



**Report on the work of the  
Hepatitis C Resource Center Program  
2002 - 2004**

**Department of Veterans Affairs  
Hepatitis C Resource Centers**

VA Connecticut Health Care System, West Haven, Connecticut  
Minneapolis VAMC, Minneapolis, Minnesota  
Northwest Resource Center, Portland, Oregon and Seattle, Washington  
San Francisco VAMC, San Francisco, California

**National Hepatitis C Program  
Public Health Strategic Health Care Group  
Veterans Health Administration  
Department of Veterans Affairs**



## **HEPATITIS C RESOURCE CENTERS**

VA Connecticut Health Care System, West Haven, CT  
Minneapolis VA Medical Center, Minneapolis, MN  
Northwest Resource Center, Portland, OR and Seattle, WA  
San Francisco VA Medical Center, San Francisco CA

## **TWO-YEAR PROGRESS REPORT OF HCRC ACTIVITIES**

### Overview and Summary

The Department of Veterans Affairs (VA) Hepatitis C Resource Center (HCRC) program began in January 2002, when four centers were funded to develop program, products, and services to improve hepatitis C care throughout the VA system. The launch of the HCRC program followed a national solicitation for applications and a rigorous peer-review process that resulted in the selection of the four centers identified above. This report summarizes the results of the first two years of work by the HCRC program.

The HCRC program differs from the traditional “centers of excellence” approach, in that the focus of the HCRC program is to improve care outside the four funded centers. Therefore, their charge was to both develop innovative practices, but also - and more importantly - to develop ways to disseminate the knowledge and skills necessary to implement these best practices and innovative approaches in the very diverse group of medical centers that make up the VA system.

Initially, the program concentrated largely on setting up the centers, hiring staff, building effective teams within each center, and establishing coordination among the four centers. Nonetheless, during these first two years the centers have also developed and implemented a number of projects that have already had significant impact.

The work of the HCRC program during the first two years has included a number of “immediate value” products to improve providers’ fundamental knowledge and skills in the area of hepatitis C diagnosis, evaluation, and treatment, as well as on the late-stage complications of hepatitis C including cirrhosis and liver cancer. Many of the products of HCRC work during this period have been traditional educational tools, including handbooks, evidence-based treatment recommendations, point-of-care clinical tools, conferences and workshops, satellite teleconferences and patient education materials.

Each of the centers is also involved in longer-term projects to develop innovative practices and to generate new knowledge. The results of much of this work will be realized in the next several years. In addition, the work of the HCRC program as we move into the second half of the original five-year funding cycle will involve developing more strategically targeted products based on:

- development of tools for measuring important variables in hepatitis C care
- identification and reduction of unintended variation in hepatitis C care and outcomes within the VA system (“small area variation”)
- assessment of factors leading to variation
- approaches to improving quality that are based on individualized local or regional needs assessment and planning

This work will proceed in parallel with the development of meaningful quality metrics from the recently developed Hepatitis C Case Registry.

The work described in this report coincides with a period of time in which VA has made tremendous strides in meeting the challenges of an epidemic of hepatitis C among veterans in VA care. Very high levels of performance in screening for hepatitis C risk factors and testing of those at risk have been documented in the past two years. New therapies have been quickly added to the VA national formulary and made available to veterans, in many cases sooner than they have been available in other health care settings. VA clinicians and investigator are widely recognized among the leaders in hepatitis C research and clinical care delivery. The credit for this remarkable success does not belong solely to the HCRC program, but is shared with national and VISN leadership, facility managers and the hard-working clinicians whose passion and dedication to the care of veterans with hepatitis C is unparalleled.

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# Completed Projects of National Scope

This section describes projects that were developed for nation-wide VA distribution and were completed during the first two years of the HCRC program.

***Treatment Recommendations for Patients with  
Chronic Hepatitis C: Version 5.0***

**Product type:**

Treatment recommendations.

**Purpose:**

By providing current treatment information and guidance to clinicians and other health professionals who are providing care to HCV positive veterans, this product aims to:

- increase the knowledge and skills of VA providers in management of chronic hepatitis C
- minimize within-system variation in important aspects of care
- provide rational, evidence based guidance on selection of patients for antiviral therapy
- maximize patient safety by suggesting routine and standardized measures of treatment-associated toxicity.

**Target groups:**

Gastroenterologists, hepatologists, primary care providers (MDs and mid-level providers) and trainees.

**Description:**

This is an update of VA's previously published comprehensive literature review of treatment recommendations for the medical evaluation and treatment of patients with hepatitis C. This revision was necessitated by newly approved-FDA therapies and information from the *2003 NIH Consensus Statement*, as well as clinical updates and study information.

**Impact/Evaluation:**

This product has been distributed in print form as follows:

- To all federal health care professionals as a supplement to the Federal Practitioner, volume 20, supplement 5.
- By mailing to VA lead clinicians
- To participants at subsequent preceptorships and conferences.

Additional copies of the document may be obtained from the Hines depot (IB 10-169, P95950). The document is posted on the VA hepatitis C Web site ([www.hepatitis.va.gov](http://www.hepatitis.va.gov)) in downloadable .pdf format.

Electronic copies were distributed to 111 participants at the October 2003 *Hot Topics in Hepatitis* meeting. Participants were asked to evaluate this product on a scale of 1 to 10 with 10 being extremely valuable or useful. The average score was 8.71.



***Treatment Recommendations for Patients with Cirrhosis  
and Portal Hypertension***

**Product type:**

Treatment recommendations.

**Purpose:**

To improve the clinical care of patients with advanced liver disease by providing VA clinicians with evidence-based recommendations for the management of patients with compensated and de-compensated cirrhosis.

**Target groups:**

Gastroenterologists, hepatologists, primary care providers (MDs and mid-level providers) and trainees.

**Description:**

A print and electronic format document that includes detailed recommendations based on critical review of the published literature for management of the cirrhotic patients. Evidence for recommendations is based mainly on randomized clinical trials and meta-analyses. Where these do not exist, emphasis is given to results from large case series, consensus statements and expert opinion. Topics include screening procedures for the early diagnosis of esophageal varices and prevention of variceal bleeding, as well as the management of complications of portal hypertension: variceal hemorrhage, ascites, spontaneous bacterial peritonitis and hepatic encephalopathy.

**Impact/Evaluation:**

Print copies have been distributed as follows:

- As part of materials distributed to accompany satellite teleconference on Advanced Liver Disease
- To 111 VA providers attending the *Hot Topics in Hepatitis* meeting in September 2003.
- To all VA Hepatitis C lead clinicians

Additional print copies are available through the Hines depot (IB 10-177, P95969).

The document has been posted as a downloadable .pdf file on the VA hepatitis C Web site ([www.hepatitis.va.gov](http://www.hepatitis.va.gov)). The document was downloaded over 2000 times in the first three months following posting.

Spontaneous feedback has been very positive. Standardized data reports are being developed with the Center for Quality Management in Public Health to provide ongoing measures of performance in advanced liver disease management.

***Management of Psychiatric and Substance Use Disorders in Patients with  
HCV: A Hepatitis C Frontline Provider Reference***

**Product type:**

Treatment recommendations.

**Purpose:**

To increase awareness of and improve the detection, evaluation and care of mental health and substance use disorders among patients with hepatitis C, by providing a patient management reference tool.

**Target groups:**

Hepatitis C lead clinicians, preceptorship attendees, hepatitis C coordinators, and care providers in GI, mental health and addictive disorders.

**Description:**

This product is an annotated clinical pathway for the routine screening, evaluation and management of mental health and substance use disorders in patients with hepatitis C. The annotations for each step in the pathway describe relevant literature and provider rationale for implementing the recommended actions.

**Impact/Evaluation:**

This product is in final production. Print copies will be distributed to lead clinicians and to mental health and addiction specialists at each facility. The document will be available electronically on the VA hepatitis C Web site ([www.hepatitis.va.gov](http://www.hepatitis.va.gov)). Each copy of the reference will include a survey that assesses the perceived value of this product. The HCRC will track the number of reference guides distributed. Data from the survey will help determine how useful the product is to the recipients. Data collected includes recipient specific and site-specific questions, as well as questions evaluating the clarity, format, usefulness, and the benefit of the product.

***Initiating and Maintaining a Hepatitis C Support Group:  
A How-To Program Guide***

**Product type:**

Clinical tool.

**Purpose:**

To enable any provider to start an HCV support group at any VA regardless of resources available or experience leading support groups.

**Target groups:**

VA health care providers of any discipline interested in starting an HCV Support Group.

**Description:**

A “how-to” guide for initiating and maintaining HCV support groups. The guide takes prospective group leaders through a planning process including conducting a needs assessment, identifying the target population, selecting the group format, identifying resources, attending to logistics, establishing the group, and conducting ongoing feedback. It includes appendices of helpful forms and handouts, including group and guide evaluations.

**Impact/Evaluation:**

Distributed through the VA National Hepatitis C Program Web site ([www.hepatitis.va.gov](http://www.hepatitis.va.gov)) and by distribution of print copies as follows:

- VA HCV lead clinicians
- Chiefs of Mental Health, Psychology and Psychiatry at all VAMC's.
- Attendees at the October 2003 *Hot Topics in Hepatitis* meeting
- Hepatitis C coordinators
- Participants on the Hepatitis C and HIV Issues monthly conference calls and monthly Prevention calls who requested copies.

Awaiting return of mail-in evaluations of the Guide from end-users.

***Evaluation and Management of Patients with Chronic Hepatitis C: A Program for Handheld Personal Digital Assistants (PDAs)***

**Product type:**

Clinical tool.

**Purpose:**

To facilitate incorporation of treatment recommendations into clinical practice by providing an easily accessible portable vehicle for HCV screening, testing, determination of antiviral treatment candidacy and treatment recommendations.

**Target groups:**

Gastroenterologists, hepatologists, primary care providers (MDs and mid-level providers) and trainees.

**Description:**

A program developed for Palm handheld PDA devices incorporating the salient features of the Evaluation and Management of Patients with Chronic Hepatitis C pocket card, as well as the *VA Treatment Recommendations for Patients with Chronic Hepatitis C (Version 5.0)*, both developed by the HCRC. Four main topics are covered and included in the main menu:

- Screening and testing
- Post-test strategy (interpretation of anti-HCV results)
- Antiviral treatment eligibility (candidates for therapy and testing needed prior to initiating antiviral therapy)
- Antiviral treatment strategy (including dosing tables for different presentations and dose reduction strategies).

