. The expected direct medical costs associated with acute and chronic HBV infection for one U.S. birth cohort are estimated to be \$81.9 million.⁴ It is estimated that 1.8% of Americans have been infected with HCV, of whom most (2.7 million) are chronically infected. The consequences of hepatitis-induced chronic liver disease may not become apparent until decades after infection. Chronic liver disease is the tenth leading cause of death in the United States, with 40 – 60% due to HCV infection. HCV-associated chronic liver disease is the most frequent indication for liver transplantation among adults. The costs of hepatitis C in direct medical expenditures during 1997 were estimated at \$1.8 billion.⁵ Similarly, a computer simulation model has projected that, from 2010 through 2019, the direct medical expenditures for HCV will be \$10.7 billion.⁶ An effective vaccine is available to prevent HAV and HBV infection; however, no such vaccine has been developed for HCV.

Using the national data, it is estimated that over 931,000 New Yorkers have been infected with HBV, with 46,550 of these persons chronically infected. An estimated 342,000 New Yorkers have been infected with HCV, with 237,500 of these persons chronically infected. Hepatitis B and hepatitis C are complex infections that have significant epidemiologic, social and medical impact.

In addition to the potential financial burden to the state, viral hepatitis can have a tremendous impact on the lives of many New Yorkers. As a result, the New York State Department of Health (NYSDOH) identified the need for a comprehensive, collaborative and organized approach by partners across New York to address the public

health problems associated with viral hepatitis.

On June 3 and 4, 2003, the NYSDOH, along with partners and stakeholders from across the state, participated in the Viral Hepatitis Strategic Planning Summit. This summit was to be the beginning of the development of a statewide viral hepatitis strategic plan. The two-day meeting began with presentations by representatives from the CDC and the NYSDOH. Then the participants were divided into four focus areas: 1) Prevention,

2) Education, 3) Surveillance and Research, and 4) Medical and Case Management. The focus areas served as the central elements of the strategic plan. By the end of the two-day meeting, each focus area identified three to five priority issues, which were then developed into long-term goals, each with strategies and five-year action plans for meeting the goals. A summary of the long-term goals for each of the four focus areas is provided below:

Prevention

- ❖ Substantially increase awareness and knowledge about viral hepatitis through a comprehensive statewide viral hepatitis prevention and education initiative.
- ❖ Develop and utilize standard NYSDOH viral hepatitis protocols for screening, testing, counseling, vaccination, referral and treatment.

Education

- ❖ Increase the capacity of all appropriate health care and service providers to screen, diagnosis, treat, educate and counsel clients.
- ❖ Increase awareness of and access to primary, secondary, and tertiary prevention measures for infected and at-risk populations.

Surveillance and Research

- ❖ Establish an enhanced surveillance system that will generate accurate data on hepatitis to support primary and secondary prevention, education and medical management.
- ❖ Promote research activities that will assist with decreasing the incidence of viral hepatitis and benefit those with chronic hepatitis.

Medical and Case Management

- ❖ Develop and establish standards of medical care and case management for those at risk for and infected with viral hepatitis.
- ❖ Ensure vaccination and treatment of all patients and clients likely to benefit per current (best available) standard of care.

The overall purpose of this plan is to provide a blue print for the NYSDOH and its stakeholders and partners for the development and delivery of viral hepatitis services in New York State. Due to the limited federal, state and local resources for viral hepatitis initiatives, implementation of the plan will occur over time. The success of this plan will involve a coordinated, collaborative and

sustained approach for prevention, education, surveillance and research, and medical and case management of viral hepatitis by many stakeholders across the state. Partnerships between the NYSDOH and stakeholders, including those who helped in the development of the plan, will be necessary to fully implement this plan.



The Strategic Planning Process

The development of the Viral Hepatitis Strategic Plan began on June 3 and 4, 2003, when the NYSDOH along with partners and stakeholders from across the state came together at the Viral Hepatitis Strategic Summit. The two-day meeting started with presentations by representatives from the CDC and the NYSDOH. Presentations included an overview of viral hepatitis on a national level, as well as New York State viral hepatitis initiatives. Following the presentations, the participants were divided into one of four focus areas: 1) Prevention, 2) Education, 3) Surveillance and Research, and 4) Medical and Case Management. The focus areas served as the central elements of the strategic plan.

Each focus area, under the direction of a facilitator, identified the public health issues within its assigned focus area. The issues were then prioritized based on importance, feasibility and overall impact. The three highest priority issues were each then developed into a long-term goal. Next, each focus area determined how they would meet that long-term goal by developing strategies. The group then identified the top three to five highest priority strategies based on importance, feasibility and overall impact. Finally, five-year action plans were developed for each strategy along with a list of stakeholders who would assist the NYSDOH in carrying out each action plan (Figure 1). At the end of the two-day meeting, a representative from each focus area reported to all the participants the long-term goals, strategies and action plans for that particular focus area.



Figure 1: Method used by each of the four focus areas for determining long-term goals, strategies, and five-year action plans with stakeholders, of the strategic plan.



About this Document

The Viral Hepatitis Strategic Plan is intended to be used by the NYSDOH and its partners and stakeholders that provide services to those infected with or at-risk for hepatitis A, B, and C. This document provides a list of priority activities derived from each focus area during the strategic planning summit, which will assist in the elimination of new hepatitis A, B and C infections and improve the quality of life of those chronically infected with hepatitis B and C.

This document begins by stating the mission, vision, strategic priorities, and long-term goal of the plan, which were developed by the Internal Leadership Team prior to the strategic planning summit. The next section, Overview of Viral Hepatitis, includes an overview of hepatitis A, B, and C.

The subsequent four sections are based upon the four focus areas (Prevention, Education, Surveillance and Research, and Medical and Case Management) and are the central elements of the plan. Each section includes a summary of the current NYSDOH activities specific to that focus area and the major themes discussed during the summit meeting. Each section concludes by outlining the long-term goals, along with the strategies and five-year action plans necessary to meet each long-term goal which were decided upon by each of the focus areas. These sections are followed by the NYSDOH organizational history, glossary of terms, and a reference list.



Mission, Vision, Strategic Priorities and Long Term Goal

Mission Statement

The purpose of the NYSDOH Viral Hepatitis Strategic Plan is to outline a coordinated, comprehensive and systematic approach that will decrease the incidence of acute viral hepatitis and limit the disease burden from chronic hepatitis among those living in New York State.

Vision Statement:

The vision for the NYSDOH Viral Hepatitis Strategic Plan is to eliminate new hepatitis A, B and C infections and to improve the quality of life of those chronically infected with hepatitis B and C.

Strategic Priorities:

- ❖ Assure access to hepatitis services including screening, testing, counseling, education, substance abuse treatment, harm reduction, including syringe access, medical management and treatment for all New Yorkers.
- ❖ Assure access to affordable hepatitis A and B vaccine for high-risk populations.
- ❖ Provide education to patients, health and human service providers, and the public about viral hepatitis.
- ❖ Enhance surveillance of viral hepatitis.
- ❖ Pursue resources for demonstration projects for case management services of special populations.
- ❖ Promote research for viral hepatitis.

Long-Term Goal:

The overall long-term goal of the NYSDOH Viral Hepatitis Strategic Plan is to reduce the incidence and impact of viral hepatitis in New York State.



Overview of Viral Hepatitis

Hepatitis A

Overview

Hepatitis A is caused by an infection with hepatitis A virus (HAV). It is the most commonly acquired form of viral hepatitis in the United States and one of the most frequently reported vaccine-preventable diseases. Due to under-reporting of cases and asymptomatic or unrecognized infection, many more HAV infections occur than are reported each year in the United States. In 2001, 10,609 cases were reported, but after accounting for under-reporting, an estimated 45,000 acute clinical cases occurred. An estimated total of 93,000 new infections occurred, including asymptomatic infections. According to the NHANES III study, about one third (31.3%) of the U.S. population has serologic evidence of ever having had HAV infection.²

Historically the highest rates of HAV infection were reported among children, adolescents and young adults. Approximately one third of reported cases involved children less than 15 years of age. Since 1998, there has been a decline among all age groups due to wide spread use of the hepatitis A vaccine.

Hepatitis A does not result in a chronic infection, unlike hepatitis B and C. In addition, once someone has been infected with hepatitis A, they cannot be reinfected.

Clinical Features

The incubation period of hepatitis A ranges from 15-50 days with the average being 28-30 days. Individuals infected with HAV generally have an abrupt onset of fever, malaise, anorexia, nausea, abdominal discomfort, dark urine and jaundice.

Adults tend to have symptoms more often than children. The severity of disease increases with age. Jaundice occurs among less than 10% of children younger than six years of age, 40%-50% of older children, and 70%-80% of adults. Complications from HAV infection include fulminant hepatitis, cholestatic hepatitis and relapsing hepatitis.

Diagnosis

Most types of hepatitis present with similar symptomatology; therefore, serologic testing must be done to confirm a diagnosis of HAV infection. The HAV IgM antibody test is the most commonly used test to diagnose acute HAV infection. It is usually present 5-10 days before symptoms develop and remains present for approximately six months. HAV IgG antibody is an indication of past infection or of past vaccination. It is present early in the course of infection, remains detectable for the lifetime of the individual, and confers lifelong protection against infection. Individuals with acute hepatitis A often have elevated liver function tests.

Transmission

Hepatitis A is transmitted in several different ways. The most common mode of hepatitis A transmission is via the fecal-oral route, by putting something in the mouth that has been contaminated by feces of a person with hepatitis A, often through household or sexual contact. Close person-to-person contact is the most common mode of transmission. Hepatitis A may also be spread through contaminated food or water. Hepatitis A transmission can occur when an infected food handler directly handles uncooked or cooked foods. Transmission usually occurs because of

lack of hand washing by the infected food handler. Outbreaks have also been reported in association with foods contaminated before wholesale distribution, such as fresh vegetables (onions) and shellfish (clams, oysters) contaminated at the time of harvesting or processing. HAV transmission can occur as a result of blood exposures such as injecting drug use or blood transfusion because viremia can occur prior to the onset of illness in infected persons. Hepatitis A is rarely transmitted through blood or blood products due to screening of blood products for HAV.

