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HIV & Hepatitis Education Prison Project

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HEPP

REPORT

INFECTIOUS DISEASES IN CORRECTIONS

January 2003 Vol. 6, Issue 1

HIV & HEPATITIS
EDUCATION
PRISON
PROJECT

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ABOUT HEPP

HEPP Report, a forum for correctional problem solving, targets correctional administrators and HIV/AIDS and hepatitis care providers including physicians, nurses, outreach workers, and case managers. Continuing Medical Education credits are provided by the Brown University Office of Continuing Medical Education to physicians who accurately respond to the questions on the last page of the newsletter.

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DEPUTY EDITORS

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Director, HIV in Prisons Program, Yale University AIDS Program

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Director, AIDS Care and Clinical Research Program, University of Texas, Medical Branch

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A PRIMARY CARE APPROACH TO MENTAL HEALTH CARE FOR HIV/HEPATITIS-INFECTED INMATES

Robert D. Canning*, Ph.D., HIV Treatment Services, CA Medical Facility, CA Dept. of Corrections

Introduction

The combination of incarceration and chronic illness can be a potent formula for mental health disorders. Even without the burden of a chronic infectious disease, inmates have a high prevalence of mental illness. The Bureau of Justice reports that in the year 2000, 13% of all state prisoners received psychotherapy or counseling and 10% received psychotropic medications.¹

In the free world, HIV and chronic viral hepatitis are commonly accompanied by significant mental health problems. A recent community survey of psychiatric and substance abuse disorders among people actively treated for HIV infection found that 36% had a major depressive disorder, 15% a generalized anxiety disorder and 10% panic attacks.² Not surprisingly, drug abusing HIV-infected individuals were three times more likely to have a psychiatric disorder. These rates are far higher than those seen in samples of non-HIV-infected individuals. In addition, the same study found that almost one-third of those with HIV infection were taking psychotropic medications and one-fourth were receiving specialty mental health care.

Although statistics concerning the prevalence of mental illness among HIV-infected inmates vary depending on the setting, the dual impact of chronic illness and incarceration makes it commonplace for correctional health care providers to encounter inmates with major mental disorders.

Although most correctional systems maintain screening and treatment programs for both HIV infection and mental illness, numerous disincentives to being diagnosed with HIV infection or a psychiatric disorder make it likely that many patients who could benefit from treatment are not identified. Those recently diagnosed with HIV infection, those whose health is deteriorating, those serving a first term, and older prisoners are also more likely to have mental health problems.

The potential benefits of mental health treatment for inmates are numerous. Treatment can decrease the likelihood of self-destructive behavior, adherence to complex medical regimens such as HAART and interferon/ribavirin can be improved, and those receiving mental health treatment generally have fewer rule violations

and therefore have shorter sentences. When inmates with serious psychiatric disorders are not treated they can deteriorate mentally and physically, leading to the need for more intensive and more expensive care.

Common Mental Health Problems

Inmates with HIV infection and other chronic illnesses commonly suffer from depression and anxiety.³ The high prevalence of alcohol and/or drug addiction among inmates further increases the likelihood of inmates having at least one psychiatric disorder.^{2,3} Even without meeting the strict criteria for diagnosis of a psychiatric disorder, HIV-infected inmates experience a higher degree of distress, discouragement, and demoralization than their uninfected counterparts. Inmates who have spent time in segregated housing units (SHU) (also referred to as "the hole" or "the box") can also suffer from significant mental health problems associated with these "prisons within prisons".⁴

Depression can be manifested by an extended period of low mood or lack of interest in activities. In addition, depressed inmates can exhibit poor concentration, disturbances of appetite and sleep, agitation, irritability, hopelessness, social isolation, and ruminations about death and/or suicide. Depression among the chronically ill can present as a somatic syndrome without objective findings, leading health care providers to futilely pursue an extensive and costly medical workup.

Many inmates exhibit anger and hostility, making it difficult to work with them. These traits may be symptoms of an underlying psychiatric disorder such as a personality disorder, depression, or even bipolar (manic-depressive) disorder.

Anxiety syndromes are characterized by a heightened and often-exaggerated sense of dread, fear, or worry. These "cognitive" symptoms are often accompanied by a panoply of

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symptoms such as palpitations, shortness of breath, a choking sensation, diaphoresis, nausea, urinary urgency, tachycardia, and dizziness. The severity of symptoms can vary markedly. While some patients may have panic attacks lasting from a minute to hours, others may have only heightened worry or fear about a particular situation. Anxiety syndromes often have a significant physical component that can be mistaken for organic illness.