**Impact/Evaluation:**

Feedback has been scarce, however the limited feedback that has been obtained is quite positive and local providers (hepatologists) have found it very useful. Use of the product is not widespread. As a result of poor marketing, individuals who have received the program have not been eager to download it, as they do not know exactly what it contains. Plans are to place the program on the Web site so that it can be tested and downloaded from there. Another plan is to have a “sampler” available at the booth in DDW 2004, with CDs containing the program to be given to those who are interested in having it in their Palm devices.

## *Cost Analysis of Hepatitis C Testing in the VA*

**Product type:**

Administrative tool

**Purpose:**

To develop an efficient and cost-effective testing algorithm for HCV infection.

**Target groups:**

VA Laboratory Medicine and Infectious Disease departments and Gastroenterology/Hepatology Clinics that routinely order hepatitis C antibody and virologic testing.

**Description:**

A decision analysis compared eight strategies for determining hepatitis C serostatus. It combined two tests for antibodies (enzyme immunoassays [EIA], recombinant immunoblot assays [RIBA]) and one for viremia (reverse transcription polymerase chain reaction [PCR]). Use of optical density to divide EIA results into three categories (high positive, low positive, negative) was also considered. Decision analysis compared strategies on cost as well as sensitivity and specificity with regard to antibody and viral status for true serostatus, and percent of true positives designated antibody-indeterminate. Parameters in the decision tree included antibody prevalence of hepatitis C, proportion viremic, sensitivity, specificity, and cost of individual tests.

**Impact/Evaluation:**

EIA-OD→RIBA→PCR is the best choice when prevalence in the tested group is below 25%. As prevalence increases, the choice of EIA-OD→RIBA→PCR versus EIA→PCR will depend on the relative importance of avoiding false antibody positives versus missing true antibody positives. Analysis makes explicit the magnitude of this tradeoff.

Results of decision analysis have been presented during the VA Monthly Pathology and Laboratory Conference Call, at VA HSR&D National Meeting and AASLD, and a manuscript will be submitted to the *American Journal of Gastroenterology* in February.

## ***HCV Patient Knowledge, Treatment Preferences, and Quality of Life Survey***

**Product type:**

Needs assessment and evaluation of education.

**Purpose:**

- To determine level of knowledge about hepatitis C virus (HCV) among HCV infected veterans served by VA Puget Sound Health Care System (VAPSHCS)
- To determine impact of patient education upon HCV knowledge
- To assess psychosocial healthcare needs and preferences
- To assess patient quality of life and satisfaction with HCV-related medical treatment.

**Target groups:**

All veterans with HCV+ serology seen at VA PSHCS were eligible to participate in the survey study.

**Description:**

Among 1,011 patients invited to participate, 756 consented (75%), and 629 completed surveys were received (83% of participants). The proportion of total patients contacted who completed the survey was 62%. Among these respondents:

- Knowledge about hepatitis C varies considerably, and substantial knowledge deficits exist
- Group or individual GI/Hepatology patient education is associated with higher hepatitis C knowledge scores compared to no contact with liver disease specialists
- One out of three veterans living with hepatitis C infection screened positive for active substance abuse, and they knew less about hepatitis C, including HCV transmission and treatments
- HCV+ individuals expressed considerable interest in a broad range of HCV-related services (including veterans with recent substance abuse)
- There are multiple opportunities to engage HCV+ veterans in treatments to improve disease self-management skills.

**Impact/Evaluation:**

Data from Northwest HCRC Current Practice Survey were presented in the *Annals of Behavioral Medicine* and at the American College of Gastroenterology (*Annals of Behavioral Medicine* 25, S129). The methodology for the survey may be replicated in other geographic areas, and several spin-off projects from the HCV Patient Survey are at various stages of development (e.g., HCV support groups to improve quality of life, brief interventions to reduce hazardous alcohol use, interventions targeting disease self-management practices).

***Electronic Learning Tool on Depression and Hepatitis C  
for Mid-level Providers***

**Product type:**

Provider education intervention.

**Purpose:**

The purpose of this Web-based learning tool is to improve knowledge regarding depression in hepatitis C patients.

**Target groups:**

Primary care, GI clinicians, particularly mid-level providers (NP, PA, PharmD, etc.) who take care of patients with hepatitis C.

**Description:**

Web based distance-learning tool that provides comprehensive educational material regarding the assessment and treatment of depression in patients with hepatitis C as well as the depression that develops during antiviral therapy. The course is in two modules that can be completed separately or together and creates learning points around clinical vignettes. The completed course entitles the learner to 4 hours of continuing education credit.

**Impact/Evaluation:**

The evaluation is designed to assess whether this tool succeeds in its goal to improve clinician's confidence and knowledge of depression specific to patients with hepatitis C and that caused by antiviral treatments. The effect of this learning tool will be evaluated by pre and post testing participants. Knowledge and confidence will be assessed, and participants will be eligible for continuing educational credits.

## ***Preceptorship Program in Multidisciplinary Team Care***

**Product type:**

Provider education intervention.

**Purpose:**

To provide hepatitis C and mental health practitioners with the knowledge, tools and confidence to organize and operate a hepatitis C integrated clinic.

**Target groups:**

The target audience includes gastroenterologists, hepatologists, nurses, psychiatrists, pharmacists, social workers and other VAMC health professionals who work in hepatitis C care throughout the national VA system. Participants in the preceptorship are selected based on having identified a team of two (one hepatitis clinician, one mental health provider) to attend). Those sites with minimum or no previous hepatitis training are given preference over those sites whose clinicians have attended past trainings. Sites that have participated in this program are identified in Appendix A.

**Description:**

This two day training session for VA Hepatitis C clinicians, seeks to facilitate incorporation of current best practices for the treatment of hepatitis C patients into VA clinics. Intensive and interactive, HCRC clinical personnel work with attendees to identify site-specific needs, and in development of leadership skills and actions plans to address these needs. Participants are followed and mentored over the subsequent 6- month period as they work to meet their specific challenges. The process encourages the implementation of improvements in hepatitis C care.

**Impact/Evaluation:**

To date, the HCRC has completed 13 total Preceptorship training programs over two years. In 2003 the program was expanded to two days to provide a more interactive participant needs focused program. Overall there have been 175 participants, with at least one representative from every VISN.

*A full evaluation of this program is included in a separate section of this report, beginning on page 46.*



## *Liver Transplant Coordinators' Workshops*

**Product type:**

Provider education intervention.

**Purpose:**

To enhance the overall understanding of liver transplantation and the VA's Liver Transplant Program. Specifically,

- To provide a liver transplant preceptorship for new liver transplant coordinators and/or front-line VA health care staff working with patients requiring a liver transplant
- To provide both an educational and interactive learning experience for participants
- To increase the network of VA sites referring to the Portland Liver Transplant Program
- To foster improved communication and collaboration between VA referral sites and the Portland Liver Transplant Program

**Target groups:**

Liver-transplant coordinators and staff of the Portland Liver Transplant program.

**Description:**

The program was a collaborative two-day workshop coordinated by the HCRC in conjunction with the Portland VA Medical Center's Liver Transplant Program. The program incorporated both traditional and experiential learning activities and involved a multi-disciplinary faculty including liver transplant staff, nutritionists, hepatologists, pharmacists, dentists and social workers as well as other identified staff.

**Impact/Evaluation.**

- Participants included 43 liver transplant coordinators, primarily advanced practice nurses or nurse practitioners (Participating sites are identified in Appendix A)
- In post-training evaluations, over 90% of participants reported better understanding of the transplant referral process, and felt competent to apply the skills obtained during the training to their work as transplant coordinators
- In three-month post-training follow-up participants reported improved responsiveness from the transplant center

The transplant program reported increased numbers of referrals from sites participating in the program and more complete information in the referral packets.

## *Clinical Pharmacist Workshops*

**Product type:**

Provider education intervention.

**Purpose:**

To provide strategies and resources for clinical pharmacists to optimize management of HCV-infected patients as part of a multidisciplinary team through counseling on preventive care and harm reduction and HCV antiviral therapy management (patient education, medication adherence, dosing regimen, monitoring parameters, and side effects).

**Target groups:**

Pharmacists who are currently providing direct patient care services to hepatitis C patients or who anticipate incorporating clinical hepatitis C care into their VA practice.

**Description:**

The two-day program incorporated both traditional and experiential learning activities and involved a multi-disciplinary faculty including pharmacists, hepatologists, nurse practitioners, substance use and mental health professionals as well as other identified HCV care team members. This also provided an opportunity for clinical pharmacists who are front line providers to network with other clinical pharmacist about cases and VA HCV care strategies, but also to dialogue directly with PBM.

**Impact/Evaluation:**

Forty-nine clinical pharmacists participated in one of the two preceptorships. Approximately 100% of participants, indicated in post-training evaluations, that they had completely or mostly achieved the learning objectives. In later follow up, several sites reported increasing the participating pharmacists clinical scope of practice based on participation in the preceptorship.

***Hot Topics in Hepatitis:  
New Strategies and Resources for the Care of Veterans***

**Product type:**

Provider education intervention.

**Purpose:**

- To improve the knowledge and skill of VA hepatitis C providers in several topics with important recent clinical developments
- To acquaint participants with products and services available through the HCRC program
- To promote feedback and communication between the HCRC staff and front line providers.

**Target groups:**

Gastroenterologists, infectious disease physicians, pharmacists, physician assistants, nurses and other health care professionals who are currently providing primary or specialized care to veterans with hepatitis.

**Description:**

This program was specifically designed for VA physicians and other health care professionals who are providing care to veterans with chronic hepatitis. Topics included:

- Current treatment recommendations for patients with Hepatitis C
- Treatment of hepatitis B
- Controversies in the use of growth factors
- The medical management and care of HCV-infected patients with advanced liver disease
- Management of patients with substance abuse and/or psychiatric disease.

**Impact/Evaluation:**

- One hundred fifteen VA providers attended, including 62 physicians, 36 nurses and nurse practitioners, 10 physician assistants, 4 Clinical Pharmacists and 3 other health care providers
- Participants were asked to evaluate the program using a scale of 1-10, with 10 being excellent and 1 being poor. Responses included:
  - Overall rating of the program: 9.48
  - Handouts and material: 9.55
  - Expertise of presenters: 9.58
- Ninety-nine percent of participants indicated that the program would enhance their job performance and that the program satisfied their educational needs.

***2003 VA Hepatitis C Resource Center Satellite Broadcast  
Educational Series: Three Separate Live Programs for 2003***

**Project type:**

Provider education intervention.

**Purpose:**

To improve the knowledge and skills of VA hepatitis C providers through the presentation of important and timely information in a unique format, using clinical cases as the basis for moderated panel discussions.

