



2003 VERMONT VIRAL HEPATITIS PREVENTION AND CONTROL PLAN

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Introduction

The *Vermont Viral Hepatitis Prevention and Control Plan* is written for use by all Vermonters. It identifies strategies and recommends actions that both state and local organizations can use to improve services to those already affected by all forms of viral hepatitis and to prevent future infections among those at-risk.

The plan does not define measurable outcomes and evaluation strategies. Nor does it quantify costs or propose funding strategies. Rather, it is designed as a resource from which state and local groups can identify specific goals, objectives, and action steps that their organizations can potentially implement as funds become available. Each organization can develop appropriate measurable outcomes and evaluation strategies reflecting its stated goals and objectives and available resources.

The intent of the *Vermont Viral Hepatitis Prevention and Control Plan* is to:

- Increase understanding of viral hepatitis.
- Provide policymakers and organizations serving those infected and at risk of infection insight into needed programs and services, and the action steps needed to implement such programs.
- Support discussions of service and funding priorities with policy and decision makers in the public and private sectors.
- Provide guidance to those in the community responding to funding opportunities intended to address the needs of those affected by or at risk for viral hepatitis.

The recommendations put forth by the Viral Hepatitis Workgroup (the workgroup) are the heart of this plan. In each area goals are outlined, as are specific steps necessary to achieve them. The goals and action steps outlined in this plan are addressed to all of the interested parties, including medical professionals, advocacy groups, the General Assembly, the Vermont Department of Health, and interested citizens. The workgroup hopes that these recommendations will be useful to all the readers of this report in the fundamentally important areas of increasing our understanding of the disease, the importance of and difficulties involved in increasing public awareness and preventing hepatitis, and treating those who are infected.

Section I. The Viral Hepatitis Workgroup Process

The Vermont Department of Health began surveillance of hepatitis C in 1994. In that year the VDH recorded 188 chronic cases. In 2002, VDH recorded 514 chronic cases. The need to develop systematic strategies for the prevention and control of hepatitis C was becoming evident.

In the fall of 2001, the Council of State and Territorial Epidemiologists (CSTE) announced the availability of funds to states to develop hepatitis prevention and control plans. Vermont submitted a proposal outlining the state's present viral hepatitis activities, the perceived unmet needs within the state, and proposed activities in developing a state plan. In January 2002, CSTE awarded Vermont one of six available grants to be used in the development of a state plan.

Staff from the Vermont Department of Health's Division of Health Surveillance met as an internal working group to identify key stakeholders, from both the public and private sector, and invitations were sent to fifty organizations and individuals enlisting their support and participation in the planning process. In April 2002, the project coordinator designed a survey instrument which was sent to approximately 4000 health care providers throughout the state.

From fifty invitations distributed, more than 25 people participated in the workgroup and made recommendations at meetings held during the summer and fall of 2002. Members of the workgroup gave hundreds of hours of their time to developing *The Viral Hepatitis Prevention and Control Plan* (see Appendix I). Responses from returned surveys were also shared with the workgroup to broaden input into the decision-making process.

The workgroup met a total of five times between July and December 2002. These meetings provided the members the opportunity to understand their mission, identify hepatitis-related activities in place around the state, and determine major challenges or gaps. At the start of the process, five themes were proposed: primary prevention, secondary prevention, professional and public education and training, surveillance, and long term care management. The workgroup ultimately decided to separate professional and public education, addressing public education within primary prevention.

The workgroup reviewed published studies and documents from the Centers for Disease Control and Prevention, the National Institutes of Health and other research findings documenting the extent of disease and its impact both in the state and in the country. The workgroup also closely reviewed other state plans, specifically plans from California, Massachusetts and Maryland, as well as an in-depth needs assessment from Maine.

The workgroup used a planning framework called *The Logic Model*. Members divided into five small groups with each having the responsibility for determining the desired long-term outcome, the desired short term outcomes, the target group, and the needed activities to achieve the desired outcomes in each of the five areas. After each small group meeting, the entire group reconvened to discuss the recommendations and actions of each smaller group and arrived at consensus on the key points.

The final list of goals, objectives and action steps were fewer than those initially addressed. To ensure that the efforts resulted in a realistic and workable plan, areas of need and objectives were prioritized and those thought to be most urgent and essential in preventing transmission of viral hepatitis and reducing disease progression for those already infected were targeted.

Through this structured planning process, a comprehensive plan encompassing a goal statement, guiding principles and five goals, with objectives and action plans for each, emerged.