Inmates may suffer post-traumatic symptoms that include disturbing intrusive thoughts, frantic efforts to avoid them, nightmares, loss of interest in activities, memory lapses, autonomic changes, and sleep disturbances. Clinicians should pay special attention to inmates who are in solitary confinement housing units. Recent studies have shown that inmates can suffer a number of psychological symptoms associated with this type of housing.⁴ It was recently estimated that more than 20,000 inmates were in these types of units in the U.S.⁴ One commentary noted that "[there] are few if any forms of imprisonment that appear to produce so much psychological trauma and in which so many symptoms of psychopathology are manifested."⁴ Physical symptoms suffered by SHU inmates may include headaches, lethargy, heart palpitations, dizziness, sleep disturbances, and diaphoresis. Thus, clinicians may be faced with discriminating between symptoms of any number of HIV/hepatitis-related syndromes or simply the mental effects of prolonged isolation.

Lipodystrophy

Lipodystrophy (LD) represents an important problem for HIV-infected patients receiving highly active antiretroviral therapy (HAART). Body changes may stigmatize patients, producing erosion of self-image and self-esteem, problems in social and sexual relations, and anxiety and depression. For many patients, the benefit of survival outweighs the limitations produced by lipodystrophy, but others may become depressed and lose interest in complying with complex antiretroviral regimens, eventually leading them to discontinue control of their HIV infection.

Blanch, et al., performed an observational study of the impact of LD on the quality of life (QoL) of clinically stable outpatients taking HAART for more than 1 year.⁵ QoL was measured by the Profil der Lebensqualität Chronischkranker (PLC), and LD was defined by clinical criteria.

Fifty-six percent of 150 patients interviewed fulfilled criteria for LD. Although LD was not found to influence overall QoL in all patients, homosexuals, the unemployed, and those patients currently undergoing psychiatric treatment demonstrated greater impairment on some of the QoL subscales related to psychological well-being if they suffered

TABLE 1. Risk and Protective Factors for Suicidal Assessment and Intervention*

Risk Factors	Protective Factors
<p>Historical</p> <ol style="list-style-type: none"> 1. Lack of significant relationships (never married, separated, divorced) 2. Poor work history or chronic unemployment 3. Childhood abuse 4. History of violence 5. Mental disorder associated with suicidal behavior 6. History of head trauma 7. Prior suicidal behavior 8. Prior mental health treatment 9. Rigid thinking 10. Distorted thinking 11. Irrational beliefs 	<ol style="list-style-type: none"> 1. Married or in a significant relationship 2. Employed or involved in a structured program (school, treatment, etc.) 3. Intact support system 4. Having children under the age of 18 5. Constructive use of leisure time 6. General purpose for living 7. Involved in mental health treatment 8. Effective problem-solving skills
<p>Psychosocial-Environmental</p> <ol style="list-style-type: none"> 1. Major life stressors (re-incarceration, first incarceration, recent diagnosis of HIV, physical assault) 2. Any significant loss 3. Breakdown of social support 4. Social isolation (e.g. time in the "hole") 	
<p>Clinical</p> <ol style="list-style-type: none"> 1. Specific behaviors associated with suicidal behavior (e.g. giving away belongings; saying goodbye to friends; verbalizing thoughts of death or suicide) 2. Acute change in mental status 3. Changes in behavior 4. Mood changes 5. Changes in attitude (e.g. sudden fatalism in face of declining T-cell count) 6. Lack of compliance 	

* Sanchez HG. Risk Factor Model for Suicide Assessment and Treatment. *Professional Psychology: Research and Practice* 2001;32(4):351-358.

from LD. The authors concluded that the impact of HIV-related LD on QoL depends on certain patient characteristics, rather than solely on the presence of LD itself.

Neuropsychological Issues in Patients with Chronic Hepatitis

The prevalence of HCV infection among inmates has been reported between 17 and 18 percent.⁶ Neuropsychological impairment has been well documented in those with cirrhosis and end-stage liver disease. This impairment has been attributed to toxins accumulating in the blood that are not effectively cleared by the cirrhotic liver.

The neuropsychological manifestations of subcortical deficits usually include slowed speed when processing information, reduced word fluency, psychomotor slowing, and impaired learning in the presence of good recall of previously learned information and intact recognition memory. Psychomotor slowing, especially in combination with impaired attention and concentration, can result in prolonged periods of time needed to complete even routine tasks. Verbal skills, such as vocabulary and naming, and basic visuospatial and visuoconstructional abilities are relatively unaffected. Patients with these types of neurocognitive problems may fail to remember (or remember incorrectly) physicians' recommendations. They may experi-

ence difficulty performing their household and job duties as efficiently and/or as accurately as they are accustomed to. As a result of these difficulties, patients can experience frustration and mood problems, such as depression and anxiety.