**Target groups:**

**Description:**

Three 90-minute programs that were shown live on the VA satellite network between April and September 2003. The topics for the three programs were:

- Evaluation and management of HIV and hepatitis C co-infection
- Management and care of hepatitis C patients who are not on anti-viral therapy
- Evaluation and management of patients with advanced liver disease.

To broaden the availability and access of this program, the video program package was distributed to all VA-HCV Lead Clinicians throughout the VA system in the weeks following each live broadcast. This distribution allowed persons to watch the program as a group, or individually at a more convenient date. A “tool kit” of relevant resources and HCRC tools was included in every video program package.

**Impact/Evaluation:**

Based on VA satellite “hits” and web cast results an estimated 143 VA facilities accessed the program series.

*Vaccination Pocket Card*

**Product type:**

Clinical tool.

**Purpose:**

To improve patient/provider adherence to recommendations regarding screening and vaccination for hepatitis A and hepatitis B. The tools provided included a vaccination pocket card and accompanying poster.

**Target groups:**

Primary care and liver specialty clinic staffs.

**Description:**

Pocket card and poster as outlined above containing succinct and complete information on who should be screened and/or vaccinated for hepatitis A and B, use of serologic tests to determine immune status and needs for vaccination, descriptions of available vaccine products and timing of vaccine administration.

**Impact/Evaluation:**

Fifty pocket cards and posters were distributed to each VA facility, as well as a targeted mailing to HCV Lead Clinicians throughout the system. The products have been stocked in the Hines Depot for reordering. No evaluation data have been collected.

# Current and Ongoing Projects

This section describes projects initiated at each of the four HCRC sites that are either still in development and piloting phases or are ongoing projects collecting information and data to increase knowledge about hepatitis C care.

## **NORTHWEST HCRC**

### ***Evaluation of Best Practices Models for Hepatitis C Care: Psychiatric and Substance Use Screening***

**Product type:**

Innovation in care delivery.

**Purpose or aim:**

- To evaluate how the Portland VA Medical Center provides services for veteran-patients infected with hepatitis C virus (HCV)
- To develop collaborative care models to address the high rates of HCV-associated psychiatric and substance use co-morbidities with the goal of increasing the number of patients that receive interferon (IFN) based therapy, improve their quality of life, and increase likelihood of long term follow-up for the complications of HCV.

**Target groups:**

Veterans who test positive for HCV.

**Description:**

Veterans who test positive for HCV by HCV antibody test will be invited to participate in the project. Demographic information, ICD-10 and DSM-IV diagnoses, laboratory test results, self-report responses to a Patient Screening Questionnaire and Beck Depression Inventory, treatment engagement and health status information are being extracted from medical records and kept in a secure database in the custody of the NW HCRC. Data is being used in ongoing analyses to determine effectiveness and efficiency of care as evidenced by response to treatment, morbidity/mortality, patient satisfaction, side-effect profiles, and utilization cost.

**Brief status report:**

The Portland VA Medical Center currently has 525 veterans enrolled in this project. Interdisciplinary care models have been proposed and presented within the VA network (VISN 3, 20). The HCRC plans to use these outcome measures to better inform policy makers and manage the increasing cost of health care and demands being placed on the VHA.

***Clinical Reminders to Improve HCV Case-finding and Referral***

**Product type:**

Clinical tool.

**Purpose or aim:**

To expand the current HCV screening clinical reminder to function as decision support system to close gaps in the implementation of the recommended HCV clinical pathway.

**Target groups:** VA Health Care System.

**Description:**

A series of clinical reminders will:

- Automatically screen the electronic medical record for hepatitis C risk factors (e.g., alcohol or drug dependence, positive hepatitis B serology, elevated LFTs)
- Provide care providers the option to order necessary HCV testing and confirmatory testing
- Provide a mechanism to note if a patient has been notified of HCV test results or not and generate a notification letter to send to the patient
- Generate a consult for hepatitis C education and/or specialty care evaluation.

**Brief status report:**

MUMPS coding of the first clinical reminder (automatic high risk screen) is complete and being debugged. Preliminary coding of the second clinical reminder (patient notification) is complete and being revised. The HCRC will collaborate with Brian Volpe (Martinez VA), as he has developed a similar expanded clinical reminder for hepatitis C. Development of the first and second reminders to activate at VAMCs in VISN 20 has been accelerated.



## *Current Practice Questionnaire*

**Product type:**

Needs assessment and administrative tool.

**Purpose or aim:**

To assess practice variation among different VAMCs across the nation and specific needs regarding hepatitis C clinical care.

**Target groups:**

Chiefs of Staff, Chiefs of Infectious Disease, Chiefs of Medicine, Chiefs of Gastroenterology, and Chiefs of Mental Health at all VAMCs.

**Description:**

The Current Practices Questionnaire asks questions regarding the nature of the respondent (specialty area, experience, VISN and station), followed by four questions on antiviral therapy practices, six questions about the interaction of antiviral therapy and mental health, and four questions about adequacy of resources and barriers to hepatitis C care.

**Brief status report:**

To date, 92 surveys have been collected (from VA participants at the AASLD meeting in Boston). Data have been entered into a database and are now being analyzed. Preliminary results will inform what other VAMCs to survey to assess their current practice regarding hepatitis C. Results will be disseminated via VA conferences and professional publications, and they will inform targeted interventions to reduce practice variation and remove barriers to care regarding hepatitis C.

***Motivational Interviewing Brief Intervention Targeting Alcohol Use  
Among Veterans with Hepatitis C***

**Product type:**

Provider education intervention.

**Purpose or aim:**

To develop and test a brief intervention protocol to reduce hazardous alcohol use and other behaviors negatively impacting liver health. The protocol is based on principles of motivational interviewing. The content of the intervention highlights the interaction of alcohol and hepatitis C in progression to cirrhosis, and by promoting abstinence or reduced drinking, aims to promote liver health.

**Target groups:**

Veterans with hepatitis C who have been newly referred to specialty care, who are not currently engaged in hepatitis C and who drink at hazardous levels (7 or more drinks per week or more than 3 drinks per occasion for women; 14 or more drinks per week or more than 5 drinks per occasion for men).

**Brief status report:**

Approximately \$100,000 in funding over two years has been secured from the Alcoholic Beverage Medical Research Foundation. The University of Washington IRB has approved the protocol, and the intervention design is complete. Six pilot subjects (already engaged in substance use disorder treatment) will be run starting in February 2004 prior to initiation of subject recruitment, anticipated in March 2004.

*Vet-to-Vet Projects*

**Product type:**

Patient self-management intervention.

**Purpose or aim:**

To engage consumers in the development of relapse prevention tools; to provide practical relapse prevention tools for target client population.

**Target groups:**

Veterans, family members or other social support of veterans, and clinicians who may distribute materials to veterans or work with veterans on relapse prevention/recovery issues/harm reduction.

**Description:**

A majority of veterans with HCV have ongoing substance use issues and for those who are abstinent, relapse is always a concern. A clinical social worker has collected feedback about different ways to present data to veterans and elicited feedback from veterans on what they consider useful/accessible. Both staff and veterans at varying stages of development have reviewed project material. Vet to vet projects include: a recovery poster, basic alcohol informational brochure, a lengthier brochure on relapse prevention and alcohol wallet cards.

**Brief status report:** The HCRC will continue on vet-to-vet projects with assistance of a layout designer. Once layout and text has been approved, the project will be complete. These materials will be available to Mental Health and Substance Abuse Treatment Clinics across the VISN.

## CONNECTICUT HCRC

### *Interactive Patient Education Computer Program*

**Product type:**

Clinical tool and patient self-management intervention.

**Purpose:**

To develop a practical, psychometrically robust tool that can be applied to improve patient education about antiviral treatment for HCV, elicit patient treatment preferences (i.e. whether or not to accept antiviral therapy), and facilitate decision-making at the individual patient level.

**Target groups:**

Veterans with hepatitis C considered candidates for antiviral therapy.

**Description:**

The initial goal is to develop an “adaptive conjoint analysis” (ACA) questionnaire (a well-validated tool used to understand consumer preferences and predict market shares of innovative products) based on: a) the attributes that physicians take into consideration when deciding whether or not patients should receive antiviral therapy for HCV; b) the attributes patients take into consideration when deciding whether or not to accept antiviral therapy for HCV. Once the questionnaire is developed, patient preferences will be described and the value and acceptability of ACA as a decision aid for patients with HCV in clinical practice will be evaluated.

**Brief status report:**

This project is being funded by a VA Merit Review grant. If positive, the results from this project will support an intervention trial to determine whether explicit elicitation of individual patient preferences using ACA facilitates decision-making and improves clinical outcomes in veterans with HCV. The long-term goal is to disseminate a practical, reliable, and valid tool for use throughout the Veterans Affairs (VA) health care systems in order to improve delivery of health services to veterans with HCV.

As the initial steps in creating the ACA questionnaire, four focus group meetings with HCV-infected veterans have taken place (including a total of 22 patients) with the objective of exploring patient preferences, expectations about treatment and information that helped (or would have helped) the veteran in his/her decision to undergo antiviral therapy. Concomitantly, a survey among hepatitis C providers is being conducted to evaluate what are the factors that are most important in considering a patient a candidate for hepatitis C antiviral therapy.

***Individualized Patient Calendar for Patients  
Undergoing Antiviral Therapy***

**Product type:**

Patient self-management intervention.

**Purpose:**

To provide the HCV-infected veteran undergoing antiviral therapy with an individualized patient calendar that will specify not only clinic and lab appointments but also days of medication administration.

**Target groups:**

Veterans undergoing anti-viral treatment.

**Description:**

Depending on the date of initiation of antiviral therapy, a computer generated one-month calendar will be provided that will contain:

- Type and dosage of antiviral medication (s)
- Dates of interferon injection
- Day-by-day check boxes for ribavirin administration
- Appointments for blood drawn and clinic visits
- Contact telephone number for the hepatitis C clinic.

Every month, the patient will be given a new calendar with relevant dates. Veterans initiating antiviral treatment will also be given a small pocket-size treatment handbook containing general information such as overview of treatment regimen; immunization record for hepatitis A and B; treatment side effects and what to do to minimize them; general strategy to keep liver healthy; how to prevent HCV transmission to others; relevant lab tests and their meanings; log of individual lab tests including liver tests, CBC, HCV-RNA (viral load); and a personal treatment journal.

**Brief status report:**

The logistics of programming the calendar-maker software is in process. Plans are to link each patient's calendar with the HCRC provider's calendar, specifically in reference to dates for lab drawing so that the provider is alerted as to when he/she should check on lab results. The individualized patient calendar (at least lab and clinic appointments) can be integrated with the clinic appointment feature of *My HealthVet*. The treatment handbook is in the final stages of preparation and once finalized it will be distributed among members of the HCRC group for approval prior to producing hard copies to be provided to patients. For the treatment book, hard copies can be produced and distributed to other VAs. For the calendar program, there is a potential integration with the clinic appointment feature of *My HealthVet*.