The workgroup agreed that health, medical, and community providers in Vermont must be better prepared to respond to the needs of those who are infected, or at risk for, viral hepatitis. The *Vermont Viral Hepatitis Prevention and Control Plan* provides a resource of strategies that any stakeholder can access to determine what activities might be possible to reduce the growing burden that viral hepatitis imposes on his/her organization. Some of these actions may be implemented now, using existing resources, facilities, and infrastructure. Recognizing viral hepatitis, and specifically hepatitis C, as an emerging public health problem, distinct from other communicable diseases, will give focus to the delivery of services.

A key feature of The *Viral Hepatitis Prevention and Control Plan* is that stakeholders need not wait for the State to provide further guidance. They can begin to improve services now by identifying opportunities for moving forward, drawing upon the action steps outlined in the *plan*.

Finally, the workgroup recognized that crosscutting concerns relating to all goals of the strategic plan exist. Recommendations include, first and foremost, the need to continue a broad-based, collaborative, and inclusive advisory process in which the voices of all representative parties are heard. As with the planning process, the workgroup may convene small task groups to track progress on the five major goals. This includes providing input on primary and secondary prevention, professional education and training, surveillance, long-term care management, and program evaluation. As part of its process, the workgroup could also address other crosscutting issues such as stigma, the need for state-based research, the need for an ongoing infrastructure and system for prevention and treatment, the need to take full advantage of national resources, advocacy organization, policy change, and funding.

Section II. Viral Hepatitis Workgroup Recommendations

IMPROVE VIRAL HEPATITIS SURVEILLANCE

GOAL: Gather complete, accurate and timely data on viral hepatitis to direct and support primary and secondary prevention, public and professional education, medical management, optimal utilization of resources, delivery of services and policy development.

Surveillance is the ongoing systematic collection, analysis and interpretation of data for use in planning, implementation and evaluation of public health practice. Surveillance helps to evaluate prevention efforts. In addition, surveillance is essential to gather information on new infections, their mode(s) of transmission, geographic locations of newly identified cases, etc..

At present, Vermont requires reporting of all positive laboratory tests for hepatitis A, B, and C as well as reports from physicians and other providers as they diagnose new patients with hepatitis. Follow-up, including gathering additional information from the reporting physician, providing education to the patient, identifying and making contact with persons who may be at risk for infection, when needed, is performed on each positive laboratory test for hepatitis A and hepatitis B reported to the State.

The following two objectives are identified as high priorities in developing an effective surveillance system:

I. Refine and expand clinical and laboratory reporting criteria for hepatitis C.

- Action Step 1. Amend the state's Communicable Disease Regulations to include case definitions for acute and chronic hepatitis C based upon the NIH Consensus Conference Statement, CDC guidelines and provider input.
- Action Step 2. Apprise laboratory managers and providers of changes in the Communicable Disease Regulations.
- Action Step 3. Assess compliance with reporting requirements, determining barriers to compliance.

II. Enhance statewide surveillance of acute and chronic viral hepatitis and their sequelae.

- Action Step 1. Analyze available surveillance data on viral hepatitis in Vermont in order to identify and prioritize data gaps that need to be addressed.
- Action Step 2. Increase VDH's capacity to investigate acute and chronic viral hepatitis cases and provide partner notification services for chronic and acute hepatitis C patients.
- Action Step 3. Develop a data management system that can be used to monitor incidence, prevalence, trends, demographics and risk groups, and possibly co-infection with HIV, and other reportable diseases and treatment modalities.

PROMOTE PUBLIC AWARENESS: PRIMARY PREVENTION

GOAL: Decrease the number of people newly infected with viral hepatitis within the State of Vermont.

Primary prevention activities include education and counseling among uninfected persons to prevent infection as well as education and counseling among infected individuals to prevent further transmission of all forms of hepatitis.

Since 1999, Vermont Statutes have required all children entering the seventh grade to show proof of immunization against hepatitis B limiting the at-risk population to those born prior to 1987. Although rates of hepatitis B infection are decreasing, further funding is needed to provide those engaging in high-risk or at-risk behaviors with immunizations and post-exposure prophylaxis. Immunizations are a covered service under all Office of Vermont Health Access (Medicaid and Medicaid-related) health insurance programs for both adults and children.