At-risk Groups

The following groups are at highest risk for contracting hepatitis A:

- ❖ Household and sexual contacts of infected individuals,
- ❖ Persons, especially children, living in regions of the U.S. with consistently elevated rates of hepatitis A,
- ❖ Persons traveling to countries where hepatitis A is common such as Central and South America, Africa, Middle East, Asia, and the Western Pacific,
- ❖ Men who have sex with men (MSM), and
- ❖ Injecting and non-injecting drug users.

According to CDC's National Notifiable Disease Surveillance System, from 1990 through 2000, the most frequently reported source of HAV infection was personal contact (household or sexual) with an infected person (14%). Two percent of cases involved a child or employee in day-care; 6% of cases were a contact of a child or employee in day-care; 5% of cases reported recent international travel; and 4% of cases reported being part of a recognized foodborne outbreak. Injection drug use was a reported risk factor in 6% of cases; men who have sex with men represented 10% of cases. Forty-five percent of reported hepatitis A cases could not identify a risk factor for their infection.

Treatment

There are no specific medicines or antibiotics that can be used to cure HAV infection once the

symptoms appear. Persons acutely infected with HAV should avoid alcohol and other hepatotoxic medications until they have fully recovered.

Prevention

Hepatitis A vaccine is the best protection against HAV infection. Currently in the U.S. there are two inactivated vaccines licensed and available for those two years of age and older. Both vaccines are highly immunogenic. Approximately 94-100% of children, adolescents, and adults develop protective levels of antibody within one month after the first dose of vaccine; essentially 100% of healthy individuals vaccinated develop protective antibody after completing the two-dose series.³ There is limited data on the long-term persistence of antibody. Some models suggest protective antibody levels persist for at least 20 years. The vaccine is less immunogenic for certain groups, such as the elderly, immunocompromised persons, and transplant recipients.⁷

In 2001, the Food and Drug Administration (FDA) approved a combination hepatitis A and B vaccine. This vaccine is administered in a three dose series and is approved for use in those 18 years or older.

Hepatitis A vaccination is recommended for the following groups: travelers to areas with increased rates of hepatitis A, men who have sex with men, injecting and non-injecting drug users, persons with clotting-factor disorders (e.g., hemophilia), persons with chronic liver disease, and children living in areas with increased rates of hepatitis A.

Immune globulin (IG) provides protection against HAV to those already exposed (postexposure prophylaxis). When administered within two weeks of an exposure, IG is greater than 85% effective in preventing HAV infection. Postexposure use of IG is routinely used for household or intimate contacts of persons with hepatitis A. It may also be used in outbreak situations occurring in institutional settings such as child day care centers

and after common source exposures (e.g., persons who ate food prepared by an infected food handler). IG can also be used as pre-exposure prophylaxis for travelers to areas of high endemicity of hepatitis A, particularly if travel departure is less than 2-4 weeks away. IG is protective against HAV infection immediately after administration,

whereas the hepatitis A vaccine can take 2-4 weeks for an immune response to develop.

Finally, washing hands with soap and water after using the bathroom, changing diapers, and before preparing and eating food helps prevent the spread of hepatitis A.



Hepatitis B

Overview

Hepatitis B infection is caused by the hepatitis B virus (HBV). More than 250,000 persons die worldwide each year of hepatitis B associated acute and chronic liver disease. An estimated 1.25 million persons in the United States have chronic HBV infection. Chronic infection occurs in 90% of infants infected at birth, 30% of children infected at age 1-5 years, and decreases to 6% of persons infected after age of 5 years. In 2001, the number of reported acute cases of hepatitis B in the U.S. was 7,844. From 1982 to 1998, the reported incidence of acute HBV infection declined by 76.1%, from 13.8 cases/100,000 in 1987 to 3.3 cases/100,000 in 1998.⁸

Clinical Features

The incubation period for hepatitis B ranges from 45 to 160 days with an average of 120 days. Approximately 30% of individuals infected will not have symptoms. Children are less likely to have symptoms than adults. Individuals who do have symptoms experience jaundice, fatigue, abdominal pain, loss of appetite, nausea, vomiting and joint pain.

While most acute HBV infections in adults result in complete recovery, about 1-2% will develop fulminant hepatitis, with a 63-93% mortality rate. Chronic HBV infection is responsible for most of the morbidity and mortality due to hepatitis B including chronic hepatitis, cirrhosis, hepatocellular carcinoma, and death. Chronic active hepatitis B develops in over 25% of HBV carriers and often results in cirrhosis. Persons with chronic HBV infection are at 12 to 300 times higher risk for hepatocellular carcinoma than non-carriers.⁹ An estimated 1,000- 5,000 persons die each year in the U.S. from HBV related liver cancer.

Diagnosis

Serologic testing is required to make the diagnosis of HBV. Hepatitis B surface antigen (HBsAg) is present in either acute or chronic infection.

The presence of IgM antibody to hepatitis B core antigen (IgM anti-HBc) is diagnostic of acute HBV infection. Antibody to HBsAg (anti-HBs) is produced following a resolved infection and is the only HBV marker found following vaccination. The presence of HBsAg with a negative test for IgM anti-HBc is indicative of chronic HBV infection. The presence of hepatitis B core antibody (anti-HBc) may indicate either acute, resolved, chronic infection, or a false positive result.⁹ Individuals with hepatitis B may also have elevated liver function tests, especially during the acute phase of illness.

Transmission

HBV is found in blood and certain body fluids such as serum, semen, vaginal secretions, and saliva, of persons infected with HBV. HBV is not found in sweat, tears, urine, or respiratory secretions. Person-to-person spread of HBV can occur among those living with someone chronically infected with hepatitis B. Contact with even small amounts of infected blood can cause infection. HBV is spread by sexual contact with an infected person; sharing needles during injection drug use; occupational needle sticks or sharps exposures; or from an infected mother to her baby during birth. Transmission through receipt of blood or blood products has virtually been eliminated in the U.S. through donor screening. Over 30% of those infected with HBV do not know how they contracted the virus.

At-Risk Groups

At risks groups for hepatitis B include:

- ❖ Persons with multiple sex partners or diagnosis of a sexually transmitted disease,
- ❖ Men who have sex with men,
- ❖ Sexual contacts of infected persons,
- ❖ Injection drug users,
- ❖ Household contacts of chronically infected persons,
- ❖ Infants born to infected mothers,
- ❖ Infants/children of immigrants from areas with high rates of hepatitis B infection,

-
- ❖ Health care and public safety workers, and
 - ❖ Hemodialysis patients,

According to the CDC, in 2001 the most commonly reported risk factor for HBV infection was high-risk heterosexual activity (24%), followed by injection drug users (21%) and men having sex with men (17%). Over half of all patients (55.5%) reported treatment for a sexually transmitted disease (STD) or incarceration in a prison or jail prior to their illness.¹⁰

Treatment

The primary goal of treatment is to eliminate the virus or decrease its replication and decrease inflammation of the liver. Currently there are three FDA-approved drugs for the treatment of chronic hepatitis B. They include lamivudine, adefovir dipovoxil and interferon alfa-2b. These drugs are effective in up to 40% of patients. Not everyone infected with hepatitis B will need treatment. A thorough medical evaluation by a physician or liver specialist should be performed prior to treatment.

Prevention

Immunization with the hepatitis B vaccine is the most effective means of preventing HBV infection. In 1982, the first hepatitis B vaccine was developed and approved for use. Since the introduction of the hepatitis B vaccine in the U.S., the rates of infection have dropped from 200,000 - 300,000 prior to 1982, to an estimated 79,000 in 2001.¹¹ Currently in the U.S., there are two single-antigen hepatitis B vaccines available (Recombivax and Engerix B), in addition to the three combination vaccines containing HBV antigen (COMVAX, Twinrix, Pediarix). COMVAX is a combination HBV and Haemophilus influenzae type B (Hib) vaccine. In 2001, the FDA approved a combination hepatitis A and B vaccine (Twinrix). This vaccine is licensed for use in those 18 years and older. Each vaccine is a three dose series. In December 2002, the FDA licensed Pediarix, a combined diphtheria and tetanus toxoids and acellular pertussis (DTaP), hepatitis

B (HepB) and poliovirus (IPV) vaccine (DTaP-HepB-IPV) for use in infants.

The hepatitis B vaccine is recommended for the following groups:

- ❖ All children aged 0-18 years old who have not been vaccinated,
- ❖ Injection drug users,
- ❖ Sexually active heterosexuals with multiple sexual partners,
- ❖ Persons diagnosed with an STD,
- ❖ Men who have sex with men,
- ❖ Sexual contacts of people with chronic hepatitis B,
- ❖ Household contacts of people with chronic hepatitis B,
- ❖ Health care workers or others with potential occupational exposure to hepatitis B,
- ❖ Hemodialysis patients, and
- ❖ Inmates.

Until universal access to hepatitis B vaccination is achieved, measures such as substance abuse treatment and harm reduction, including syringe access, remain important to prevent hepatitis B infection.

Although high immunization coverage rates have been achieved in infants and younger adolescents, hepatitis B incidence remains high because most new infections occur in adults. Up to 70% of newly infected persons previously received care in settings where they could have been vaccinated, such as in STD clinics, drug treatment programs, and correctional facilities.¹⁰ Since high rates of protection are achieved following each dose of vaccine, hepatitis B vaccination should be initiated even if completion of the series cannot be assured.

Hepatitis B immune globulin (HBIG) is available for postexposure prophylaxis. It is recommended for accidental occupational exposures (percutaneous or mucous membrane), sexual exposure to an HBsAg-positive person, perinatal exposure of infants, or household exposure of an unvaccinated infant less than 12 months old to a primary care-

giver with acute hepatitis B. Unvaccinated persons should also initiate the hepatitis B vaccine series. HBIG is most effective when administered within 7 days of exposure.