***Prospective Cohort Study of HCV Patients with Mental Illness  
and/or Substance Abuse***

**Product type:**

Innovation in care delivery.

**Purpose:**

This prospective study is the core of the CT-HCRC program and consists of a study of predictors of adherence, completion of therapy and sustained virological response in patients with mental illness and/or substance use.

**Target groups:**

Patients with active HCV infection and active mental illness and/or substance use.

**Description:**

All target patients receive an extensive psychiatric and substance use baseline evaluation (including Beck Depression Inventory, neuropsychiatric test battery, AUDIT) and, those who are considered treatment candidates, receive therapy with pegylated interferon + ribavirin. Baseline and interval psychometric and psychiatric data are collected prospectively. Additionally, prior to therapy patients will have to comply with four clinic visits (pre-treatment intervention). The final analysis will be performed to determine baseline predictors of adherence to pre-treatment intervention as well as baseline predictors of completion of therapy and sustained virological response in this patient population.

**Brief status report:**

From January 2003 to January 2004, 144 hepatitis C patients have been referred to the HCRC/Liver clinic (66% from primary care clinics, 30% from mental health clinics). On initial screening of each patient's chart, 117 have met inclusion criteria and have been given an initial appointment to the HCRC clinic. Of these, 51 showed up for this first appointment, 41 did not show up and in 25 the appointment was scheduled in February/March 2004. Note that the first appointment no show rate for this special patient population is quite high (41/92 or 44%). The clinic has made it a point to reschedule no show patients for two additional appointments and only 8/92 (9%) have so far not shown up for one of the three consecutive appointments (although some appointments are still pending). Of 66 patients who have shown up for baseline appointment, 13 were not considered candidates for therapy, 29 are in the pre-treatment intervention phase and 24 have started antiviral therapy. Notably, premature treatment discontinuation has been necessary in only one patient who developed decompensation of liver disease. Referral and workup has clearly been increasing over the past months and it is expected that 150-200 patients would have baseline appointment in the next 18-24 months.

***The Role of Psychosocial and Behavioral Factors in HCV Care  
Among Patients with Mental Disorders***

**Product type:**

Innovation in care delivery.

**Purpose:**

This study, focusing on the role of psychosocial and behavioral factors, is being conducted within the context of the main prospective cohort study described above. The objective is to identify psychosocial and behavioral predictors of HCV treatment outcomes, including adherence to treatment, completion of antiviral therapy, and sustained virologic response, among patients with comorbid hepatitis C and mental illness.

**Target groups:**

Patients with comorbid hepatitis C and mental illness (including substance use disorders).

**Description:**

Baseline data are being collected on a broad range of psychosocial and behavioral factors (e.g., social support, health beliefs, locus of control/self-efficacy, religiousness/spirituality, time preference, adherence to current medications, therapeutic alliance, and trust in physician) hypothesized to be associated with HCV treatment outcomes. In large part, these factors were selected based on empirical studies demonstrating their association with adherence to therapy and outcomes for chronic conditions including not only hepatitis C, but also HIV/AIDS, cancer, diabetes, hypertension, and schizophrenia. Bivariate and multivariate analyses will be performed to identify predictors of HCV treatment outcomes. Multivariate models will control for relevant sociodemographic and clinical characteristics.

**Brief status report:**

To date, 32 patients have completed the baseline interview. Enrollment of 150-200 patients is expected.

## **MINNEAPOLIS HCRC**

***Integrating Medical, Psychiatric and Addiction Treatment with Hepatitis C Care: Introduction of an on-site Mental Health Practitioner in a Hepatitis C Clinic. Initial Findings from a Qualitative Evaluation***

**Product type:**

Innovation in care delivery

**Purpose or aim:**

The purpose of this study is to evaluate implementation of an integrated care model to improve clinical care for patients with hepatitis C and psychiatric and/or substance use disorders in order to improve access to and adherence to antiviral therapies.

**Target groups:**

The target audience includes gastroenterologists, hepatologists, nurses, psychiatrists, pharmacists, social workers and other VAMC health professionals who work in hepatitis C care throughout the national VA system.

**Description:**

The model being tested consists of placing a Clinical Nurse Specialist for psychiatry and substance abuse into a chronic hepatitis clinic. Weekly log data were collected from the CNS and the members of the current medical and psychiatric staff. The weekly logs were analyzed collectively, then chronologically by professional specialty.

**Brief status report:**

Preliminary results indicate that introduction of the integrated model resulted in an increase in the number of patients screened for mental health co-morbidities, increased mental health referral, and greater patient awareness and contact with other affiliated providers. Personnel reported greater confidence in recognition of mental health concerns, more aggressive and better depression and substance use management, as well as more rapid referral to mental health. Increased communication between medical personnel in the hepatitis clinic and mental health providers was cited as facilitating better patient care. Primary barriers were time, resources, staffing issues, and patient factors. The HCRC continues to gather data on this ongoing integration process. This will result in a paper and guidelines for export to all VA medical centers that wish to provide integrated medical/psychiatric care for patients with hepatitis C.



## *Liver Health Initiative*

**Product type:**

Innovation in care delivery.

**Purpose or aim:**

The aims of the Liver Health Initiative are to develop, implement, and export a liver health protocol for use in mental health and substance use clinics. The liver health protocol will include tools to improve the recognition of liver disease, to provide counseling in self-help practices for liver health (including obtaining vaccinations when indicated) and to facilitate appropriate referral of patients with liver disease. The final goal is to decrease premature morbidity, mortality, and costs from liver disease in patients attending mental health and substance use clinics in the VA system.

**Target groups:**

The target population is veterans presenting to substance use disorders (SUD) treatment programs. The target audience includes gastroenterologists, hepatologists, nurses, psychiatrists, pharmacists, social workers and other VAMC health professionals who work in hepatitis C care throughout the national VA system.

**Description:**

The intent is to 1) measure current testing for HAV, HBV, and HCV. 2) develop means to gather feedback about testing results and complete the appropriate follow-up based on those results. 3) immunize all at-risk veterans lacking immunity for hepatitis A and hepatitis B. 4) provide comprehensive liver health education. 5) facilitate referral to hepatitis C clinic for veterans with chronic hepatitis C, including addressing barriers to successful referral and treatment.

**Brief status report:**

The program is in the preliminary development phase. The HCRC is currently measuring baseline performance on the key indicators, identifying specific goals in each area, as well as project leads and responsibilities for the different facets of the project. Also in process is development of materials and tools for use in the project and a comprehensive evaluation process to measure barriers to implementation, strategies for overcoming the barriers, and other measurements in keeping with the various goals of the project.

***Cognitive Therapy Group Intervention in Substance Use Dependent  
Hepatitis C Treatment Eligible Patients***

**Product type:**

Innovation in care delivery.

**Purpose or aim:**

The primary goals of the project are to:

- Facilitate substance use change using a cognitive behavioral approach
- Assess compliance/adherence level.

Participants will be required to attend 4 consecutive monthly sessions before being sent to the HCV clinic for treatment consideration. All patients must go through this process in order to get to treatment.

**Target groups:**

The target population will be HCV + patients presenting in SUD (substance use disorders) clinics. The target audience includes gastroenterologists, hepatologists, nurses, psychiatrists, pharmacists, social workers and other VAMC health professionals who work in hepatitis C care throughout the national VA system.

**Brief status report:**

The HCRC is currently developing the processes and materials needed to begin this project. The ongoing monthly support group (approx. 8 participants per session) will include education and discussion on varying topics:

- Alcohol and drug use interventions
- Side effect management techniques

**Evaluation component:**

Diary card completed and submitted weekly

Urine toxicology screening at every group session for each patient

**Diagnostic criteria:**

DSM check list

Identification of disorder

Rate of past use

Other psychiatric disorders

A modified structure will be developed to accommodate rural veterans so that they can participate in the program.

**SAN FRANCISCO HCRC*****VA-HCV-001*****Product type:**

Innovation in care delivery.

**Purpose or aim:**

This is a multi-center trial to evaluate the epidemiology, natural history and treatment response of hepatitis c in the United States veterans' population.

**Description:**

There are two separate phases of this study, a screening and a treatment phase. Specific aims of the Screening Phase are to 1) provide and document HCV patient counseling and education for patients who have tested positive for HCV infection, 2) evaluate the risk factors for HCV infection in the Veteran population, 3) evaluate whether the patients screened are treatment candidates for Rebetron therapy based on the VA treatment guidelines, and 4) determine the percentage of patients being treated and the reasons for receiving this therapy or not. The specific aims of the Treatment Phase are to 1) evaluate the response to Rebetron™ therapy in the Veteran population, 2) evaluate the safety and tolerability of Rebetron™ therapy in the Veteran population, and 3) evaluate any ethnic differences in the response, safety or the tolerability of Rebetron™ in the Veteran population.

There are two principal hypotheses in this study that are to be addressed. First, the majority of veterans with HCV disease may not be appropriate candidates for HCV treatment because of concomitant medical or psychosocial contraindications or concerns regarding compliance. Secondly, in those who are treatment candidates, there may be differences in adherence, response rates and patient management that might improve overall screening, support and treatment of HCV positive veterans in the future.

**Brief status report:** Study data continues to be analyzed and disseminated in collaboration with the 24 site investigators. In the past two years, presentations have been made, in oral or poster form, at several National and International Conferences such as the AASLD and DDW, including:

- 2002 AASLD (epidemiological data, alcohol)
- 2003 DDW (alcohol)
- 2003 AASLD (treatment outcomes, epidemiological data, steatosis and alcohol)

In addition to these presentations, this research has resulted in acceptance at:

- 2004 VA HS R & D
- 2004 EASL Conference

To date, one manuscript is completed and submitted and two others are nearing completion.

## *Co-infection Clinic Initiative*

**Product type:**

Innovation in care delivery

**Purpose or aim:**

The co-infection clinic was developed and became operational in June, 2003. The aim of the weekly afternoon clinic where HIV and HCV or HBV infected veterans can obtain specialized clinical care and support. Specific aims include:

- To provide the care team with a better understanding of the social, behavioral, medical and other issues that these patients face and thus improve the quality of care to these individuals and
- To provide a better overall understanding of the co-infected individual in order to develop and improve VA programs and services
- To develop and systematize interdepartmental training, support and consultations between ID and HCV specialists
- To develop recommendations and clarification on treating co-infected patients on HAART and HCV antiviral therapies, as well as mono-treatment issues for HIV-infected patients with liver disease.