For hepatitis A and hepatitis B, both pre-exposure immunization and post-exposure prophylaxis exist. Neither is yet available for hepatitis C. Efforts to develop a hepatitis C vaccine are ongoing but effective immunization is at least a decade away, highlighting the need for other prevention interventions. Since 1992, blood banks have screened blood donors, tested blood and blood

products, and taken steps to inactivate the virus. These steps have sharply reduced the rate of new infections due to blood transfusions and blood products.

With improved knowledge regarding the risk factors for hepatitis C, public health and health care providers can more effectively target risk reduction messages. Increased knowledge can also have the effect of decreasing the fear and stigma associated with the diagnosis of hepatitis C. As funding sources are identified and accessed, viral hepatitis prevention interventions and services may be integrated into existing primary care, HIV/AIDS, STD, substance abuse, mental health, family planning, and corrections services.

To be effective, a primary prevention strategy for hepatitis C infection must reach:

- Individuals having injected drugs using a non-sterile syringe, whether this practice occurred on a single occasion in the distant past or repeatedly more recently.
- Recipients of transfusions or organ transplants prior to July 1992, or anyone else requiring treatment with clotting factor produced prior to 1987.
- Healthcare, emergency medical and public safety workers after exposure to hepatitis C positive blood.
- Persons incarcerated in correctional institutions.
- Persons infected with hepatitis C.
- The public.

The following objectives are the identified priorities for the development of an effective primary prevention strategy and are relevant to the prevention of all forms of viral hepatitis in Vermont.

I. Increase awareness of viral hepatitis, its modes of transmission, and knowledge of effective risk reduction behaviors.

Action Step 1. Develop and implement, with the advice of a group of stakeholders, a social marketing strategy that includes both a statewide culturally sensitive viral hepatitis media education and public awareness campaign, and specific educational and prevention strategies directed at high-risk populations.

Action Step 2. Collaborate with the Vermont Department of Education, public and private schools, and alternative learning environments to update STD health education curricula to include a component on viral hepatitis.

II. Identify and target for outreach, counseling, increased testing, and vaccination, when available, those at highest risk for infection.

Action Step 1. Prepare a summary of available Vermont-specific epidemiological data to identify population groups at highest risk.

Action Step 2. Identify and review successful evidence-based prevention and risk reduction strategies for at-risk populations.

Action Step 3. Collaborate with appropriate public and community-based organizations to provide vaccination or alternative prevention services such as client-centered interventions and peer educator programs to target populations.

III. Integrate viral hepatitis education, counseling, testing, and referral services into existing programs serving at-risk and other high-risk populations.

- Action Step 1. Identify programs within the state serving at-risk and other vulnerable populations.
- Action Step 2. Provide training to those programs that reach the high-risk and at-risk populations to assure that counseling and referral services provide current and accurate information.
- Action Step 3. Encourage the incorporation of viral hepatitis prevention messages and interventions into existing prevention curricula and into the procedures and protocols of programs serving high-risk populations.
- Action Step 4. Identify and recruit local providers committed to the merits of sterile syringe exchange to advocate and provide educational presentations within their local communities.
- Action Step 5. Enlist pharmacies as partners in the effort to increase access to sterile syringes and information regarding viral hepatitis.

IV. Facilitate collaboration among stakeholders within the state.

- Action Step 1. Conduct a needs assessment of those providing prevention services to high-risk and at-risk individuals to determine what prevention services are available, what services are needed for an effective intervention and what geographic areas may have a higher priority for services.
- Action Step 2. Improve collaboration between state government agencies with the aim of enhancing integration and collaboration efforts among stakeholders outside state government.
- Action Step 3. Enlist the support of community-based service providers and statewide planning bodies for integration.
- Action Step 4. Identify, convene, and support a group of stakeholders to advise on collaboration.

PROMOTE SELF-MANAGEMENT: SECONDARY PREVENTION

GOAL: Prevent and reduce the progression and complications of chronic viral hepatitis by identifying and implementing interventions.

The goals of secondary prevention activities are to identify, counsel and test individuals most likely to be infected with a disease and provide them with access to appropriate follow-up reducing the risk of progression of disease and loss of quality of life. For chronic viral hepatitis, secondary prevention activities can reduce the risks for chronic liver disease by identifying infected persons as early as possible and providing appropriate prevention counseling and medical treatment.

The Centers for Disease Control and Prevention recommends that hepatitis testing should be routinely offered to people most likely to be infected and should be accompanied by appropriate counseling and medical follow-up. Testing should also be available for persons wishing to know their hepatitis status.