Hepatitis C

Overview

Hepatitis C infection is caused by the hepatitis C virus (HCV). This virus accounts for much of what was known as non-A non-B hepatitis until 1989. Hepatitis C is the most common bloodborne infection in the U.S. Approximately 4 million (1.8%) persons in the U.S. have been infected with HCV, 2.7 million of them chronically infected. In 2001, the CDC estimated the number of new acute cases was 25,000, a decrease from 40,000 in 1998. Hepatitis C is the leading reason for liver transplant in the U.S. The estimated annual number of deaths from chronic liver disease associated with HCV is 8,000 – 10,000.

The NHANES III study found that 1.5% of whites, 3.2% of blacks and 2.1% of Mexicans were infected with hepatitis C.² According to the CDC, males aged 40-59 years have the highest prevalence of HCV infection.¹² Approximately 30% of those infected with HIV are co-infected with HCV.

Clinical Features

The incubation period for hepatitis C infection ranges from 14-180 days, with an average of 45 days. The majority of individuals infected with hepatitis C do not have symptoms. When symptoms are present, they include jaundice, fatigue, dark urine, abdominal pain, loss of appetite and nausea. Seventy – 85% of those infected will become chronically infected. About 15 - 30% of patients exposed will clear the virus without treatment. Complications from HCV infection include cirrhosis and hepatocellular carcinoma. Five to 20% of individuals infected with HCV will develop cirrhosis as a complication of HCV infection.

Diagnosis

Detection of HCV antibody (anti-HCV)

Two main types of testing are available for the detection of the anti-HCV antibody: enzyme immunoassay (EIA) and recombinant immunoblot assay (RIBA). Although these tests are useful in detecting antibodies for hepatitis C virus, they

do not distinguish between acute, chronic, or resolved infection. The EIA is used as a screening test to detect HCV antibody. It becomes positive 3-6 months after exposure, although some immunocompromised persons may be infected but not have antibody. There are false positive EIAs; therefore, a positive test must be confirmed by the RIBA, or, in high-risk groups, by proceeding directly to the PCR, which is required to differentiate acute or chronic infection from a past infection. To make a diagnosis of hepatitis C, the following laboratory criteria must be met: anti-HCV positive verified by a more specific assay (i.e., RIBA, polymerase chain reaction (PCR); or anti-HCV EIA positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay (e.g., > 3.8 for the enzyme immunoassay). Furthermore, in order to distinguish an acute case of HCV infection from a chronic case, the individual must also have clinical symptoms and elevated liver function tests.

Detection of HCV RNA

Hepatitis C virus RNA becomes detectable one to two weeks after exposure. Confirmation of current HCV infection is determined by the presence of circulating HCV virus in the blood. In order to determine the presence or absence of HCV RNA circulating in the blood, HCV PCR testing must be conducted. PCR testing plays an important role in the monitoring of HCV treatment and is more useful in diagnosing acute infection after initial exposure (e.g., occupational exposure) since HCV virus is present 1-2 weeks after initial exposure and HCV antibodies are not present until 8-9 weeks after exposure.

There are two types of PCR testing, qualitative and quantitative. Qualitative PCR determines the presence or absence of circulating virus. Quantitative PCR determines the actual number of viral particles circulating and is used to determine the likelihood of response to treatment. PCR testing has its limitations. It is unable to detect

viral loads below certain values, and therefore may elicit a false negative test result. Thus, it is recommended that repeat testing be conducted a few months after an initial negative result.

Transmission

Hepatitis C is a bloodborne pathogen and is transmitted primarily by percutaneous exposure to blood. Injection drug use currently accounts for most HCV transmission in the U.S. and has accounted for a substantial proportion of HCV infections in past decades. Other factors associated with transmission include receiving a transfusion or organ transplant before 1992, receiving long-term hemodialysis, or receiving clotting factor produced before 1987. HCV is less efficiently transmitted between sexual partners or from mother to infant. The estimated seroprevalence of HCV infection among long-term spouses of patients with chronic HCV is 1.5%. The average rate of HCV infection is 5% among infants born to HCV-positive women and 14% among infants born to women co-infected with HCV and human immunodeficiency virus (HIV).

At-Risk Groups

Persons at-risk for hepatitis C include:

- ❖ Intravenous drug users,
- ❖ Individuals who received a blood transfusion/ organ donation prior to 1992,
- ❖ Individuals who received clotting factors before 1987, and
- ❖ Long-term hemodialysis patients.

Treatment

Individuals infected with hepatitis C should be evaluated by a specialist before beginning treatment. Not everyone is a candidate for treatment. According to the June 2002 National Institutes of Health (NIH) Consensus Statement, treatment of HCV is recommended for those with persistently elevated liver enzymes, detectable HCV RNA, and an abnormal liver biopsy.¹³ The primary goal of treatment is to achieve a sustained viral response defined as having no virus detected 6 months after treatment has stopped.

FDA-approved treatments for chronic hepatitis C are interferon, alone or in combination with ribavirin, and pegylated interferon, alone or in combination with ribavirin. The standard treatment for chronic HCV infection is pegylated interferon plus ribavirin. HCV treatments have been approved for use only on individuals chronically infected with HCV who have never received interferon treatment in the past. Initial studies have shown pegylated interferon combination therapy can effectively eliminate the virus in up to 40% of those infected with the most common genotype, type 1, and up to 80% in those infected with genotypes 2 or 3.

Side effects of HCV treatment are significant. Side effects are sometimes the reason why individuals choose not to be treated or discontinue treatment after it has been started. Treatment is contraindicated in pregnancy. The side effects include flu-like symptoms, anemia, hair loss, depression, which may lead to suicide in severe cases, autoimmune disorders, and irritability.

Prevention

Currently there is no vaccine for hepatitis C. So prevention messages are key. Primary prevention messages for hepatitis C include:

If an individual is an injection drug user:

- ❖ Stop injecting.
- ❖ Enter and complete a substance abuse treatment program.
- ❖ If an individual chooses to continue to inject:
 - ♦ Never reuse or share syringes, needles, water or drug preparation equipment (cotton, cooker, water).
 - ♦ If they must reuse, be sure to clean with bleach and water first.
 - ♦ Use only sterile syringes obtained from a reliable source.
 - ♦ Use a new sterile syringe to prepare and inject drugs.
 - ♦ Use sterile water or clean tap water to prepare drugs.
 - ♦ Use a new or disinfected cooker and a new piece of cotton.

-
- ♦ Clean injection site before injection with alcohol swab.
 - ♦ Always dispose syringes safely after one use.

If an individual is sexually active:

- ❖ Persons having sex with multiple sexual partners should use a latex condom correctly each time they have sex.
- ❖ Persons in a monogamous relationship, in which one partner is infected, may choose not to use a condom since the transmission rate is low.

Secondary prevention messages for individuals already infected include:

- ❖ Do not donate blood, body organs, other tissue or semen.

- ❖ Do not share items that might have blood on them such as:
 - ♦ Personal care items (e.g., razors, toothbrushes)
 - ♦ Home therapy items (e.g., needles)
- ❖ Cover cuts and sores on the skin.

Tertiary prevention messages for individuals infected with hepatitis C to maintain a healthy lifestyle include:

- ❖ Do not use alcohol.
- ❖ See a doctor regularly.
- ❖ Do not start any new medicines including over-the-counter, herbal, and other medicines, without a physician's knowledge.
- ❖ Get vaccinated against hepatitis A and B if determined to be susceptible and at-risk.



Prevention
Focus Area

Education
Focus Area

Surveillance & Research
Focus Area

Medical and Case Mgmt
Focus Area

Strategic Plan: Implementation and Recommendations

Prevention Focus Area

Overview

Primary prevention of infection with hepatitis viruses can be achieved either through immunization (i.e., HAV or HBV) or through behavioral interventions to reduce risk factors for infection. Secondary prevention attempts to reduce the risk of transmission from those infected to those not infected. Tertiary prevention focuses on persons already infected with hepatitis and includes appropriate medical management and counseling (i.e., avoid alcohol, vaccination if indicated), in order to prevent further damage to the liver and reduce the risk of chronic liver disease.

Prevention of Hepatitis A

Vaccination is the most effective means to prevent HAV infection and reduce disease incidence. Pre-exposure vaccination is recommended for persons at highest risk for infection and persons for whom infection would result in adverse consequences. These include men who have sex with men, users of injection and non-injection illegal drugs, persons who receive blood product replacement therapy, children and adolescents living in states with historically elevated rates of hepatitis A, travelers to countries with high endemicity for hepatitis A infection and persons with chronic liver disease of any etiology.

Postexposure immunization with immune globulin is >85% effective in preventing hepatitis A after exposure of an unvaccinated person to an infected person if administered < 2 weeks after exposure. Prompt contact tracing can identify individuals who could benefit from postexposure prophylaxis. In addition, education and counseling regarding modes of transmission and the importance of

proper hand washing can help prevent transmission to others.

Since New York State has a relatively low rate of hepatitis A, children are not routinely immunized. However, immunization is recommended for all at-risk adults and adolescents and free vaccine is available through the state-funded “Adult Hepatitis Vaccination Program” at most local health departments.

Prevention of Hepatitis B

Prevention of acute and chronic HBV infection and elimination of HBV transmission in all age groups is most effectively achieved through hepatitis B vaccination. The national strategy to eliminate HBV transmission has four components: 1) prevention of perinatal HBV infection through maternal screening and postexposure prophylaxis of newborns of HBsAg-positive mothers; 2) hepatitis B vaccination of all infants to prevent infection in early childhood; 3) vaccination of all adolescents not previously vaccinated; and 4) vaccination of adults in groups at increased risk for infection. Hepatitis B vaccination has been included in routine health care visits for children and adolescents, but not for all adults at risk for infection. In New York State, public health laws have been passed over the past decade that protect infants born to hepatitis B infected mothers and require hepatitis B immunization for entry into daycare, kindergarten, and seventh grade.