**Description:**

The idea of this clinic is to combine the expertise of GI/hepatology physicians and ID physicians to provide a comprehensive care plan for these patients. Because this is a novel approach to providing care, it was recognized that the actual recording of information regarding the development of the clinic, the development of screening forms, attitudes and behaviors of ID and GI hepatology clinicians and patients would be beneficial:

**Brief status report:** A monthly support group has been formed for 10 – 18 patients. A satellite broadcast on co-infection has been produced and presented to VA Providers (approximately 143 VA facilities who participated). Monthly training / in-services were provided to ID and GI fellows and staff. There are forty-five unique “new to clinic” co-infected patients in past 6 months. Screening and intake forms have been completed and are now being used for co-infection patient data collection. Co-infection Treatment Recommendations, Support Group and Trainings are ongoing.

***2004 VA Hepatitis C Resource Center Satellite Broadcast Educational Series : Overcoming Side Effects as Obstacles to HCV Treatment***  
***Show #1: Management of General Side Effects***  
***Show #2: Monitoring and Management of Anemia and other Hematological Side Effects***

**Product type:**

Provider education intervention.

**Purpose or aims:** Proposed Goals of this 2-part Series include:

- 1) To identify issues associated with treatment-related side effects (general and hematological)
- 2) To describe ways of monitoring and measuring side effects
- 3) To educate and provide practical tools and strategies in the effective management of side effects to improve patient quality of life (and possibly adherence) and ultimately optimal treatment outcomes
- 4) To use cases, provider questions and discussion to highlight the “real” application of side effect management in patients undergoing HCV Treatment

**Target groups:**

Physicians, physician assistants, pharmacists, nurse practitioners, nurses, gastroenterologists, hepatologists and others working in primary care and specialized settings who are providing direct care to HCV-infected patients who are considering treatment or who are currently on treatment.

**Description:**

Modified version of 2003 series format: two 60-minute programs that will be done live-to-tape and broadcast on the VA satellite network on various dates in March and April, 2004. Based on the feedback and evaluations from the 2004 Program Series, time was the biggest barrier for clinicians to be able to view and participate in the entire live program because it “cut into” their clinical time. As a result, there has been a move to the 60-minute “lunch hour” programs in lieu of the 90-minute live program.

The idea is that:

- Each program can stand-alone and can be viewed autonomously of one another
- CEUs will be available for each show as with previous programs
- The programs will not be live, instead, there will be three program faculty / content experts to tape both shows in one day
- The one-hour time may enhance the opportunities for re-broadcast within the EES satellite programming schedule.

The additional benefit of this change is the ability to publicize the events within the VA as a series and build on each show’s individual appeal.

Similar to previous programs, after both programs air, one videotape package (also known as the Enduring Educational Materials Package) will be sent to each HCV Lead Clinician in the VA system. As a combined package (both programs distributed together in a two-tape package), it is also more cost-effective and efficient).

In addition to this change, plans to continue the development of each program as “enduring educational material” (see 2003 Series Information) are underway.

# **National Hepatitis C Program Office**

## **Hepatitis C Resource Centers**

### **Staff Listing**

The National Hepatitis C Program Office and the Hepatitis C Resource Centers are part of the Veterans Health Administration's Public Health Strategic Health Care Group (PHSHG). Lawrence Deyton, MSPH, MD is Chief Consultant for Public Health and Victoria Davey, RN, MPH, is Deputy Chief Consultant.

PHSHG also includes the Public Health National Prevention Program, the Center for Quality Management in Public Health, and Center for HIV Research Resources as well as core programs for communication, operational support, and education. The work of the HCRC program relies on the support of the entire PHSHG staff.

***National Hepatitis C Program Office, Hepatitis C Resource  
Centers and Public Health Strategic Health Care Group  
Staff Listing***

**National Hepatitis C Program Office**

Michael Rigsby, MD  
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Jane Burgess, ACRN, MS  
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Marguerite Petrucci  
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Michael Chapko, PhD  
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Meaghan Splan, MPH  
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David Indest, PsyD  
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Kevin Sloan, MD  
Chief, Dual Disorders Program

Ashlee Whitehead  
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Michael Serynak, MD  
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Aiman Issa  
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Martha C. Shea, RN  
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Sakib Kahlid, MD  
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Suchat Wongcharatrawee, MD  
Clinical Hepatologist



### **Minneapolis HCRC**

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Janet Durfee, RN, MSN, ANP  
Clinical Advisor, Hepatitis C Clinic

Judith Garrard, Ph.D.  
Professor, Health Services Research and  
Policy

Mark Willenbring, MD  
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Mary J. Wingert, MS  
HCRC Center Coordinator

### **San Francisco HCRC**

Teresa L. Wright, MD  
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Sue Currie, MA  
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Alexander Monto, MD  
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Sharon Payne  
Administrative Assistant

Karen Seal, MD  
Staff Physician – Primary Care

Denise Sipin  
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Phyllis Tien, MD  
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Helen S. Yee, PharmD  
Associate Director for Models  
of Pharmaceutical Care

### **National Hepatitis C Web Site Staff**

Patricia Long  
Project Manager

Kevin Montegrando  
Medical Media Specialist

# **VA Facility Participation in National Hepatitis C Program Office/HCRC Sponsored Events**

This section demonstrates the deep impact of HCRC related programs within the VA system of health care facilities by showing the VA centers that have participated in various HCRC events during the past two years. The individual programs are described in the first section of this report, “Completed Projects of National Scope”.

*“X’s” on the charts below designate VA staff participation in various National HCRC meetings, workshops and conferences during the 2002 and 2003 calendar years.*

<u>Facility#</u>	<u>Facility Name</u>	<u>City &amp; State</u>	<u>New Strategies Conference</u>	<u>Hot Topics Conference</u>	<u>Advanced Liver Disease</u>	<u>Minneapolis Preceptorships</u>	<u>Pharmacy Workshop</u>	<u>Transplant Workshop</u>
500	Samuel Stratton	Albany, NY		X	X			
501	Albuquerque VAMC	Albuquerque, NM	X	X				X
502	Alexandria VAMC	Alexandria, LA				X		
503	James Van Zandt	Altoona, PA	X			X		
504	Amarillo VAMC	Amarillo, TX				X		
463	Anchorage VAMC	Anchorage, AK	X			X		X
506	Ann Arbor VAMC	Ann Arbor, MI	X				X	
637	Asheville VAMC	Asheville, NC		X				
509	Augusta VAMC	Augusta, GA	X	X	X		X	
512	Maryland HCS	Baltimore, MD	X	X	X	X		
514	Bath VAMC	Bath, NY	X		X			
515	Battle Creek VAMC	Battle Creek, MI	X	X	X	X		
517	Beckley VAMC	Beckley, WV	X			X	X	
518	Edith Rogers	Bedford, MA	X	X		X		
519	Big Spring VAMC	Big Spring, TX				X		
520	Gulf Coast HCS	Biloxi, MS	X	X	X		X	
521	Birmingham VAMC	Birmingham, AL			X			
531	Boise VAMC	Boise, ID	X			X		X
526	Bronx VAMC	Bronx, NY	X	X	X	X	X	
630	New York Harbor VAMC	Brooklyn, NY	X	X	X	X	X	
528	Western New York HCS	Buffalo, NY						
529	Butler VAMC	Butler, PA	X					
532	Canandaigua VAMC	Canandaigua, NY						
620	Hudson Valley HCS	Castle Point, NY			X			
534	Ralph Johnson	Charleston, SC				X	X	
442	Cheyenne VAMC	Cheyenne, WY	X	X				
537	Chicago HCS (West Side)	Chicago, IL					X	
538	Chillicothe VAMC	Chillicothe, OH	X					
539	Cincinnati VAMC	Cincinnati, OH	X		X		X	
540	Louis Johnson	Clarksburg, WV	X	X				
541	Louis Stokes	Cleveland, OH	X	X	X		X	
542	Coatesville VAMC	Coatesville, PA	X	X			X	
543	Harry Truman	Columbia, MO						
544	William Dorn	Columbia, SC	X	X	X	X	X	
757	Columbus VAMC	Columbus, OH	X	X		X		
549	North Texas HCS	Dallas, TX	X	X	X	X		X
552	Dayton VAMC	Dayton, OH	X	X				
508	Atlanta VAMC	Decatur, GA		X	X		X	
554	Denver VAMC	Denver, CO	X	X		X	X	
555	Central Iowa HCS	Des Moines, IA	X			X	X	
553	Allen Park (John D.)	Detroit, MI		X		X		
557	Carl Vinson	Dublin, GA	X					
558	Durham VAMC	Durham, NC	X			X		
561	New Jersey HCS	East Orange, NJ	X		X	X		

<u>Facility#</u>	<u>Facility Name</u>	<u>City &amp; State</u>	<u>New Strategies Conference</u>	<u>Hot Topics Conference</u>	<u>Advanced Liver Disease</u>	<u>Minneapolis Preceptorships</u>	<u>Pharmacy Workshop</u>	<u>Transplant Workshop</u>
756	El Paso VA HCS	El Paso, TX	X					X
562	Erie VAMC	Erie, PA	X		X	X	X	
437	Fargo VAMROC	Fargo, ND						
564	Fayetteville VAMC	Fayetteville, AK	X	X		X		
565	Fayetteville VAMC	Fayetteville, NC	X	X				
436	Montana HCS	Fort Harrison, MT	X				X	
568	Black Hills HCS	Fort Meade, SD						
610	Northern Indiana HCS	Fort Wayne, IN	X		X			
570	Central California HCS	Fresno, CA				X	X	
573	Gainesville	Gainesville, FL	X	X			X	
575	Grand Junction VAMC	Grand Junction, CO	X	X				
590	Hampton VAMC	Hampton, VA	X			X		
578	Edward Hines, Jr.	Hines, IL		X	X	X		
459	Honolulu VAMROC	Honolulu, HI	X					
580	Houston VAMC	Houston, TX	X	X				
581	Huntington VAMC	Huntington, WV	X		X			
583	Richard R.	Indianapolis, IN	X		X	X		
584	Iowa City VAMC	Iowa City, IA	X	X		X		
585	Iron Mountain VAMC	Iron Mountain, MI	X	X	X			
586	G.V. Montgomery	Jackson, MS	X				X	
523	Boston Healthcare	Jamaica Plain, MA		X	X	X	X	
589	Kansas City VAMC	Kansas City, MO	X	X		X		X
593	Las Vegas VAMC	Las Vegas, NV		X			X	
595	Lebanon VAMC	Lebanon, PA	X	X	X	X		
631	Northampton VAMC	Leeds, MA		X	X	X		
596	Lexington VAMC	Lexington, KY			X			
598	Central Arkansas HCS	Little Rock, AK						
605	Jerry Pettis	Loma Linda, CA		X		X	X	
600	Long Beach HCS	Long Beach, CA	X		X			
691	Greater Los Angeles HCS	Los Angeles, CA	X	X		X	X	X
603	Louisville VAMC	Louisville, KY	X	X				
607	William Middleton	Madison, WI				X	X	
608	Manchester VAMC	Manchester, NH	X	X	X	X		
609	Marion-IL VAMC	Marion, IL	X			X		
610	Northern Indiana HCS	Marion, IN						
612	Northern California HCS	Martinez, CA	X	X		X	X	X
613	Martinsburg VAMC	Martinsburg, WV	X		X	X		
612-A4	Sacramento VAMC	Mather, CA						X
614	Memphis VAMC	Memphis, TN	X	X			X	
546	Miami VAMC	Miami, FL	X					
695	Clement Zablocki	Milwaukee, WI	X					
618	Minneapolis VAMC	Minneapolis, MN	X	X		X	X	
619	Alabama/Montgomery	Montgomery, AL	X					