Routine testing for hepatitis C virus should be available to:

- Current injecting drug users and persons who ever injected drugs, even once or a few times many years ago and who do not consider themselves drug users.
- Persons who received clotting factor produced before 1987 or have ever received long-term hemodialysis.
- Recipients of transfusions or organ transplants (before July 1992).
- Health care or emergency workers after possible exposure to hepatitis C-positive blood.
- Persons incarcerated in correctional institutions.
- Children born to hepatitis C-positive women.

Routine testing for hepatitis B virus should be available to:

- Current injecting drug users and persons who ever injected drugs, even once or a few times many years ago and who do not consider themselves drug users.
- Persons who received clotting factor concentrates.
- Hemodialysis patients.
- Persons incarcerated in correctional institutions.
- Sexually active men who have sex with men.
- Men and women with >1 sexual partner in the previous 6 months, a history of a sexually transmitted disease, or treatment in an STD clinic.
- Household contacts and sex partners of persons with chronic HBV infection.
- Persons in occupational groups with exposure to blood or body fluids.
- Long-term international travelers.
- Clients and staff of institutions for the developmentally disabled.

In order to be economical and efficient, secondary prevention activities identifying those most likely to be infected must be incorporated into existing services such as STD services, drug and alcohol treatment services, and HIV counseling and testing services. Case management for those infected should include coordination of services and immunizations for related diseases such as hepatitis A and B. Currently, effective treatments for hepatitis C are limited, expensive and carry serious side effects.

Persons infected with chronic hepatitis should be counseled against donating blood, organs, or other tissue, sharing toothbrushes, razors, or other personal articles that might have blood on them. People infected with chronic viral hepatitis often experience a number of medical, social and psychosocial challenges, such as depression and other mental health problems, pain, nutrition, and substance abuse problems. Helping infected persons deal with these additional social and medical problems requires a wide variety of support and expertise from health and social services providers.

In Vermont, advocacy groups, support groups and community-based organizations lack sufficient funding. An emphasis on increased testing, counseling, and engagement among high risk individuals, combined with the opportunity for those infected to access needed behavioral and medical treatment, is integral to the development of a comprehensive approach to the secondary prevention activities.

The following four objectives are identified as priorities in developing comprehensive services to identify, counsel, test, support, and treat people with hepatitis C.

I. Increase the number of at-risk individuals who receive hepatitis C counseling, testing, and education and, for those persons found to be infected, increase referral to and participation in medical management plans.

- Action Step 1. Review and distribute the most recent Centers for Disease Control and Prevention screening and testing guidelines to those serving at-risk populations.
- Action Step 2. Incorporate hepatitis C screening and counseling services, and referral for persons found to be infected, into existing STD, HIV/AIDS, substance use, mental health, outreach, and primary care programs that reach at-risk populations.
- Action Step 3. Ensure the availability of confidential hepatitis C counseling, testing and education for those incarcerated within state facilities and those accessing community-based correctional programs.
- Action Step 4. Encourage medical and behavioral health professionals to, as a standard of care, incorporate viral hepatitis harm reduction strategies into treatment and careplans.
- Action Step 5. Identify and disseminate information regarding existing medical management plans and resources to both providers and consumers.

II. Increase referrals of hepatitis-C infected individuals and at-risk individuals to harm reduction activities, including drug and alcohol treatment programs.

- Action Step 1. Produce and distribute a resource guide to harm reduction activities within the state.
- Action Step 2. Encourage those working with at-risk populations to integrate referral to behavioral health and substance abuse services into their service protocols.

III. Improve access to hepatitis C support groups.

- Action Step 1. Publicize hepatitis C support groups through print ads, online ads, brochures, and web sites and disseminate printed materials to primary care providers, substance treatment counselors, and other support groups including HIV, Community Rehabilitation and Treatment, and substance abuse treatment groups.

IV. Improve care for those diagnosed with chronic viral hepatitis.

- Action Step 1. Promote and offer hepatitis A, hepatitis B, pneumococcal polysaccharide and influenza vaccines to hepatitis C-infected and chronic hepatitis B- infected individuals at both primary care and harm reduction services sites.
- Action Step 2. Develop and/or adapt and distribute medical treatment standards and case management standards for hepatitis C to providers and care managers.

IMPROVE HEALTH SERVICES: LONG TERM CARE MANAGEMENT

GOAL: Slow the progression of chronic viral hepatitis through the engagement of the patient and his or her family in effective disease management, reducing morbidity and mortality and improving quality of life for infected and affected persons.