Persons aged <19 years who are not covered by private insurance are covered under the federally funded Vaccines for Children Program. However, similar coverage does not exist for adults, and

cost reimbursement is a substantial barrier to vaccination for adults. In response to this issue, the NYSDOH established the state funded “Adult Hepatitis Vaccination Program”. This program provides free hepatitis A and B vaccine through local health departments to clinic settings that serve high-risk adults, such as STD clinics and HIV counseling and testing sites. In addition, a pilot program is underway in eleven upstate counties to provide hepatitis A and B vaccine to jail inmates. According to studies, approximately 56% of persons with hepatitis B have either been treated for an STD (36%) or incarcerated (29%), in settings where routine hepatitis B vaccination is recommended. Targeting high-risk populations with vaccination and counseling messages has proven to be very successful in reducing the incidence of hepatitis B. For example, federal mandates requiring that all health care workers be offered hepatitis B vaccination and receive education and counseling regarding safe handling of sharps and use of standard precautions has resulted in a significant decrease in the incidence of hepatitis B in this population.

Secondary and tertiary prevention efforts for HBV include identification of persons with HBV infection in order to reduce risks for chronic liver disease through appropriate medical management and education and counseling messages (e.g., do not share personal items with others; use condoms). In addition, further transmission of HBV can be prevented through contact tracing, testing, and vaccination of those who are susceptible. Immunization with hepatitis B vaccine and/or hepatitis B immune globulin (HBIG) within a relatively short period of time after exposure to HBV can effectively prevent acute infection.

Prevention of Hepatitis C

CDC’s national strategy to prevent HCV infection includes: 1) prevention of transmission during high-risk activities (e.g., injection drug use and unprotected sex with multiple partners) through risk reduction counseling, testing and appropriate medical management of infected persons; 2)

donor screening and product inactivation procedures to eliminate transmission from blood, blood products, donor organs, and tissue; and 3) improved infection control practices to further reduce risk of transmission during medical procedures.

Primary prevention is directed at lowering the incidence of HCV infection. Because no vaccine exists to prevent HCV infection, prevention must focus on risk reduction through counseling of persons who have admitted to, or are at risk for, injection drug use or high risk sexual practices. For injection drug users, access to substance abuse treatment and harm reduction programs, including syringe access, are important HCV prevention measures. Counseling and testing to prevent HCV infection should be conducted in settings where persons at high risk are identified, including STD clinics, HIV/AIDS and substance abuse programs, and correctional settings.

Identification of HCV-infected persons is required to initiate secondary and tertiary prevention activities to reduce the risks for HCV transmission and chronic liver disease. Anti-HCV positive persons require further evaluation for chronic HCV infection and liver disease, and persons with chronic hepatitis C require evaluation for possible antiviral therapy and the need for further medical management. Persons with chronic hepatitis C are at-risk for increased morbidity from additional hepatic insults. Hepatitis A and B can be prevented by vaccination and infected person should be counseled not to use alcohol because its use has been associated with more rapid progression to cirrhosis and liver cancer. Persons chronically infected with, or at risk for, HCV can benefit from health education on topics including substance abuse treatment, clean needle and syringe access and use, risks of sharing drug paraphernalia and condom use. Counseling and educational materials should include information concerning reducing further liver damage, as well as treatment options for those with chronic liver disease.

NYSDOH Prevention Efforts

The NYSDOH has initiated efforts aimed at preventing further transmission of hepatitis infection. In addition to the hepatitis vaccination initiatives previously described, the NYSDOH has published various hepatitis educational materials aimed at the prevention of hepatitis A, B and C and sponsors a Web site devoted to hepatitis at www.health.state.ny.us. NYSDOH staff conducted regional training workshops, including the Fall 2002 Hepatitis Integration Workshops and the Fall 2003 Hepatitis Surveillance Workshops. The Hepatitis B and C Coordinators have participated in state and national conferences, speaking on a variety of hepatitis related topics. The department has formed two hepatitis workgroups, one dedicated to the prevention of hepatitis A and B through vaccination initiatives; the other dedicated to preventing further transmission of viral hepatitis through interagency collaboration with programs that serve high-risk populations. Agencies participating in these workgroups include the NYSDOH's Hepatitis C, HIV/AIDS, STD and Immunization programs, New York State Department of Corrections (DOCS), and the New York State Office of Alcohol and Substance Abuse Services (OASAS). Through collaborative efforts, the NYSDOH has also been successful in securing additional CDC funding for a comprehensive hepatitis training initiative.

The NYSDOH AIDS Institute has several programs and harm-reduction initiatives that are instrumental in not only preventing new HIV infections, but in preventing the spread of viral hepatitis. Such programs include:

- ❖ **Substance Abuse Initiative** The Substance Abuse Initiative is designed to develop a co-located continuum of comprehensive HIV prevention and primary care services in substance abuse treatment settings throughout New York State. Outreach, HIV education, risk/harm reduction services, viral hepatitis services, including access to HCV treatment, capacity building for smaller drug treatment programs and transitional case management for

active substance users not in treatment, are also featured in this model. The Substance Abuse Initiative has been instrumental in broadening the mission of the substance abuse treatment community from a singular focus on rehabilitation to the provision of public health service.

- ❖ **Harm Reduction Initiative** One component of this Initiative is the development of harm reduction/syringe exchange programs. There are currently 13 harm reduction/syringe exchange programs in NYS that have been granted a waiver to obtain, possess and furnish hypodermic syringes and needles without a prescription, in programs designed to reduce the transmission of HIV and other bloodborne pathogens.
- ❖ **Expanded Syringe Access Program (ESAP)** ESAP is designed to reduce the transmission of bloodborne diseases, including HIV and hepatitis, by enhancing access to clean (new) syringes. Under this program, up to ten syringes may be sold or furnished to a person 18 years of age or older without a prescription by pharmacists, health care facilities and health care practitioners who have registered with the New York State Department of Health. In addition to the above initiatives, the AIDS Institute has been successful in increasing the Medicaid reimbursement for HCV PCR and genotype testing.

In August 2004, the NYSDOH AIDS Institute was awarded a five-year grant from the CDC to reduce the impact and spread of hepatitis infections among injection drug users. This will be accomplished by integrating existing HIV and HCV prevention service delivery models in methadone maintenance treatment programs (MMTP) and by enhancing HAV, HBV and HCV prevention services for injecting drug users not in treatment. More specifically, this entails: 1) modifying and integrating existing HIV and hepatitis training for medical and non-medical staff as well as marketing and educational materials for clients; 2) modifying existing HCV prevention service delivery models to include substance abuse counselors; 3) screening and vaccinating active IDUs for HAV

and HBV at two harm reduction sites in the Bronx and Manhattan; 4) strengthening off-site referral linkages for HCV treatment; 5) facilitating access to drug treatment among active IDUs; and 6) replicating program successes in other substance abuse settings. Finally, a statewide hepatitis media campaign has been proposed to increase public awareness regarding the risks for hepatitis and how transmission can be prevented, as well as, the development of provider educational materials and resources such as the integrated risk assessment tool are under way.

Major Themes from the Hepatitis Summit

Participants at the Hepatitis Strategic Planning Summit identified the following major themes in the hepatitis prevention focus area:

- ❖ Increase public and provider awareness and knowledge about viral hepatitis,
- ❖ Develop standardized protocols for screening, testing, counseling, vaccination, referral and treatment for viral hepatitis,
- ❖ Provide hepatitis vaccines to all at risk individuals regardless of ability to pay, and
- ❖ Establish a comprehensive hepatitis referral network.

Long Term Goal # 1: Substantially increase awareness and knowledge about viral hepatitis through a comprehensive statewide viral hepatitis prevention and education initiative.

Strategy #1:

Develop and implement a targeted statewide consumer media campaign to increase awareness and provide risk reduction messages about viral hepatitis.

ACTION PLANS

- ❖ During years one and two, NYSDOH should:
 - ♦ Develop campaign messages, products, and target populations,
 - ♦ Identify vendors and pricing for various products, and
 - ♦ Identify funding source for the campaign.
- ❖ During year three, NYSDOH should develop campaign products (e.g., posters, brochures, videos, public service announcements).
- ❖ During year four, NYSDOH should implement the media campaign in selected regions of New York State, staggering the release of the various products.
- ❖ During year five, NYSDOH should evaluate the campaign using methods such as phone surveys or Web site visits.

Strategy #2:

Provide timely continuing education opportunities to primary care providers in New York State on appropriate diagnosis, testing, and management of those at-risk for or infected with hepatitis.

ACTION PLANS

- ❖ During year one, NYSDOH should:
 - ♦ Identify managed care organizations (MCOs) and/or large health plans as partners in educating primary care providers and
 - ♦ Identify an academic institution as a partner to assist with continuing education credits and promotion of programs and materials.
- ❖ During year two, NYSDOH, MCOs, and health plans should:
 - ♦ Develop strategies to provide educational programs and materials targeting primary care providers and
 - ♦ Review materials currently available from other organizations (i.e., CDC, NIH).
- ❖ During year three, NYSDOH, MCOs and health plans should:

- ♦ Develop training programs and materials,
- ♦ Obtain continuing education credits for training programs and materials,
- ♦ Set up a schedule for implementation and distribution of materials, and
- ♦ Identify potential sites for continuing education programs.
- ❖ During years four and five, NYSDOH, MCOs and health plans should:
 - ♦ Implement programs and distribute materials and
 - ♦ Evaluate continuing education programs.

Strategy # 3:

Integrate viral hepatitis education into other appropriate health education materials.

ACTION PLANS

- ❖ During year one, NYSDOH, NYCDOHMH, NYSDOCS, OASAS and other partners should:
 - ♦ Collect and review existing educational ma-

terials (i.e., booklets, brochures, fact sheets) pertaining to HIV, STDs and infection control and determine where viral hepatitis information may appropriately be integrated and

- ♦ Develop a draft of the hepatitis messages/information that could be integrated into these existing materials.