<u>Facility#</u>	<u>Facility Name</u>	<u>City &amp; State</u>	<u>New Strategies Conference</u>	<u>Hot Topics Conference</u>	<u>Advanced Liver Disease</u>	<u>Minneapolis Preceptorships</u>	<u>Pharmacy Workshop</u>	<u>Transplant Workshop</u>
620	Hudson Valley HCS	Montrose, NY		X	X	X		
621	James M. Quillen	Mountain Home, TN	X	X		X		
626	Tennessee Valley HCS	Murfreesboro, TN					X	
623	Muskogee VAMC	Muskogee, OK	X			X		
626	Nashville VAMC	Nashville, TN	X		X			
629	New Orleans VAMC	New Orleans, LA				X		
556	North Chicago VAMC	North Chicago, IL		X		X	X	
632	Northport VAMC	Northport, NY	X		X			
635	Oklahoma City VAMC	Oklahoma City, OK		X		X		X
636	Omaha VAMC	Omaha, NE						
573	North/South Florida HCS	Orlando, FL					X	
640	Palo Alto HCS	Palo Alto, CA	X	X		X	X	X
642	Philadelphia VAMC	Philadelphia, PA	X	X		X	X	
644	Carl Hayden	Phoenix, AZ	X	X			X	X
646	Pittsburgh HCS	Pittsburgh, PA	X		X	X		
647	John Pershing	Popular Bluff, MO						
648	Portland VAMC	Portland, OR	X	X	X	X	X	X
649	Prescott VAMC	Prescott, AZ		X				X
650	Providence VAMC	Providence, RI	X	X	X		X	
567	Ft. Lyon	Pueblo, CO						
654	Sierra Nevada HCS	Reno, NV	X				X	X
652	Hunter McGuire	Richmond, VA	X	X	X		X	
528	Western NY HCS	Rochester, NY			X			
653	Roseburg VAMC	Roseburg, OR	X			X		X
655	Aleda Lutz	Saginaw, MI			X	X	X	
658	Salem VAMC	Salem, VA	X			X		
659	Salisbury VAMC	Salisbury, NC	X			X	X	
660	Salt Lake City VAMC	Salt Lake City, UT	X	X		X		X
671	South Texas HCS	San Antonio, TX	X			X		X
664	San Diego HCS	San Diego, CA	X	X			X	X
662	San Francisco VAMC	San Francisco, CA	X	X	X	X	X	X
672	San Juan VAMC	San Juan, PR	X					
663	Puget Sound HCS	Seattle, WA	X	X		X	X	X
666	Sheridan VAMC	Sheridan, WY						
667	Overton Brooks	Shreveport, LA	X		X	X	X	
438	Royal Johnson	Sioux Falls, SD	X					
668	Spokane VAMC	Spokane, WA	X	X				
656	St. Cloud VAMC	St. Cloud, MN				X		
657	St. Louis VAMC	St. Louis, MO	X			X		
516	Bay Pines VAMC	St. Petersburg, FL	X	X	X	X	X	
670	Upstate New York HCS	Syracuse, NY	X		X	X		
673	James Haley	Tampa, FL	X	X				
674	Central Texas HCS	Temple, TX	X	X		X		X

<b>Facility#</b>	<b>Facility Name</b>	<b>City &amp; State</b>	<b><u>New Strategies Conference</u></b>	<b><u>Hot Topics Conference</u></b>	<b><u>Advanced Liver Disease</u></b>	<b><u>Minneapolis Preceptorships</u></b>	<b><u>Pharmacy Workshop</u></b>	<b><u>Transplant Workshop</u></b>
402	Togus VAMROC	Togus, ME	X	X	X			
676	Tomah VAMC	Tomah, WI						
677	Eastern Kansas HCS	Topeka, KS	X			X		
678	Tucson VAMC	Tucson, AZ	X					X
679	Tuscaloosa VAMC	Tuscaloosa, AL						
548	West Palm Beach VAMC	W. Palm Beach, FL		X			X	
687	John Wainwright	Walla Walla, WA	X	X		X		
688	Washington DC VAMC	Washington, DC	X	X	X	X	X	X
689	Connecticut HCS	West Haven, CT	X	X	X	X	X	
692	White City VAMC	White City, OR	X				X	X
452	Wichita VAMROC	Wichita, KS				X		
693	Wilkes-Barre VAMC	Wilkes-Barre, PA	X				X	
460	Wilmington VAMROC	Wilmington, DE	X		X	X		
405	White River Junction	WRJ, VT	X	X	X			
516B	Ft Myers OPC	Ft Myers, FL				X		
589A5	Eastern Kansas HCS	Leavenworth, KS				X		
550	Danville VAMC	Danville,IL				X		

# **Evaluation of the Preceptorship Program in Multidisciplinary Team Care**

Evaluation is an important component of the work of the HCRC program. Approaches to evaluation differ based on the type of project being evaluated. The following section describes one approach to program evaluation conducted by the Minneapolis HCRC. This is not an evaluation of the entire HCRC program, but rather an example of how rigorous methods can be employed to measure the impact of quality improvement efforts.

**Stemming the Hepatitis C Epidemic in the Department of Veterans Affairs Medical Centers:  
A Progress Report on the Minneapolis-Hepatitis C Resource Center Training Program**

The Veterans Affairs Medical Centers (VAMCs) face a near epidemic of liver disease morbidity and mortality that is expected to crest in 2012-2014 [1]. VAMC providers need to increase the rates of screening, diagnosis, and treatment as early as possible in order to prevent increased morbidity and mortality associated with this disease. There is also a financial imperative to increase the efficiency and effectiveness of the delivery system in order to prevent this disease from overwhelming the resources of the VAMC. What the VA system faces now in the management of this condition and its sequelae is a precursor of what is likely to become a reality for the rest of the US health care delivery system in subsequent years. In this respect, the Hepatitis C epidemic in the VAMC is the proverbial canary in the coalmine of US health care organizations.

In recognition of the growing prevalence of Hepatitis C in the veteran population, the VA Central Office created four Hepatitis C Resource Centers (HCRCs) in 2001 under the aegis of the VA Public Health Strategic Health Care Group. The charge to the HCRCs, located in San Francisco, Seattle/Portland, New Haven, and Minneapolis, was twofold: (1) to collaborate in development of best practices in clinical care delivery, patient education, provider education, prevention and program evaluation that can be used by the entire VA health care system and other medical care systems; and (2) to implement one or more of these primary goals within each HCRC.

Focus on Change Through Provider Education. One primary goal of the Minneapolis HCRC (HCRC-Mpls) is to improve clinical outcomes through clinician education that focuses on (1) increasing the rates of screening, diagnosis, and treatment of veterans with Hepatitis C, and (2) to create or further develop Hepatitis C clinics that integrate treatment of substance abuse and mental illness with hepatitis C medical care. The Hepatitis C Training Program, first implemented in 2002, was designed to provide clinicians with the most current scientific information that will enable them to provide state-of-the-art treatment to veterans.

Purpose. The purpose of this report is to describe the Hepatitis C Training Program and evaluation of outcomes based on the April, 2003 Training Program. In the following section, the



content and evaluation of each Phase of the Training Program is described. The impact of the Training Program is described in the Results section.

## **Methods**

Changing Clinical Practice. In designing the Training Program, it was important to individualize the instruction for participants from VAMCs that differed widely in size, geographic location, availability of specialists, commitment of senior administrators, and patient characteristics such as race/ethnicity, disease severity, and motivation for treatment adherence. Empirically-based literature in health professions education and dissemination of innovations in health care [2] provided the basis for identifying strategies likely to be effective in meeting this challenge. These principles were applied in all three phases of the Training Program, from pre-assessment through follow-up.

What the Education Experts Say. A systematic literature review [3] covered the period 1992-2004 and included methodologically sound studies, critical reviews of randomized controlled trials, and reviews of reviews [4], including international reviews in the Cochrane Library. Results were consistent across studies regardless of specialty, clinical role, or disease. A modest change in knowledge over a short time period can result from didactic presentations; however, there is little evidence that passive dissemination of clinical guidelines or best practices statements resulted in change in clinical practice [5]. Simply presenting the information in a well organized series of lectures does not suffice if the goal is to change clinical practice [6, 7]. Educating for change in clinical practice is an order of magnitude more difficult than teaching for short-term knowledge gain. What appears to work best is a multifaceted approach that combines two or more modes such as lectures, case studies, focused discussions, iterative or one-on-one learning situations, follow-up activities, and content about organizational factors as well as information about the disease and its management [6].

Hepatitis C Training Program. The challenge for the HCRC-Mpls Program was to use the findings from the education and management literature to design the Training Program and to do this within the practical limitations of a two-day session and limited resources. Previous experience at the Mpls VAMC included nine workshops from 1998-2001 and a working model of an integrated care clinic by the teachers and clinicians who presented the Hepatitis C Training Program.

We used findings from the education and management literature to design the current format of the Hepatitis C Training Program. This consists of three phases that extend over a six months period: Phase I. Needs Assessment (three months), Phase II. the Preceptorship (two days), and Phase III. Individualized Follow-up (six months). Evaluation of program effectiveness in provider and system changes is an integral part of the design. Rather than collecting data just for purposes of evaluation, the emphasis was on insuring that information served the dual role of feedback to participant as well as data for the program organizers. Thus program evaluation was a seamless part of the instructional design, not an appendage to an otherwise intact program. The three phases of the Hepatitis C Training Program were the following:

*Phase I. Needs Assessment.* Three months before the preceptorship, all applicants participate in Phase I., which includes a self-assessment on the following topics:

- Knowledge. Each applicant completed a pencil-paper test that included questions about disease characteristics , natural history, epidemiology, screening procedures, criteria for diagnosis, treatment options, adverse effects, clinical management, and follow up procedures. For purposes of program evaluation, this was the knowledge pretest.