A diagnosis of chronic viral hepatitis, both B and C, impacts not only the patient but also family, friends, and employers. Educational resources are limited and patients often have fragile support systems or multiple biopsychosocial issues. In addition, case management services are lacking. Existing medical and community service providers need further education about the needs of their patients.

The clinical and support infrastructure for those diagnosed with chronic viral hepatitis also needs to be strengthened to deal with the potential complications of this disease. Like most other chronic diseases, chronic viral hepatitis can be costly to patients and providers. As services are developed for chronically infected hepatitis patients, planning and training for long-term management of their needs becomes critically important. In addition to service coordination and case management services, policy changes assuring continuing medical insurance and short-term disability insurance while in treatment may be necessary.

At the present time, most chronically infected hepatitis patients are seen in hospitals or practices by a gastroenterologist. Many gastroenterologists perform liver biopsies to determine staging and disease progression. Combination therapy may be offered to patients with hepatitis C who commit to prescribed treatment regimens although patients with drug and alcohol dependencies may not qualify for therapy. Usually, acute hepatitis C is not diagnosed and, therefore, is not treated.

A public health approach to chronic viral hepatitis disease (both B and C) would include diagnosis and medical management by an appropriate practitioner. Acute illness would be diagnosed and treated aggressively whenever possible with resources focused on limiting the public health impact of the disease. Genotyping and viral load studies would be performed to determine appropriate treatment options and measure the progress and effectiveness of the selected treatment regimen. In addition to medical management, patients with drug and alcohol dependencies would receive care for their dependencies. The unique nature of correctional facility populations presents difficult public health challenges. However, comprehensive prevention, screening, treatment and surveillance of incarcerated populations can have a significant impact on public health.

By improving the medical management and quality of life for persons with chronic viral hepatitis (B and C), their chances of leading a healthy, fulfilling, and economically productive life are increased. An effective long-term medical management plan will reduce the likelihood that those chronically infected will develop complications of the disease.

The following seven objectives are priorities in developing an effective strategy for the long-term management of chronic viral hepatitis patients.

I. Increase the number of individuals diagnosed with chronic viral hepatitis who receive coordinated biopsychosocial services.

- Action Step 1. Explore the possible expansion of case management models in current service delivery systems to include chronic viral hepatitis.
- Action Step 2. Design and implement a system for the transition of chronic viral hepatitis patients from incarceration to the community such that services begun in prison continue after release into the community.

II. Ensure that services such as housing, employment, and social support that help to maintain patient quality of life are available to those with chronic viral hepatitis.

- Action Step 1. Advocate for comprehensive long-term services such as drug and medical care coverage, job counseling, and housing for patients with chronic viral hepatitis.
- Action Step 2. Explore options for providing economic assistance from state, federal, and/or private programs to persons suffering disability while in treatment including revolving, low-interest loans.

III. Increase the number of professionals who understand the appropriate indications for the treatment of chronic viral hepatitis, options available to non-responders of conventional treatment, quality care for those with cirrhosis, and liver transplant referral protocols.

See Professional Education and Training – Objectives 2 & 3.

IV. Increase self-advocacy among individuals diagnosed with chronic viral hepatitis.

- Action Step 1. Educate consumers regarding available services.
- Action Step 2. Increase the availability of and promote participation in chronic viral hepatitis support groups.
- Action Step 3. Encourage the formation of a consumer-based organization whose mission is to advocate and support those affected and infected with chronic viral hepatitis.

V. Increase the number of individuals with chronic viral hepatitis who receive behavioral health services.

- Action Step 1. Promote group therapies for individuals with chronic viral hepatitis in Behavioral Health settings.
- Action Step 2. Increase awareness among policymakers of the need for expanded Behavioral Health Services.
- Action Step 3. Support collaboration among stakeholders for the development and distribution of a needs assessment addressing expanded behavioral health services for those with chronic viral hepatitis.

VI. Increase the number of individuals diagnosed with chronic viral hepatitis who have financial access to available treatment options.

- Action Step 1. Explore the expansion of state policies to provide financial support to all patients prescribed treatment in accordance with NIH guidelines but are unable to afford their medications.
- Action Step 2. Promote awareness, in both physicians and HCV-infected individuals, of potential funding sources for HCV treatment.
- Action Step 3. Research funding opportunities from federal and non-profit agencies to create medication assistance programs for HCV treatment.
- Action Step 4. Promote awareness among policymakers of the need for funding for HCV treatment.