- ❖ During year two, NYSDOH and partners should:
 - ♦ Finalize integrated messages,
 - ♦ Integrate messages into existing materials such as HIV and STD, and
 - ♦ Print materials for distribution.
- ❖ During years three, four, and five, NYSDOH and partners should:
 - ♦ Develop distribution plans for materials and distribute accordingly,
 - ♦ Post materials on NYSDOH Web site and partners' Web site, and
 - ♦ Maintain supply of materials in NYSDOH distribution center.

Long Term Goal #2: All providers and appropriate agencies will use NYSDOH viral hepatitis protocols for screening, testing, counseling, vaccination, referral and treatment.

Strategy #1:

Develop and implement a hepatitis A, B, and C universal risk assessment screening tool for all populations.

ACTION PLANS

- ❖ During year one, NYSDOH should:
 - ♦ Develop a list of populations that will most likely use the risk assessment tool,
 - ♦ Recruit members and form a workgroup to develop the risk assessment tool,
 - ♦ Gather and review current risk assessment screening tools,
 - ♦ Draft a universal risk assessment screening tool, and
 - ♦ Circulate the draft tool for comments.
- ❖ During year two, NYSDOH should solicit for a vendor to:
 - ♦ Conduct focus groups using the risk assessment tool to get further comments and suggestions,

- ♦ Conduct a 6-month pilot of the risk assessment screening tool, and
- ♦ Evaluate the pilot program and make any changes to the risk assessment tool.

- ❖ During year three, NYSDOH should disseminate the risk assessment tool to clinics serving high-risk populations.
- ❖ During years four and five, NYSDOH and workgroup should utilize, evaluate and revise the risk assessment tool.

Strategy # 2:

Develop and implement cost-effective viral hepatitis testing guidelines based on risk assessment.

ACTION PLANS

- ❖ During year one, NYSDOH should:
 - ♦ Review existing viral hepatitis testing guidelines (e.g., CDC, other states),
 - ♦ Review data and literature on cost-effective

- strategies for hepatitis testing, and
- ♦ Solicit input from providers and appropriate agencies on draft testing guidelines.
- ❖ During year two, NYSDOH should:
 - ♦ Identify sites to conduct pilot testing of guidelines using a cross-section of providers and appropriate agencies,
 - ♦ Evaluate results of pilot based on ease of use, number of tests conducted, and cost-effectiveness, and
 - ♦ Revise guidelines based on evaluation.
- ❖ During year three, NYSDOH should:
 - ♦ Implement the testing guidelines statewide and
 - ♦ Educate providers and appropriate agencies on the testing guidelines.
- ❖ During year four, NYSDOH should:
 - ♦ Evaluate the effectiveness of the guidelines based on ease of use, number of tests conducted, and cost-effectiveness and
 - ♦ Identify areas for improvement.
- ❖ During year five, NYSDOH should:
 - ♦ Maintain and update, as needed, the viral hepatitis testing guidelines,
 - ♦ Develop strategies for targets areas in need of improvement, and
 - ♦ Maintain testing guidelines statewide.

Strategy #3:

Develop culturally sensitive counseling messages and protocols to incorporate into all aspects of viral hepatitis prevention and care.

ACTION PLANS

- ❖ During year one, NYSDOH should:
 - ♦ Work with the CDC, consumers, providers and local health departments to gather existing information,
 - ♦ Identify what messages are missing and what needs to be developed, and
 - ♦ Convene focus groups to determine how to develop targeted materials (e.g., MSM, IDU, adolescents), types of materials, and methods to deliver the message.
- ❖ During year two, NYSDOH should:
 - ♦ Identify sources of funding to support the development of counseling materials,
 - ♦ Determine types of materials, target audiences, and languages,
 - ♦ Train and educate health care providers and consumers on the materials, and
 - ♦ Pilot developed materials.
- ❖ During year three, NYSDOH should revise materials as per pilot results and disseminate materials statewide.
- ❖ During year four, NYSDOH should evaluate impact of the materials through marketing tools, survey research, and/or focus groups.
- ❖ During year five, NYSDOH should revise and distribute updated materials.

Strategy #4:

Provide hepatitis A and B vaccination to all who are susceptible to viral hepatitis, regardless of ability to pay.

ACTION PLANS

- ❖ During year one, NYSDOH and LHDs should identify facilities/agencies that have the capacity to conduct vaccination services.
- ❖ During years two and three, NYSDOH should:
 - ♦ Explore all funding options (federal, state, private) for increasing vaccination efforts and providing incentives to ensure series completion and
 - ♦ Expand existing publicly funded vaccination efforts that target populations at risk for viral hepatitis (STD, HIV, inmates and prisoners, IDUs, substance abuse treatment centers, MSMs, persons with chronic liver disease).
- ❖ During year four, NYSDOH and LHDs should:
 - ♦ Provide technical assistance to providers and agencies to acquire personnel/resources necessary to provide vaccination services and
 - ♦ Identify strategies (i.e., work with medical associations and insurers) to promote hepatitis vaccination in the private sector.
- ❖ During year five, NYSDOH and partners should:
 - ♦ Assess the effectiveness of existing and newly initiated vaccination efforts and
 - ♦ Identify barriers/access issues and modify implementation, as needed.

Strategy #5:

Establish a referral network that ensures people have universal access for appropriate, timely services and treatment for viral hepatitis, regardless of ability to pay.

ACTION PLANS

- ❖ During year one, NYSDOH and partners should:
 - ♦ Conduct and publish a comprehensive survey of existing providers of viral hepatitis services,
 - ♦ Institute a regional gaps analysis of the completed survey,
 - ♦ Assist with expansion of services and addition of services where needed, and
 - ♦ Maximize efficacy and access by bundling services into existing programs where targeted populations receive services.
- ❖ During year two, NYSDOH and partners should implement mechanisms to manage/update referral network on a yearly basis.
- ❖ During years three, four and five, NYSDOH and LHDs should:
 - ♦ Develop Centers of Excellence utilizing existing universities, medical centers, community health centers,
 - ♦ Utilize the CDC model to bring together providers and consumers to provide feedback and recommendations, and
 - ♦ Utilize needs assessment and gaps analysis to determine additional resources and ways to access services through public and private sector.



Prevention
Focus Area

Education
Focus Area

Surveillance & Research
Focus Area

Medical and Case Mgmt
Focus Area

EDUCATION FOCUS AREA

Overview

The overall goal of viral hepatitis education and training is to increase knowledge, create awareness, and change attitudes and practices that will result in the prevention and control of viral hepatitis among health care professionals, high-risk populations and the general public.

New Yorkers must be better informed of the risks of viral hepatitis. Furthermore, health care providers in New York must be equally informed on the current screening, testing, management and treatment of those at risk or currently infected with viral hepatitis. Despite the efforts of the NYSDOH and partnering agencies to make educational materials and training available on viral hepatitis, there still remains a significant need for education of both clinicians and the general public.

Viral hepatitis educational materials currently exist in various formats such as brochures, pamphlets, fact sheets, video, Web sites, clinical guidelines, NYSDOH-sponsored conferences, and training curriculums for professionals. Even though these products are available, not everyone has access to them.

Educating the Professionals

The overall goal of education and training of professionals is to increase the knowledge level and awareness among clinicians and health services providers. Physicians and other professionals such as nurses, social workers, and counselors, need to be better informed on the current screening, testing, counseling, vaccination, medical management, and treatment protocols for viral hepatitis. Education and training materials should include general information about viral hepatitis, risk factors for infection, transmission, disease progression, vaccination, and treatment. Materials should also include detailed prevention messages specific to at-risk populations. Because of the variety of settings that service at-risk

populations, trainings and materials should be adaptable to settings such as HIV programs, STD clinics, substance abuse treatment programs, and correctional settings.

One of the biggest challenges in ensuring that professionals receive appropriate and timely education is access to the training materials. In order to meet these challenges, trainings must be available in different formats, such as on-site, teleconference, on-line, and CD-ROM trainings. Also, continuing education credits should be offered at trainings when possible. In order to provide the highest quality trainings, the NYSDOH needs to collaborate with partnering agencies from across the state, including but not limited to the Medical Society of the State of New York (MSSNY), DOCS, and OASAS.

In 2003, the NYSDOH AIDS Institute acquired a three-year grant from the CDC to develop, field test and disseminate a comprehensive, modular, skills-building training that can serve as a national curriculum on viral hepatitis. The NYSDOH will partner with the New York State Office of Alcohol and Substance Abuse Services, the New York City Department of Health and Mental Hygiene and the AIDS Community Research Initiative of America. The training is designed for staff at various settings such as STD clinics, HIV prevention and care settings, drug treatment programs, community health centers and those who work in criminal justice settings.

NYSDOH currently provides information to professionals through trainings, courses, annual conferences, mass physician mailings, clinical guidelines, videos, teleconferences, and Internet education.

Educating the General Public

The goal of educating the public is to increase knowledge and awareness of viral hepatitis resulting in more people getting tested, more people

knowing their status, and more people getting vaccinated. To accomplish this, educational materials should include general information about viral hepatitis, risk factors for infection, transmission, disease progression, vaccination, and treatment. Educational materials should also include detailed prevention messages specific to at-risk populations, and information on community resources available for further medical care.

Because of the diverse population in New York State, educational materials must be culturally and linguistically appropriate and available in many formats to meet the needs of all New Yorkers. In addition, some individuals or groups may not see themselves as high-risk and, therefore, may not identify with the messages being delivered. Thus, educational materials must be geared not only towards high-risk groups, but also towards the general population. Finally, educational materials, if possible, must be free.

Currently in New York State, viral hepatitis educational materials for the public exist in various formats such as on-line fact sheets, vaccination schedules, a Web site devoted to viral hepatitis, brochures, informational packets, community presentations and support groups.

Evaluation of Educational Materials and Trainings

To determine if educational materials and trainings are meeting the needs of the professionals and public in New York State, they must be evaluated. Evaluation of materials and trainings exists in many formats such as pre and post-test surveys, post-conference evaluations, focus groups, and phone surveys.