The self-assessment information was the basis for final selection of preceptorship participants. Expenses for the preceptorship were paid by the HCRC-Mpls, and number of applicants exceeded the slots available. Additional information was collected from all who were accepted for participation, and included the following.

- Site-Specific Epidemiology. At each VAMC site, participants were asked to record the numbers of patients at their facility identified with hepatitis C over the past 6 months and the number of these patients that had received antiviral treatment. These numbers were available at the VA HCV Registry at each site. Access to site-specific data was limited to local personnel. Instructions about how to access and use the VA HCV Registry were included in the needs assessment package sent by the Training Program staff. For purposes of program evaluation, data collected at each site were needed to measure change over time in number of patients at each stage of clinical care.
- Resources Available. During Phase I, those accepted for participation are asked to describe their site's resources in the form of personnel, collaborative arrangements, and clinical settings available in GI/hepatology and mental health. Each participant team in Phase II of the Training Program used this information as they developed an

individualized action plan for change at their facility. For purposes of program evaluation, the data were also used in the qualitative assessment of system change.

- Organizational Chart. Accepted participants from each site were asked to jointly prepare their understanding of an organizational chart at their site of staff responsible for decisions about creating and maintaining a clinic, including points of intersection between medicine and mental health. In order to develop a site-specific action plan, participants had to know who the decision makers were (the organizational chart), as well as what resources were or were not available. In evaluating system change, HCRC staff were interested in the roles of people who facilitated or hindered change, rather than their individual identities.

*Phase II. Preceptorship.* Phase II was the two-day preceptorship in which the all aspects of the disease, including its management in an integrated care model are presented in Day 1, and individualized action plans are developed by participants in Day 2. Specific topics and teaching strategies are summarized in Table 1. Educational strategies used throughout the preceptorship include: didactic presentations, discussions of case studies, role playing by all participants, practical demonstrations, question and answer sessions with the assembly of speakers, and discussions of practical problems and potential solutions among participants and speakers. At the end of Day 1, participants complete a knowledge assessment, which serves the dual purpose of reinforcing what was learned at the individual level and evaluating short-term change in knowledge across all participants. For purposes of program evaluation, this is the knowledge post test, identical in content to the knowledge pre test from Phase I.

During the development of individualized action plans by participants in Day 2, the speakers rotated among participant teams to provide one-on-one consultation. This was followed by a two hour informal question-and-answer session about challenges in implementing the action plans. At the end of the Day 2 session, the action plans were given to the HCRC-Mpls staff that returned them in electronic form to each participant during the following week. For purposes of program evaluation, these action plans also provided the baseline for measuring change in clinical practices and system changes as a result of the preceptorship.

All oral presentations in Day 1 were included in written form in a preceptorship notebook that also included the same information on a compact disk (Figure 1). Logistical

arrangements facilitated opportunities for networking in Day 1 by randomly assigning participants to tables that did not include colleagues from their own sites. On Day 2, however, all team members from the same site sat together in order to facilitate collaboration on the Action Plan.

Phase III. Individualized Follow-up. Phase III consisted of a three month follow-up in the form of coaching calls about the individualized action plans, including standardized questions about progress and changes in the action plans. The purpose of the coaching calls was twofold: (1) to reinforce the content and skills presented in the preceptorship, and (2) to obtain feedback about changes at each sites that could be attributed to the Training Program. Specifically, these coaching calls gave participants the opportunity to talk about what did and did not work in their settings. Table 2 lists the 15 questions asked in each of the coaching calls at the end of Months 1, 3, and 6 after the preceptorship.

The three one-hour coaching calls with the medical service participant at each site are scheduled at the end of months 1, 3 and 6 from the preceptorship. With participant permission, the calls are recorded. Change in the action plans or points of progress are summarized promptly in an e-mail to the participant. For purposes of program evaluation, this information becomes the basis for the qualitative evaluation of differences in clinical practice and system changes as a result of the preceptorship.

Content Analysis of System Change. One of the major goals of the Training Program is to change the clinical environment in order to provide better care to veterans with Hepatitis C. The baseline for change was the individualized Action Plan developed by participants in Phase II. Evidence for system change consisted of qualitative data from Months 1, 3, and 6 coaching calls. Content analysis of the coaching calls followed standardized procedures for analysis of qualitative data. This methodology is summarized in Table 3.

Summary. In summary, the evaluation of the HCRC-Mpls Hepatitis C Training Program used quantitative as well as qualitative data to evaluate the impact of the Hepatitis C Training Program. Short term knowledge gain about hepatitis C was measured with the pre-post knowledge test. Impact of the Hepatitis C Training Program was assessed quantitatively in the numbers of patients screened, diagnosed, treated, and followed-up at each site at Months 1, 3, and 6, compared to the baseline data from the Hepatitis C Registry. Progress as well as barriers in developing and implementing an integrated care clinic were assessed qualitatively by means

of the coaching calls, with a focus on the participant's understanding of their own health care organization, need for collaboration, and interaction with key administrators.

## **Results**

Participant Profile. Participants (N=29) in the April, 2003 Training Program included 5 hepatologists, 5 psychiatrists, 4 psychologists, 1 substance abuse counselor, 9 nurses, 2 pharmacists, and 3 physician assistants. Participants came from 13 states and were affiliated with one of 13 VAMCs and one Community Based Outpatient Clinic (14 different sites total). Twelve of the 14 sites sent one or more clinicians from both medical service and mental health. In Phase III, one or more participants responded to all three coaching calls from all sites.

Evaluation of Preceptorship. Of the 29 participants we received evaluations from 28 participants. The 28 participants in the Preceptorship in Phase II were uniformly enthusiastic about both days of the experience. The content, presentation format, and commitment of the presenters were extremely favorable. The emphasis in Day 2 of preparing an individualized action plan for their sites was also very favorably received. Suggestions for improvement included more time to discuss solutions for each of their plans or to discuss with other participants how they handled particular problems or gained resources for better care of HCV patients.

Knowledge and Confidence Gain. The preceptorship was effective in increasing knowledge about Hepatitis C screening, diagnosis, treatment, and follow-up. Knowledge was assessed using an 8 question test. Knowledge increased significantly ( $p \leq .0001$ ,  $df=27$ ) from a pretest mean of 1.54 ( $sd=1.0$ ) correct answers to a posttest mean of 5.32 ( $sd=1.66$ ) correct answers. Participants also reported a significant gain ( $p \leq .01$ ) in their own confidence about their knowledge and ability to care for veterans with Hepatitis C, from a pre test mean of 2.87 ( $sd=0.71$ ) to post test mean of 3.42 ( $sd=0.86$ ), on a scale of 0 (no confidence) to five (most confident). Participants clearly benefited from the didactic session in Day 1 of the Preceptorship (Phase II). At the end of Day 2, all sites provided an individualized action plan developed jointly by the participants from each site.

Increased Screening: HCV Registry. Although many participants reported in the coaching calls that screening for Hepatitis C increased at their sites, documentation of change in number of veterans screened between baseline in Phase I and each of the coaching calls in Phase III could not be determined because they did not or could not use the HCV Registry. In itself, this

feedback indicated a problem with either the usability of or training in use of the Registry itself. As a result of this feedback, more detailed information about how to use the Registry was provided in subsequent Preceptorships.

System Change. There was a lot of activity by participants at most of the sites following the preceptorship. The coaching calls provide a rich tapestry of feedback, and only the most salient points that emerged from the content analysis are summarized here. This summary is based on the themes identified across sites at each month (1, 3, or 6), and the trends over time (Table 3).

Major Changes. One month after the preceptorship all of the 14 sites reported at least one major change in their clinic activities related to hepatitis C. For example, five of the 14 sites initiated contact with administration about setting up a clinic or obtaining more resources (staff, space, clinic time) to provide care. Four of the sites initiated or increased their communication with mental health staff, substance use disorder counselors, or pharmacists about collaborative efforts. Other examples of major changes included increased staff awareness about the need for HCV treatment, better organization of clinical efforts, and improved clinical services such as side effect management, patient tracking, the referral process, and patient support groups.

At the end of the third month 8 sites reported continued positive improvements, 3 sites reported no significant change and in 3 sites an enthusiastic start had diminished due to staff being absent or withdrawn. Positive improvements included the concrete identification of staff needed, increased referrals to the HCV clinic, ongoing communication with administration and colleagues in mental health staff and substance abuse, and increased awareness of the disease and need for screening and treatment.

At the end of the sixth month, there were definite signs of progress in 10 of the sites: new resources were provided or increased in the form of staff hires or reallocations, treatment protocols were improved, patient backlogs were reduced, the number of liver biopsies had increased, more complex patients were being seen, and there were positive changes in the clinic structure.

In general, the themes across sites over time suggest that if change for the better had not occurred by the third month, then it was not likely to be present by the sixth month. The greatest source of frustration was lack of administrative support for staff committed to HCV care. This took the form of lack of resources (clinic time, space, personnel), lack of

collaboration with mental health or substance abuse colleagues, or indifference to the need for increased identification or care of HCV patients.

Collaboration. Phase II of the training program was effective in initiating or encouraging collaboration between the team members who attended the Preceptorship. At the end of Month 1, ten of the 13 sites that sent two or more clinicians reported increased contact with GI/Hepatology or Mental Health colleagues. Only 3 of the sites reported no contact, and one site had sent only one person and hence could not report increased collaboration. By Month 3, eight of the sites had ongoing or increased collaboration that resulted in review of cases and increased referrals. At four of the sites, there had been no collaboration. By Month 6, collaboration continued in those sites that had already initiated contact in either Months 1 or 3. They reported ongoing meetings, increased communication, and in some cases, increased mental health staff time.

In general, if collaboration was not initiated in Month 1, then the pattern of the themes across sites suggests that there was no further collaboration or contact made with colleagues in either GI/Hepatology or mental health/substance use disorders.