VII. Increase access to liver donations.

- Action Step 1. Design and implement a quick and simple mechanism for donor registration through drivers' licenses and donor identification cards.
- Action Step 2. Access or create a media campaign, including public service announcements, focusing on the need for donations and the process of registering as a donor.
- Action Step 3. Design or adapt a Living Will prototype containing language specific to liver donation.
- Action Step 4. Research and publish information on enrolling in and contacting national donor registries.

PROMOTE PROFESSIONAL EDUCATION AND TRAINING

GOAL: Ensure providers have the necessary information and skills to provide prevention education, diagnoses, referrals, and treatment for all acute and chronic hepatitis infections and their associate conditions.

Despite the large number of people affected by chronic viral hepatitis, and the costs associated with liver disease, many professionals, including both medical and behavioral health professionals and policymakers, have limited knowledge regarding chronic hepatitis and its sequelae. Although awareness of chronic hepatitis has increased within the medical community and advocacy groups have formed in support of those affected, a significant need for dissemination of information, education, and communication about the disease remains.

Identified needs supporting viral hepatitis training and educational activities include:

1. A lack of understanding regarding the differences between hepatitis A, hepatitis B, and hepatitis C.
2. Clinicians who are not current on viral hepatitis screening, counseling, and treatment guidelines and standards.
3. Insufficient educational and training opportunities for medical and behavioral health professionals about the natural history and medical management of hepatitis C, chronic hepatitis, and liver disease.

4. A lack of information among medical and behavioral health professionals regarding appropriate referral of chronically infected hepatitis patients for support services, patient education, and financial assistance.

The *Vermont Viral Hepatitis Prevention and Control Plan* goals include increasing provider awareness and knowledge of viral hepatitis, improving their ability to help patient's ability to manage their illness, and improving the capacity of community-based providers to work with infected and at-risk populations. This requires a broad range of training and curricula to meet the needs of physicians, behavioral health and substance abuse professionals, correctional officers and staff and others.

The following three objectives are priorities in developing a comprehensive professional education and training strategy.

I. Increase awareness among medical practitioners of the current National Institute of Health Hepatitis C Consensus Development Conference Statement standards relevant to their practices.

- Action Step 1. Create a comprehensive mailing list of medical providers and disseminate information regarding the NIH Consensus Statement.
- Action step 2. Identify and engage experts from each target discipline to embrace the standards therein.
- Action Step 3. Organize a statewide summit to focus attention on hepatitis C needs within the state.

II. Ensure all Vermont professionals, including medical and behavioral health professionals, have a high level of awareness regarding viral hepatitis prevention activities, including national recommendations, and available primary and secondary prevention resources.

- Action Step 1. Develop or adapt existing educational and training materials for the range of specialty training audiences that are culturally sensitive to Vermont's population.
- Action Step 2. Ensure that viral hepatitis training programs offer continuing education credit.
- Action Step 3. Seek support for the development of web-based education and information.
- Action Step 4. Make viral hepatitis education and training available to all medical and professional personnel and community-based groups.

III. Promote the proficiency of medical and behavioral health professionals in providing intervention, treatment services, and long-term clinical management for viral hepatitis.

- Action Step 1. Produce and disseminate a resource guide identifying available social support and medical services for HCV patients.
- Action Step 2. Develop and distribute a curriculum on the long-term management of hepatitis C and its complications, including appropriate follow-up of non-responders to conventional treatment, to those providing long-term services to hepatitis C patients and to institutions providing clinical training on viral hepatitis.
- Action Step 3. Identify and distribute existing "model of care" guidelines on whom to screen, test, and treat, and how to identify patients who are not responding to follow-up.

- Action Step 4. Develop and/or adapt and distribute medical and case management standards for hepatitis C treatment
- Action Step 5. Expand professional development through the use of teleconferencing, on-site workshops, conferences and/or grand rounds, telephone hotlines and continuing education units for distance as well as on-site programs to disseminate trainings on the medical and case management standards and long-term clinical management of chronic viral hepatitis.
- Action Step 6. Increase educational opportunities for health care providers focusing on quality care for those with cirrhosis and liver transplant referral options.
- Action Step 7. Offer education to all personnel in correctional facilities serving hepatitis C patients about the virus.
- Action Step 8. Increase knowledge of the efficacy of the combined A/B vaccine.