Major Themes from the Hepatitis Summit

Participants at the Hepatitis Strategic Planning Summit identified the following major themes in the hepatitis education focus area:

- ❖ Education and training must focus on increasing the knowledge and awareness among professionals and the public with regards to viral hepatitis,
- ❖ Education and training must be culturally and linguistically relevant to the population of New York State,
- ❖ Education and training must exist in various formats (e.g., brochures, conferences, on-line trainings, CD-ROM), and
- ❖ Education and training must be easily accessible to both professionals and the public.

Long Term Goal # 1: Increase the capacity of all appropriate health care and service providers to screen, diagnosis, treat, educate, and counsel clients.

Strategy #1:

Determine the educational needs by conducting a formal needs assessment.

ACTION PLANS

- ❖ During year one, NYSDOH, NYCDOHMH, and partners should:
 - ♦ Identify target populations,
 - ♦ Develop a survey tool, and

- ♦ Pilot the survey tool for 6 months.
- ❖ During year two, NYSDOH, NYCDOHMH, and consultants should:
 - ♦ Evaluate the results of the survey tool,
 - ♦ Refine the survey tool as needed, and
 - ♦ Prepare for dissemination of the needs assessment.

Strategy #2:

Develop a comprehensive viral hepatitis curriculum.

ACTION PLANS

- ❖ During year one, NYSDOH, MSSNY, DOCS, OASAS, and other service providers should:
 - ♦ Review the results of the needs assessment,
 - ♦ Determine the target audiences for the curriculum, and
 - ♦ Review and evaluate other existing viral hepatitis curriculums.
- ❖ During years two and three, NYSDOH, MSSNY, DOCS, OASAS, and other service providers should develop and/or modify existing viral hepatitis curriculum(s) for various target audiences.
- ❖ During years four and five, NYSDOH, MSSNY, DOCS, OASAS and other service providers should:
 - ♦ Develop advanced topics to be included in curriculum and
 - ♦ Conduct on-going assessment to determine future educational needs.

Strategy #3:

Implement, expand and fully integrate the developed viral hepatitis curriculum.

ACTION PLANS

- ❖ During year one, NYSDOH, MSSNY, DOCS, OASAS and other service providers should:
 - ♦ Research/identify existing programs that may use the curriculum,
 - ♦ Pilot the curriculum,
 - ♦ Evaluate the pilot and adjust the curriculum as needed, and
 - ♦ Explore the offering of continuing education credits.
- ❖ During years two through five, NYSDOH, MSSNY, DOCS, OASAS and other service providers should:
 - ♦ Implement the viral hepatitis curriculum statewide,
 - ♦ Provide on-line training and distance learning options,
 - ♦ Work with medical institutions and others to provide training, and
 - ♦ Evaluate the training/curriculum.

Long Term Goal #2: Increase awareness of and access to primary, secondary, and tertiary prevention measures for infected and at-risk populations.

Strategy #1:

Promote and educate people to the need for free testing and vaccination in high-risk settings.

ACTION PLANS

- ❖ During years one and two, NYSDOH and partners should:
 - ♦ Conduct focus groups to identify key messages that will address people's concerns regarding testing and vaccination,
 - ♦ Analyze and summarize the information

- obtained from the focus groups, and
 - ♦ Develop and disseminate educational interventions for use with high-risk populations.
- ❖ During year three, NYSDOH and partners should evaluate the educational interventions and refine as necessary.
- ❖ During years four and five, NYSDOH and partners should continue to monitor, evaluate, and modify the educational programs.

Long Term Goal #3: Increase awareness of and access to prevention measures (e.g., screening, immunization, testing) by the general population.

Strategy #1:

Increase awareness of prevention measures by the general population.

ACTION PLANS

- ❖ During year one, NYSDOH and partners should:
 - ♦ Develop prevention messages for hepatitis A, B and C and
 - ♦ Identify a potential spokesperson to assist in promotion of the prevention messages (i.e., a well-known individual who is infected with hepatitis).
- ❖ During year two, NYSDOH should launch a large media and paper campaign promoting viral hepatitis prevention.
- ❖ During year three, NYSDOH and partners should:
 - ♦ Target efforts at special populations such as schools and
 - ♦ Collaborate with sponsors, clubs, and special interest groups.
- ❖ During years four and five, NYSDOH should continue to collaborate and evaluate efforts.

Strategy #2:

Increase access to prevention measures by the general population.

ACTION PLANS

- ❖ During year one, NYSDOH and partners should:
 - ♦ Conduct regional meetings with LHDs and service providers to determine ways to increase access to prevention measures,
 - ♦ Develop regional viral hepatitis prevention plans,
 - ♦ Develop promotional materials for distribution,
 - ♦ Develop a viral hepatitis Web site and information line for the general public, and
 - ♦ Develop a viral hepatitis resource directory to assist providers, public health officials and consumers in identifying appropriate hepatitis services available in their county.
- ❖ During year two, NYSDOH and partners should hold a “Public Health Day” to raise the general public’s awareness of viral hepatitis and other related diseases such as STDs and HIV.
- ❖ During years three through five, NYSDOH should evaluate interventions developed in years one and two, and make revisions as necessary.



Prevention
Focus Area

Education
Focus Area

Surveillance & Research
Focus Area

Medical and Case Mgmt
Focus Area

Surveillance & Research Focus Area

Viral Hepatitis Surveillance

Surveillance is the ongoing and systematic collection, analysis and interpretation of health data for the purposes of planning, implementing and evaluating public health programs. The goals of viral hepatitis surveillance are to measure the burden of disease; determine risk factors; identify outbreaks; monitor trends; evaluate control measures, interventions and programs; and identify infected persons for medical referral, education and counseling.

A primary surveillance goal for New York State is the development of an enhanced surveillance system, which is able to generate accurate viral hepatitis data to support primary and secondary prevention, education, and medical management.

Challenges to viral hepatitis surveillance in New York State include:

- ❖ Lack of resources at the local level to follow-up on laboratory reports of markers of viral hepatitis infection,
- ❖ Lack of physician education regarding the need to screen patients for viral hepatitis, interpretation of diagnostic test results, differences between acute and chronic infection, and case reporting requirements,
- ❖ Lack of laboratory diagnostic testing to distinguish between acute and chronic infection for hepatitis C,
- ❖ Incomplete and inaccurate case information reported, and
- ❖ Underreporting of viral hepatitis infections.

Strategies identified to overcome these challenges include:

- ❖ Improve viral hepatitis reporting and follow-up through the development of provider education programs, which include information regarding clinical management, case contact management, education, counseling, and the importance and responsibility of reporting,
- ❖ Assist LHDs with surveillance activities by

developing detailed viral hepatitis surveillance guidelines, funding epidemiology surveillance officers, improving electronic reporting systems, and integrating case tracking systems within existing surveillance systems,

- ❖ Collect and disseminate the highest quality data possible by determining the completeness and accuracy of baseline data, working with laboratories to report complete case information with hepatitis test results, developing standardized data quality-monitoring tools, and periodically distributing data quality summary reports to LHDs, and
- ❖ Ensure that analysis capabilities meet all stakeholders' needs by analyzing case report information and disseminating periodic reports to stakeholders.

Viral Hepatitis Research

A primary research goal for New York State is the promotion of research activities that will assist with decreasing the incidence of viral hepatitis and benefit those infected with chronic hepatitis.

Two distinct areas of research that will help meet the goal of reducing disease incidence and benefiting chronically infected persons include:

- ❖ Epidemiological research to close gaps in the current literature regarding behaviors that increase the risk of transmission of viral hepatitis and effective prevention activities specific to New York State residents and
- ❖ Medical management research to assess health care services available to those infected, including the identification of persons in need of but not receiving treatment, and the barriers that prevent treatment. Continuing research into the effectiveness of treatment for viral hepatitis, measured by sustained viral response, is needed as new treatments are developed. A system to track persons being treated to evaluate treatment outcomes of specific populations is also needed.

Long Term Goal #1: New York State should have an enhanced surveillance system that will generate accurate data on hepatitis to support primary and secondary prevention, education and medical management.

Strategy #1:

Improve viral hepatitis reporting and follow-up.

ACTION PLANS

- ❖ During year one, NYSDOH should:
 - ♦ Develop provider education programs on clinical management, contact management, education, counseling, and reporting,
 - ♦ Disseminate viral hepatitis surveillance guidelines to LHDs,
 - ♦ Adopt CDC hepatitis C testing algorithm, and
 - ♦ Add hepatitis role to NYSDOH Communications Directory.
- ❖ During year two, NYSDOH should work with Clinical Laboratory Evaluation Program (CLEP) to draft hepatitis C testing regulations.
- ❖ During years one through five, NYSDOH should:
 - ♦ Explore the need for additional epidemiologists,
 - ♦ Define roles and responsibilities of those conducting surveillance at all levels (state, regional, and local),
 - ♦ Increase electronic reporting and improve data quality, and
 - ♦ Work with CDC and NYSDOH information technology staff to enhance reporting system with a tracking component.

Strategy #2:

Collect and disseminate the highest quality data possible.

ACTION PLANS

- ❖ During year one, NYSDOH should:
 - ♦ Assess completeness and accuracy of baseline hepatitis case report data and
 - ♦ Distribute NYSDOH letter instructing laboratories to provide patient and provider information on all laboratory test results.
- ❖ During year two, NYSDOH should develop a standard data quality-monitoring tool.
- ❖ During years three through five, NYSDOH should distribute periodic reports on data quality to LHDs.

Strategy #3:

Ensure analysis capabilities meet all stakeholders' needs.

ACTION PLANS

- ❖ During years one through five, NYSDOH should:
 - ♦ Disseminate periodic epidemiologic reports to stakeholders,
 - ♦ Analyze case report data for development and evaluation of prevention activities, and
 - ♦ Provide periodic data analysis of case reports including disease incidence and trends over time.
- ❖ During years three through five, NYSDOH should develop and implement patient tracking reports for LHDs.