Screening and Treatment. Screening or treatment at the end of Month 1 increased in four of the 14 sites; of the remainder, screening had stabilized or no change was reported. This pattern continued in Months 3 and 6. This progress or change as reported by respondents in the coaching calls could not be documented in actual data from the HCV Registry. The question about the HCV Registry was not part of the Month 1 coaching call. By Month 3, only one of the sites used the HCV Registry to identify number of patients on therapy. By Month 6, three other sites were using the Registry, although one said that they did not find it useful; the site in Month 3 had not accessed it again in Month 6. Apparently the Registry either does not provide additional useful information or access to the Registry itself is a problem. The major findings at the Month 6 call indicated that increased communication between medical and mental health staff had occurred at 13 of 14 (93%) sites and an improvement in overall patient care was reported in 11 of 14 (79%) sites.

Staff Changes. Over the six months of coaching calls, staff changes were both positive as well as negative. By the end of Month 1, six of the sites reported that additional staff resources had been identified, new staff had been hired (advanced nurse practitioners or

psychologist), or staff time had been increased. Unfortunately, two of these six sites also had staff departures (HCV physician, pharmacist).

By the end of Month 3, nine of the sites reported no staff changes because either none were needed or resources had not been allocated. Some of the problems included loss of clerical staff, absence of an HCV nurse practitioner, or change in HCV provider responsibilities. One site reported in Month 3 that 'no one was working in the HCV clinic anymore.' By the end of Month 6, the picture was more optimistic: in seven of the sites that needed change there were new staff hires (N=4), positions had been approved (N=2), or new staff needs had been identified (N=1).

Case Studies. Each of the 14 sites was summarized as a case study consisting of a brief summary of the situation prior to the preceptorship and changes afterwards. Overall, 8 of 14 (57%) sites reported positive changes in clinical care for hepatitis C patients, 3 of 14 (21%) sites reported neutral changes, and 3 of 14 (21%) sites reported negative changes. Two of these case studies are described in Figure 2 to illustrate examples of positive and negative clinical outcomes. The other 12 case studies are included in Appendix I.

## REFERENCES

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**Table 1. Standard Questions in all Coaching Calls**

1. Change. What are the most noticeable changes that have taken place in your clinic since attending the program?
2. Collaboration. Have you met with the team members who attended the training program with you? If yes, what came out of this meeting?
3. GI/Hepatology Contacts. Have you met with any other staff from the GI/hepatology department since the program? If yes, who? What came out of this meeting?
4. MH Contacts. Have you met with any other staff from the mental health department since the program? If yes, who and what came out of this meeting?
5. Administration Contacts. Have you met with any staff from the administration since the program? If yes, who and what came out of the program?
6. BDI/AUDIT-C. Are you using the BDI or AUDIT-C or treatment -algorithm screening tools? If yes, have you used them any differently than you did before the training program. If yes, how?
7. Barriers: Clinical. Have you encountered any new barriers in providing effective clinical services since you participated in our training programs? If yes, what are they?
8. Screening. Have you increased the number of patients who receive screening for HCV since you attended our training? What about diagnosis? Treatments?
9. HCV Registry. Have you used the local HCV registry at all in the past 3 months? If no, why not? If yes, for what purpose? (Question added after the Month 1 coaching call; data available for Months 3 and 6 only.)
10. Clinic Staff Change. Has your clinic experienced any staffing changes since the program? Why?
11. Additional Contact. Would you like to speak with one of our HCV clinicians (medical or psychiatric) for additional feedback? If yes, who?
12. Additional Feedback. Do you have other questions, concerns, or general comments about the training program at this point?
13. Networking. Have you contacted any other participants from another VA (via e-mail or phone) since you participated in our training program?
14. Updates. Have you reviewed any new materials/literature on hepatitis C clinical care since you participated in the training? If yes, something you would recommend for other HCV clinicians?
15. Assessment of Own Clinic. What is your overall impression of your experience with the training and the development of your Hepatitis C clinic over the past 6 months?

**Table 2. Methodology for Content Analysis of Coaching Calls**

1. Blinding of Data. Each coaching call was summarized and an electronic copy was made, blinded by participant name, site, and month (1, 3 or 6). A code number was assigned to each and the summaries were arranged in random order.
2. Identification of Themes. Themes within each of the standardized questions were identified by two raters who were experienced with the Training Program. Independently they followed four steps:
  - a. Random Order. Raters consider the summaries in the same random order.
  - b. Themes. Read the summary and identify themes from that document.
  - c. Repeat. Read the next summary and identify any new themes. Continue this step with each summary until no more themes can be added. Each rater thus generates a list of themes.
  - d. Create Master Theme List. Together, raters create a common Master List of Themes by comparing the themes they generated, re-write to standardize the language, and eliminate overlap, with the result that each theme addresses a single topic.
3. Code Themes. Rearrange the summaries in a new random order for each rater (two random orders) to avoid order effect. Raters independently read each summary and assign a code number from the Master List of Themes. Repeat until all summaries have been analyzed.
4. Unblind Data. Once themes for all summaries have been coded, unblind the data and arrange by site and month of coaching call. Respondent identification is blinded.
5. Inter-rater Reliability. Establish inter-rater reliability by comparing the themes for each summary.
6. Outcomes and Trends. Summarize the themes within each of the standardized questions. Examine themes for evidence of outcomes and secular trends within or across sites.

Table 3: Reported changes in clinic care for HCV patients + = positive change, - = negative change, blank = no change

Contact with Administration			Increased communication			Improved clinic organization			Increased staff awareness			Perceived improved patient care		
Month 1	Month 3	Month 6	Month 1	Month 3	Month 6	Month 1	Month 3	Month 6	Month 1	Month 3	Month 6	Month 1	Month 3	Month 6
+	+	+	+	+	+									+
-	-	+	+	-	+			+				+		+
+	-	-	+	+	+							+	+	+
-	-	-	+	-	+								+	+
+	+	+	+	+	+			+						+
-	+	+	+	+	+	+		+	+				+	+
-	-	-	+	+	+									

Table 3: Continued

Site	Contact with Administration			Increased communication			Improved clinic organization			Increased staff awareness			Perceived improved patient care		
	Month 1	Month 3	Month 6	Month 1	Month 3	Month 6	Month 1	Month 3	Month 6	Month 1	Month 3	Month 6	Month 1	Month 3	Month 6
	+	-	-	+	+	+									
	+	-	+	+	+	+	+		+		+		+		-
0	-	-	+	+	+	+	+				+		+	+	-
1	-	-	-	+	+	+		+		+			+		
2	-	-	-	-	-	-				+			+		-
3	+	-	+	+	+	+								+	-
4	+	+	+	+	+	+			+						-

## Figure 1. Agenda for didactic session in the Preceptorship

Thursday, April 24<sup>th</sup>

**Purpose:** To provide information about the management of Hepatitis C and its outcomes.

8:00 AM	<b>Pre-program survey</b> <b>Introductions</b>
8:15 AM	<b>Introduction: Health care burden of Hepatitis C: Identifying a Window of Opportunity for Intervention</b> Samuel Ho, MD
8:45 AM	<b>Setting up a Hepatitis C screening program and clinic</b> Samuel Ho, MD <b>Coordinating HCV Care: Staffing and funding issues for VA Medical Centers: A proposal for VAs</b> Samuel Ho, MD and Janet Durfee, NP
9:15 AM	Break
9:30 AM	<b>Initial Medical Evaluation of Hepatitis C:</b> <ul style="list-style-type: none"><li>❖ <b>Strategies and protocols for efficient workups, decide treatment eligibility, and initiating treatment</b></li><li>❖ <b>The normal ALT patient</b></li><li>❖ <b>The role of liver biopsy</b></li></ul> James Johnson, MD
10:00 AM	<b>The NIH Consensus Conference on Hepatitis C: New Standards for Treatment of Hepatitis C</b> Janet Durfee, NP
10:30 AM	<b>Case Presentations:</b> <b>Side-effect management and how to optimize adherence to care.</b> Janet Durfee, NP and Lori Tetrick, RN
12:00 PM	Lunch break
1:00 PM	<b>The need for integrated medical/psychiatric care for Hepatitis C patients.</b> Samuel Ho, MD
1:15 PM	<b>Neuropsychiatric Issues:</b> <ul style="list-style-type: none"><li>❖ <b>Screening and monitoring of patients before and during treatment</b></li><li>❖ <b>Building skills to deal with difficult patients</b></li></ul> Eric Dieperink, MD
1:45 PM	<b>Understanding Patients with Substance Use Disorders.</b> Mark Willenbring, MD
2:15 PM	Break
2:30	<b>Role Play Activities:</b> <b>Using the Audit-C and BDI scales</b>
3:00 PM	<b>Integrated Care for Hepatitis C Patients: Summary</b> Samuel Ho, MD
3:30 PM	<b>Post-program survey</b> <b>Announcements</b>
6:00 PM	Group dinner

**Figure 2. Examples of Case studies.**

**Case Study E: Example of a positive change**

**This VA site had no hepatitis C clinic when they attended the Minneapolis Hepatitis C preceptorship in April 2003. Patients were referred to another facility for liver biopsies and treatment was delayed. Timely notification and patient follow-up were issues. There was no collaboration with mental health and substance use departments to manage hepatitis C patients with depression and substance use comorbidities.**

**Based on their action plan, the team from this site approached the upper administration staff at their VA and started the process of setting up a clinic. By month 6 this clinic was up and running and administrative support was continually sustained throughout the process. Collaborative arrangements were set up with mental health and substance use departments to manage hepatitis C patients. The collaboration between team members and with mental health and substance use departments continues. The hepatitis C clinic routinely screens for depression and substance use in their patients. A referral process is in place and patients are seen and notified in a timely manner in hepatitis C, mental health and substance use clinics. Substantial progress has been made in identifying and contacting those who had tested HCV positive prior to the establishment of an HCV clinic at this facility. New staff (NP, RN, LPN, Mental Health clinician and clerk) has been hired and administrative support continues. Limited clinic time and space are new barriers for this clinic.**

**Case Study K: Example of a negative change**

**This VA site did not have a hepatitis C clinic at the time of attending the Minneapolis Hepatitis C preceptorship. There was no continuity of care, screening for depression or substance abuse, and no liver biopsies were available for hepatitis C patients. Limited staff time, inadequate space and inefficient referral processes were issues.**

**The newly appointed HCV MD who attended the preceptorship worked with his team member to present a plan to administrative staff to start a HCV clinic. Administration determined there was no need for a specific HCV clinic and returned process of care for HCV patients to primary care. The few patients who were treated were treated without liver biopsies. Most were not evaluated for treatment or were referred to another VA site. Administration did not respond to the GI MD's offer to train the primary care providers. The GI MD has since left the VA due to lack of cooperation and support from administrative staff.**

**Selected Publications and Abstracts,  
from HCRC Staff by Site:  
2002 to 2004**

## CONNECTICUT HCRC – PUBLICATIONS

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