Appendix 1

Overview of Hepatitis A, B and C

Hepatitis A

Despite recent declines in hepatitis A virus (HAV) rates, HAV remains one of the most frequently reported vaccine preventable diseases in the United States with over 13,000 cases reported nationally in 2000 (CDC. Summary of notifiable diseases, United States, 1999. MMWR 2001;48:46). This number is artificially low due to underreporting and asymptomatic infections. Disease rates are higher among Hispanics than among non-Hispanics. Children five to 14 years of age have the highest disease rates, and at least one quarter of reported cases are in persons less than 20 years of age. HAV does not result in chronic infection, although approximately 15 percent of people infected with HAV may have prolonged symptoms lasting up to nine months. Hepatitis A virus sometimes causes nationwide or community-wide epidemics.

The incubation period ranges from 15 to 50 days, with an average of approximately 30 days. When present, symptoms of HAV usually begin with fever, fatigue, abdominal pain, loss of appetite, nausea, and fever. These symptoms are generally followed in a few days by jaundice, dark colored urine, and pale stools. Symptoms can range from mild to severe. Children frequently experience mild illness or are asymptomatic. Recovery is usually complete.

The most common mode of transmission for HAV is person-to-person resulting from fecal contamination and oral ingestion (i.e., the fecal-oral route). Common-source food- and water-borne outbreaks have occurred.

As noted above, HAV is not a chronic disease. There is a vaccine. It should be given to persons at risk of infection including: household contacts of infected persons; sexual contacts; people, but especially children, living in areas of the U.S. where there are consistently high rates of infection; travelers to regions/countries with high rates of infection; men who have sex with men; and both injection and non-injection drug users.

Hepatitis B

Acute and chronic hepatitis B virus (HBV) infections are a major cause of morbidity and mortality in the United States. Acute hepatitis B is one of the most commonly reported vaccine preventable diseases, with over 8,000 cases reported nationally in 2000 (CDC. Summary of notifiable diseases, United States, 1999. MMWR 2001;48:46). However, due to underreporting and because most acute infections are asymptomatic, reported cases underestimate the incidence of HBV infection. African-Americans and Hispanics have higher incidence rates than other racial and ethnic groups. Incidence rates are highest among adults 20 – 39 years of age. Approximately 1.25 million Americans have chronic HBV infection.

Chronic infection develops in approximately 90 percent of children infected at birth, 30 – 60 percent of children infected at age one to five years, and two to six percent of those infected

after age five years. Death from chronic liver disease occurs in 15 – 25 percent of infected persons.

HBV is transmitted through unprotected sex with an infected person, the sharing of syringes and other drug paraphernalia, through occupational needle stick exposure, and through perinatal transmission.

There are currently three drugs licensed for the treatment of chronic HBV: adefovir dipivoxil, alpha interferon and lamivudine. Pregnant women should not use these drugs. Anyone with HBV should be evaluated by his or her physician for evidence of liver disease. Drinking alcohol can make liver disease worse and should be avoided.

An HBV vaccine has been available since 1982. Children are now routinely vaccinated and anyone who is a member of a risk group should also be vaccinated. Risk groups include: persons with multiple sex partners; men who have sex with men; the sex contacts of infected persons; injection drug users; household contacts of chronically infected persons; infants born to infected mothers; infants and children of immigrants from regions where there are high rates of infection; health care and public safety workers; and hemodialysis patients.

Hepatitis C

Hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the United States, with a national prevalence of 1.8 percent. The disorder was known as non-A, non-B hepatitis until the hepatitis C virus was discovered in 1988 and found to account for the majority of patients with non-A, non-B hepatitis. There are six genotypes and more than 50 subtypes of HCV with varied geographical distribution. Types 1, 2 and 3 are distributed worldwide with types 1a and 1b most common in the United States. While thought to be similar in virulence, the various types of HCV respond differently to therapy, and knowledge of the virus type is a useful predictor of disease progression and the most efficacious mode of treatment.

According to the National Health and Nutrition Examination Survey (NHANES) of 1988-1994, 3.9 million Americans were infected with hepatitis C. Of this group, 2.7 million were estimated to have chronic infection. Because NHANES is a population-based household survey, groups with increased prevalence of HCV infection (e.g., homeless, incarcerated, and institutionalized populations) are likely underrepresented. An estimated 242,000 Americans were infected with HCV annually during the 1980's. The incidence has declined dramatically to an estimated 35,000 new infections each year in 2002. HCV infection occurs among persons of all ages, but the highest incidence is among persons aged 20 – 39 years. Due to the high rate of persistent infection, a fourfold increase in the number of Americans with chronic HCV infection is projected to occur from 1990 to 2015 (NIH Consensus Development Conference Statement, "Management of Hepatitis C: 2002", June 10-12, 2002).