Long Term Goal #2: New York State should promote research activities that will assist with decreasing the incidence of viral hepatitis and benefit those with chronic hepatitis.

Strategy #1: Conduct epidemiologic research.

ACTION PLANS

- ❖ During year one, NYSDOH should conduct research to assess hepatitis A and B vaccination coverage and identify high-risk groups and barriers to vaccination.
- ❖ During year two, NYSDOH should conduct

patient education studies to determine the most effective education methodology.

- ❖ During year three, NYSDOH should conduct targeted prevalence studies for hepatitis B and C.
- ❖ During year four, NYSDOH should conduct mortality studies to assess the mortality rate among those infected with HBV and HCV.

-
- ❖ During year five, NYSDOH should pursue studies to assess the risk of hepatitis C transmission associated with tattooing, body piercing, electrolysis, sex, and nosocomial transmission.

Strategy #2:

Conduct research related to health services and clinical science.

ACTION PLANS

- ❖ During year one, NYSDOH should conduct

provider studies to assess the medical management of those infected with viral hepatitis.

- ❖ During year two, NYSDOH should conduct research to identify populations not receiving treatment for HBV and HCV, and identify the barriers.
- ❖ During year three, NYSDOH should conduct research studies on HCV treatment outcomes looking at sustained viral response.



Prevention
Focus Area

Education
Focus Area

Surveillance & Research
Focus Area

Medical and Case Mgmt
Focus Area

Medical and Case Management Focus Area

Overview

The overall goals of medical and case management of persons infected with viral hepatitis are to reduce the incidence of new infections of hepatitis and to limit the disease burden from chronic hepatitis.

During the last decade, much progress has been made in the prevention of hepatitis A, B, and C through improved recognition, aggressive testing and increased vaccination, especially in children. Therapies with antivirals and immune modulators have progressed over the last decade with research continuing. However, prevention and immunization remain the best defense against acute and chronic viral hepatitis.

In order to improve overall care to those infected, the clinical recognition of viral hepatitis must be improved. Although special populations may be at increased risk for disease, hepatitis is not limited to these populations. It is imperative that all physicians routinely question all patients for potential risk factors. At the same time, education can begin to provide the necessary information to prevent infection in those without hepatitis. Physicians must be informed of these risk factors and of the current management of hepatitis. Each year, the NYSDOH sponsors a hepatitis C conference for clinicians to provide updates on the most current information available, so they may effectively and efficiently manage patients infected with hepatitis C. Since patients with hepatitis are often co-infected with HIV, or are substance abusers, an added component to patient care is support services, including social and mental health support. Case management must be diligent and continuous so these individuals are not lost to follow-up and have the potential to improve their quality of life.

Therefore, developing a standard of care for providers would be helpful in managing disease. This standard would emphasize the need to address multiple patient issues ranging from ongoing medical care, vaccination, therapies and support services. These standards could improve access to quality health care providers and care and, as a result, improve current morbidity and mortality from hepatitis. The NYSDOH AIDS Institute has developed guidelines for the management of individuals co-infected with HIV-HCV. Other state agencies, such as DOCS and OASAS, also have existing guidelines for the management of individuals infected with hepatitis B and hepatitis C. These guidelines could serve as resources for the development of a standard of care.

Major Themes from the Hepatitis Summit

Participants at the Hepatitis Strategic Planning Summit identified the following major themes in the hepatitis medical and case management focus area:

- ❖ Provide effective screening tools for providers
Develop a standard of care for viral hepatitis for providers,
- ❖ Improve coordination among subspecialty providers for improved care to the patient,
- ❖ Improve communication from health care providers and support service providers to patients,
- ❖ Create communication channels to educate providers and consumers with regard to current diagnosis, treatment and essential services,
- ❖ Promote intensive training on case management of individuals with co-existing disorders, and
- ❖ Continue and promote hepatitis research to improve quality of life through disease diagnosis, management and therapy.

Long Term Goal #1: To develop and establish standards of medical care and case management for those at risk for or infected with viral hepatitis.

Strategy #1:

To create medical and social screening tools to identify at-risk people (including adults and children) and the possible need for testing, treatment, prevention and long-term care.

ACTION PLANS

- ❖ During year one, NYSDOH should research current screening tools and evaluate their efficacy.
- ❖ During year two, NYSDOH and a multidisciplinary panel should:
 - ♦ Assemble a panel of experts (e.g., academic, medical case managers, health care providers) to adapt and consolidate screening tools for various settings (e.g., HIV, STD, substance abuse) and
 - ♦ Field test screening tools.
- ❖ During years three and four, NYSDOH and multidisciplinary panel should develop an education plan and disseminate for use.

Strategy #2:

Convene a multidisciplinary panel of providers and consumers to create standards of care inclusive of medical and case management.

ACTION PLANS

- ❖ During year one, NYSDOH should convene and develop a multidisciplinary panel (health care providers, social workers, case managers, psychiatrists, consumers, IDUs, and those released from prison).

- ❖ During year two, NYSDOH and partners should review existing standards and practices.
- ❖ During year three, NYSDOH and partners should identify gaps and modify, develop and adapt standards.
- ❖ During year four, NYSDOH should collect and disseminate “Best Practices” report.
- ❖ During year five, NYSDOH and partners should update standards and develop quality indicators for publicly funded health care facilities.

Strategy #3:

Create communication channels to educate providers and consumers regarding diagnosis, treatment and essential services.

ACTION PLANS

- ❖ During year one, NYSDOH should identify partners such as providers, consumers, health plans, trade associations, New York State Association of County Health Commissioners (NYSACHO), Hospital Association of New York State (HANNYS) to assist with enhancing communications.
- ❖ During years two through four, NYSDOH should identify and develop communication channels (i.e., letters, Web sites, newsletters, conferences, hotlines).
- ❖ During year five, NYSDOH should disseminate a hepatitis referral directory to providers and consumers.

Long Term Goal #2: To ensure vaccination and treatment of all patients and clients likely to benefit from the current (best available) standard of care.

Strategy #1:

Integrate and coordinate treatment providers and programs to facilitate patients to complete treatment.

ACTION PLANS

- ❖ During years one and two, NYSDOH and partners should:

- ♦ Explore funding opportunities for case management and
- ♦ Develop and implement medical and case management education.
- ❖ During years three and four, NYSDOH and partners should develop public education and

peer education for high-risk settings.

- ❖ During year five, NYSDOH should explore options for funding for those uninsured and infected with viral hepatitis, similar to AIDS Drug Assistance Program (ADAP).

Strategy #2:

Promote treatment among those receiving substance abuse treatment and those incarcerated.

ACTION PLANS

- ❖ During year one NYSDOH, OASAS, and DOCS should:
 - ♦ Develop a peer education curriculum,
 - ♦ Prioritize venues of education, and
 - ♦ Provide focused education on substance abuse and mental health to reduce the barriers to care.
- ❖ During year two, NYSDOH, OASAS, and DOCS should:
 - ♦ Provide transition to Medicaid for persons released from high-risk facilities (e.g., prisons) and
 - ♦ Conduct “in reach” within high-risk facilities.
- ❖ During year three, NYSDOH, OASAS, and DOCS should:
 - ♦ Fund and deploy the curriculum and
 - ♦ Conduct train-the-trainer programs for peer groups.
- ❖ During years four and five, NYSDOH, OASAS, and DOCS should evaluate the impact that the curriculum has on treatment for substance abusers and those incarcerated.

Strategy #3:

Provide hepatitis A and hepatitis B vaccines to all facilities serving high-risk groups.

ACTION PLANS

- ❖ During year one, NYSDOH should:

- ♦ Assess and determine vaccine need and availability in these facilities and
- ♦ Develop public education materials (e.g., TV ads, pamphlets) in different languages.
- ❖ During year two, NYSDOH should develop a vaccine distribution plan.
- ❖ During year three, NYSDOH should implement the vaccine distribution plan.
- ❖ During years four and five, NYSDOH should evaluate the plan.

Strategy #4:

Promote treatment of hepatitis C by private providers.

ACTION PLANS

- ❖ During year one, NYSDOH, Office of Mental Health (OMH), psychiatrists, OASAS, community based organizations and private providers should:
 - ♦ Develop a network to include psychosocial support management, substance abuse counseling and peer support for those receiving treatment,
 - ♦ Develop awareness of the network, and
 - ♦ Evaluate the use of the network (quality, accessibility).
- ❖ During year two, NYSDOH, OMH, psychiatrists, OASAS, community-based organizations, and private providers should develop, disseminate and evaluate a chronic HCV disease management program.
- ❖ During year three, NYSDOH and partners should analyze evaluations and make appropriate revisions to chronic HCV disease management program.
- ❖ During years four and five, NYSDOH and partners should promote and market the disease management program throughout the state.



Appendix A

Organizational History

Currently three Centers at the New York State Department of Health (NYSDOH) conduct viral hepatitis activities: the Center for Community Health which includes the Bureau of Communicable Disease Control, the Bureau of Sexually Transmitted Disease (STD) Control and the Bureau of HIV/AIDS Epidemiology; the AIDS Institute; and the Wadsworth Center Laboratory.

Center for Community Health

Bureau of Communicable Disease Control (BCDC)

Two programs in the Bureau of Communicable Disease Control are responsible for hepatitis activities: the Regional Epidemiology Program's Hepatitis Unit and the Immunization Program.

❖ *Regional Epidemiology Program-Hepatitis Unit*

The Regional Epidemiology Program's Hepatitis Unit has direct oversight of viral hepatitis surveillance activities. Viral hepatitis surveillance in New York State consists of surveillance for acute cases which helps in tracking incidence, monitoring patterns of transmission, evaluating prevention efforts, identifying missed opportunities for prevention, and ensuring those infected receive appropriate counseling. Hepatitis surveillance also includes identifying chronic hepatitis B and C cases. This allows for estimating the burden of disease, effectively allocating resources, and ensuring appropriate counseling.

Since 2001, the NYSDOH has been involved in several initiatives to enhance the surveillance of chronic hepatitis B and C. The initiatives include:

- ♦ Developing a provider letter that a county

can use to follow-up on hepatitis C lab reports. This letter has proven to be an effective mechanism for local health departments (LHDs) to use when they receive a hepatitis C lab report and need to determine if it is an acute or chronic case,

- ♦ Conducting a statewide hepatitis C physician mailing which included reporting information, case report forms, case definitions and educational brochures,
- ♦ Developing viral hepatitis surveillance guidelines for LHDs,
- ♦ Conducting statewide surveillance workshops to train the LHDs staff to use the surveillance guidelines, and
- ♦ Building a chronic hepatitis disease registry.

The hepatitis C coordination activities within the Regional Epidemiology Program are conducted by the state Hepatitis C Coordinator. The Coordinator is responsible for establishing a focus in the NYSDOH for hepatitis C activities, and ensuring internal and external support for NYSDOH viral hepatitis activities; coordinating the development, implementation, and evaluation of hepatitis C prevention activities that are integrated into existing prevention programs for HIV/AIDS, STD, drug treatment, and correctional facilities; and serving as a resource for information on HCV epidemiology, prevention and control. Additional coordinator activities include the maintenance of the viral hepatitis public Web site, the coordination of the Hepatitis C Workgroup which convenes quarterly to discuss issues such as surveillance, integration, education, treatment, testing and reimbursement, and the

planning for the annual NYSDOH hepatitis C conference. The coordinator collaborates with various internal department of health agencies and external agencies, including the LHDs, DOCS, OASAS, and a number of community organizations.

❖ *Immunization Program*

The Immunization Program at the NYSDOH takes the lead role in the prevention of hepatitis A and B through statewide vaccination initiatives. The state Hepatitis B Coordinator resides in the Immunization Program. The Immunization Program is directly responsible for the Perinatal Hepatitis B Prevention Program, which was established in 1991 when the NYSDOH Public Health Law (PHL) 2500-e was enacted. The goals of PHL 2500-e are to ensure 100% of pregnant women get screened for hepatitis B and 100% of infants born to HBsAg positive women get treated. In 1995, the STD Hepatitis Vaccination Program was started in which the Immunization Program provides hepatitis A, hepatitis B and Twinrix vaccine to LHDs for high-risk adolescents and adults seeking services through the LHD. Currently, 56 out of 57 upstate county-sponsored STD clinics participate in the program. Other Immunization Program initiatives include expanding the STD Hepatitis Vaccination Program to include HIV Counseling and Testing Sites (CTS) and county jails and renaming it as the Adult Hepatitis Vaccination Program, and providing hepatitis vaccine to birthing hospitals that have a universal birth dose policy in effect.

Bureau of STD Control

The Bureau of STD Control works in collaboration with the Immunization Program to encourage county STD clinics to take part in the Adult Hepatitis Vaccination Program. The bureau has also sponsored community forums focusing on sexually transmitted diseases and viral hepatitis. These forums were held in each region of the state. They were used to educate various community groups about the different types of STDs and

hepatitis A, B and C, as well as the importance of integration of services.

Bureau of HIV/AIDS Epidemiology

The Bureau of HIV/AIDS Epidemiology has been involved with a number of hepatitis C seroprevalence studies. The studies include a prison study determining the seroprevalence of HCV in incoming inmates; a study of injecting drug users in NYC examining the incidence of HCV and HIV over time; and studies on the seroprevalence of HCV in other settings such as STD clinics, drug treatment programs, adolescent clinics and homeless shelters.

AIDS Institute

Because of the overlap in transmission of HIV and viral hepatitis, the NYSDOH AIDS Institute strongly supports the integration of viral hepatitis activities into many of their programs. Several programs have incorporated hepatitis screening, testing, and counseling into existing HIV protocols and guidelines.

Office of the Medical Director

The Office of the Medical Director has developed clinical guidelines for the management of HCV infection in HIV-infected patients. The HIV Education Unit, within the Office of the Medical Director, has successfully integrated viral hepatitis into existing training programs. Over the past years, the Education Unit distributed a Dear Colleague letter to all HIV providers offering information on hepatitis and HIV; developed and provided hepatitis A, B and C train-the-trainer programs that are delivered by the regional training centers throughout the state; developed and continue to deliver a half-day training on hepatitis A, B, and C through the regional training centers; and began to offer at syringe exchange programs (SEPs) 2-3 trainings per year on bloodborne infections including hepatitis B and C. In 2000, the Education Unit identified HCV as a training priority for Clinical Education Initiatives Sites. The AIDS Institute collaborated with OASAS on a statewide

HCV videoconference for clinicians and offered regional HCV conferences for clinicians. The training initiatives continue with HCV training for SEPs and ongoing sessions for criminal justice Initiative Contractors.

Division of HIV Prevention

The Division of HIV Prevention has developed a hepatitis A and B workgroup which promotes awareness of the risks of hepatitis A and B among adult populations at high-risk for infections and determines effective and efficient ways to access hepatitis vaccine. In addition, HIV prevention providers are encouraged to play active roles in preventing hepatitis A and B by implementing efforts to increase awareness about hepatitis A and B, promote vaccination and provide referrals for vaccination. In addition, two bureaus within the Division of HIV Prevention, the Bureau of Direct Program Operations and the Bureau of Special Populations, are involved in viral hepatitis activities.

❖ Bureau of Direct Program Operations

The Bureau of Direct Program Operations, Anonymous HIV Counseling and Testing Program, has incorporated viral hepatitis messages into HIV counseling and testing settings and offers informational presentations on viral hepatitis to correctional settings and substance abuse treatment centers.

❖ Bureau of Special Populations

The Bureau of Special Populations, which provides direct oversight to the state's twelve syringe exchange programs, provides each SEP with viral hepatitis educational information. The bureau, which has campaigned successfully for the state's Expanded Syringe Access Programs (ESAP), has integrated viral hepatitis information into their educational materials for consumers.

Division of HIV Health Care

Two bureaus within the Division of HIV Health Care take part in viral hepatitis activities, the Bureau of HIV Ambulatory Care Services and the

Bureau of HIV Programs Review and Systems Development.

❖ Bureau of HIV Ambulatory Care Services

The Bureau of HIV Ambulatory Care Services funds various substance abuse treatment programs and requires these programs to adhere to state and federal regulations related to viral hepatitis. The bureau conducted a survey of drug treatment facilities to determine what types of HCV activities are currently being conducted. All but one program surveyed offered hepatitis C testing, all provided HCV counseling, and a majority of them provided access to treatment for HCV. The survey also found that the majority of programs offered hepatitis vaccine and all programs offered educational materials pertaining to viral hepatitis.

❖ Bureau of HIV Programs Review and Systems Development

The Bureau of HIV Programs Review and Systems Development has been instrumental in establishing and increasing the Medicaid reimbursement rates for hepatitis C testing including quantitative and qualitative PCR and genotype assays. Medicaid currently provides coverage for pegylated interferon treatment.

Wadsworth Center Laboratory

The Wadsworth Center Laboratory provides hepatitis C testing for NYSDOH seroprevalence studies and provides anti-HCV testing (EIA and RIBA) to patients on a limited basis such as pilot integration projects. The Wadsworth Center Laboratory has developed and validated a sequence-based HCV genotyping assay and is currently conducting a clinical research study to identify mutations in the HCV genome associated with progressive liver disease. Finally, the Center provides HBV testing for household and sexual contacts of pregnant women and follow-up blood work of the infant.



Appendix B

Glossary of Terms

Action plans: Steps to be taken in order to meet each of the strategies identified for the focus areas of the plan.

Acute hepatitis: Newly acquired hepatitis lasting less than six months, sometimes, but not always, with symptoms.

Anti-HCV: Hepatitis C antibodies.
Asymptomatic: The absence of symptoms or to be without symptoms.

Cholestatic hepatitis: Hepatitis impacting the function of the gall bladder.

Chronic hepatitis: Long-term hepatitis, usually lasting longer than 6 months. May occur in those infected with hepatitis B and C.

Cirrhosis: Extensive and permanent scarring of the liver. Cirrhosis interferes with the normal functioning of the liver.

Drug paraphernalia: This term includes cotton, cookers, water used by injection drug users to prepare drugs for injection.

EIA: Enzyme Immunoassay. A test used to detect antibodies circulating in the blood.

Endemicity (Endemic): The usual or expected occurrence of disease.

Epidemiology: The study of distribution and determinants of disease.

Fulminant hepatitis: Severe form of hepatitis with sudden onset.

Hepatitis: A term meaning inflammation of the liver.

Hepatitis B carrier: A person who has had hepatitis B for longer than 6 months. They usually have no symptoms but remain infected for a lifetime.

Hepatocellular carcinoma: A type of cancer that may occur in people with chronic hepatitis.

Immune globulin (IG): A concentrated solution of antibodies prepared from pooled human plasma of someone immune to a particular disease.

Immunogenic: Relating to or producing an immune response.

Incidence: The number of new cases of infection that occur in a population during a certain time period.

Incubation period: The time interval between initial contact with an infectious agent and the first appearance of symptoms associated with the infection.

Long-Term Goal: Long range preference as to what should be accomplished in the next five years.

Mission: The fundamental reason or purpose for the existence of the Viral Hepatitis Strategic Plan; the mission statement expresses what the New York State Department of Health want to achieve in the long run by creating and implementing the plan.

Percutaneous: A procedure performed through the skin. A percutaneous exposure occurs when potentially infected blood enters the skin through a needle stick.

Prevalence: The number of infected individuals in a population at a given point in time.

RIBA: Recombinant immunoblot assay. A supplemental anti-HCV test with a high specificity.

Strategies: What needs to be done in order to meet the long-term goal of each focus area.

Strategic Priorities: Top priorities of the strategic plan.

Surveillance: Procedures used in public health to monitor disease incidence, prevalence and trends, and the effectiveness of prevention strategies.

Vision: The collective sense of where New York State wants to go in five years in the prevention and management of viral hepatitis.

Viremia: The presence of virus in the blood of a host.



Appendix C

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