Hepatitis C virus RNA can be detected in the blood one to three weeks after exposure. Antibodies to HCV can be detected in only 50 to 70 percent of patients at the onset of symptoms, but are detectable in 90 percent of patients after three months. Symptoms of acute

infection are uncommon but can include malaise, weakness, anorexia, and jaundice. Symptoms usually subside after several weeks.

The majority (75 – 85 percent) of HCV-infected persons develop chronic infection. Those who are chronically infected may have no symptoms or only mild symptoms. They may not be aware that they are infected and thus they may not seek diagnosis and treatment.

Chronic HCV infection can result in progressive liver disease leading to cirrhosis, end stage liver disease, and hepatocellular carcinoma. Cirrhosis of the liver develops in an estimated seven to sixteen percent of chronically infected persons 20 years after initial infection. Risk factors for progressive liver disease include older age at time of infection, male gender, co-infection with HIV or hepatitis B virus, and alcohol use (NIH Consensus Development Conference Statement, “Management of Hepatitis C: 2002”, June 10-12, 2002).

HCV is the leading cause of chronic liver disease (40 – 60 percent of chronic liver disease is due to HCV infection) and of liver transplantation in the United States. The number of cases needing liver transplantation is expected to grow and put further strain on the supply of donated livers. HCV causes 8,000 to 10,000 deaths per year nationally, and treatment for acute and chronic infection costs in excess of \$600 million annually.

Direct percutaneous exposure is the most efficient method for transmitting HCV. There is no evidence that casual contact without exposure to blood (e.g., kissing, coughing, sharing eating utensils or drinking glasses) is associated with HCV transmission.

The following factors have been associated with increased risk of HCV infection:

1. Injecting drugs - Injection drug use accounts for over two thirds of all new HCV infections. Sixty to eighty percent of persons using injection drugs for at least 5 years are infected with HCV, more than double the 30 percent rate of infection from HIV. Even those individuals who experimented with injection drug use many years ago are considered at risk. Since more than 80 percent of injecting drug users have been incarcerated, HCV infection rates are high (15 to 40 percent) among prison populations.
2. Sexual contact - While the risk for transmission of HCV through sexual contact is low, sexual transmission accounts for approximately 15 percent of HCV infections. For heterosexual, discordant monogamous couples, the risk of transmission is estimated to be zero to 0.6 percent annually, with the risk to females being three times greater than to male partners (NIH Consensus Development Conference Statement, “Management of Hepatitis C: 2002”, June 10-12, 2002). Persons with multiple sexual partners or with a history of sexually transmitted diseases have higher rates of HCV infection than the general population. In the United States, the estimated seroprevalence of HCV is two to three percent among partners of HCV-infected persons who are in long-term monogamous relationships. The estimated seroprevalence is four to six percent among persons with multiple sex partners, sex workers, and men who have sex with men.

3. Blood products - Prior to the mid-1980's there was a 7 to 10 percent risk of acquiring HCV from blood products. This risk has declined dramatically as a result of blood donor screening procedures and testing of blood products, and with a current rate of one in one million, can be considered virtually nonexistent.

Appendix 2: Workgroup Membership

Marilyn Richards-Proulx Vermont Department of health	Steven Lidofsky, M.D. Fletcher Allen Health Care
Margo Caufield Chronic Conditions Information Network	Cris Zern Advocate
Rod Copeland, Ph.D. Director HIV/AIDS Program Vermont Department of Health	Felicia Messuri Advocate
Lynn Martin AIDS Project of Southern Vermont	Erica Garfin Advocate
Rod Larabee Vermont PWA Coalition	Gail Augustine Advocate
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Mary Ramundo, M.D. Comprehensive Care Clinic Fletcher Allen Health Care	Naya Pyskacek Burlington Community Health Center
Eileen Girling Vermont Department of Health	Fran Cohen Planned Parenthood of Northern New England
Lydia Ouvaroff Twin States Network	Corinne Kremer Advocate
Mary Crance VA Medical Center Hospital	Mark Ames Vermont Department of Health/ Office of Alcohol and Drug Abuse
Diane Bogdan Department of Corrections	Patricia Tassler, Ph.D. Vermont Department of Health
Mary Celotti, Director Vermont Department of Health laboratory	Tracy Gallo Vermont Department of Education
Mark Beresky Vermont Harm Reduction Coalition	Christopher J. Mulvaney, Ph.D. Vermont Department of Health
	Jacques Muderhwa Vermont Department of Health