Hilsabeck, et al., studied cognitive functioning in patients with chronic liver disease.⁷ Sixty-six patients with chronic HCV and 14 patients with other chronic liver diseases were administered a brief battery of neuropsychological tests assessing attention, visuoconstructional ability, learning, memory, and psychomotor speed.

Impaired performances were found in up to 50% of noncirrhotic patients, depending on the neuropsychological function tested. In this study, there was a significant relationship between fibrosis stage and test performance, with greater fibrosis associated with poorer performance. Maintaining attention and concentration for several minutes while performing accurately was the most difficult task for noncirrhotic patients. These findings suggest that progressive hepatic injury may result in cognitive problems even before the development of cirrhosis.

Patients with chronic HCV frequently report fatigue, lassitude, depression, and a per-

LETTER FROM THE EDITOR

Dear Correctional Colleagues:

At the dawn of the last decade, there was only one FDA-approved medication for the treatment of HIV infection. The benefits of monotherapy with AZT were temporary at best, and the life expectancy for patients with CD-4 counts of <50 was less than 1 1/2 years. By 1996, however, antiretroviral combinations that included protease inhibitors led to a dramatic decline in the number of HIV-associated deaths in the United States. At the California Medical Facility in the California Department of Corrections, there were half as many HIV-related deaths in 1996 compared to 1995, an experience repeated in jails and prisons throughout the country. There are now 16 different FDA-approved agents available for the treatment of HIV, providing an opportunity for prolonged, productive lives for many of those infected with HIV.

As deaths due to HIV disease declined, those attributable to the sequela of chronic HCV increased. Now, recent advances in the treatment of chronic HCV raise hope for improvement in liver histology, delayed progression to end-stage liver disease, and perhaps, in some cases, actual cure from HCV.

Not everyone has benefited from the tremendous advances in HIV and HCV treatment witnessed over the past 10 years. Successful treatment outcomes demand rigorous adherence to therapies that can cause uncomfortable and sometimes life-threatening side effects. Strict adherence is difficult for even highly motivated, well-educated, mentally healthy individuals. The prevalence of mental illness among the currently and formerly incarcerated is strikingly high. Those of us working in correctional public health see firsthand how the co-morbidity of mental illness can negatively impact on the successful treatment of HIV and chronic viral hepatitis.

In this issue of HEPP Report, Dr. Robert Canning provides an excellent review of the challenges facing correctional public health clinicians who treat those with mental illness and other disorders affecting cognition. Dr. Eric Avery reflects on his personal experiences as a psychiatrist treating inmates in the Texas Department of Criminal Justice. And our "Ask the Expert" section features Dr. Karl Brown from Rikers Island Jail discussing a challenging case of a bipolar inmate co-infected with HIV and HCV provided by Dr. Frederick Altice of Yale University's AIDS program.

At the conclusion of this issue, readers should have a better understanding of typical mental disorders encountered by clinicians in the correctional setting, be aware of some useful screening methods for the presence of mental and cognitive disorders, and be familiar with some of the complexities of treating patients with coexisting HIV, HCV, and mental illnesses.



Joseph Bick, M.D.
Co-Chief Editor

Published monthly and distributed by fax, HEPP Report provides up-to-the-moment information on HIV and hepatitis treatment, efficient approaches to administering treatment in the correctional environment, national and international news related to HIV and hepatitis in prisons and jails, and changes in correctional care that impact HIV and hepatitis treatment.

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Layout

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Distribution

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Elizabeth Herbert
HIV/Hepatitis Education Prison Project

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ceived inability to function effectively. Studies have shown that patients exhibit low QoL scores that are independent of disease severity. A study by Forton, et al., evaluated whether HCV infection has a direct effect on the central nervous system, resulting in cognitive abnormalities.⁸ Twenty-seven hepatitis C viremic patients with biopsy-proven mild hepatitis and 16 patients with cleared HCV were tested with a computer-based cognitive assessment battery and also completed depression, fatigue, and QoL questionnaires. Patients with significant fibrosis or cirrhosis were excluded from the study, thereby excluding minimal hepatic encephalopathy as the cause of the abnormalities.

The authors report that HCV viremic patients were found to be impaired on more cognitive tasks than the HCV-cleared group. As for affective scores, the HCV-infected group scored worse on the Hospital Anxiety and Depression Scales. Analysis revealed impairments in power of concentration and speed of working memory, independent of a history of intravenous drug use, depression, fatigue, or hepatitis symptom severity.

The authors suggest this data supports the clinical impression and assertions of many HCV-infected patients that they are cognitively impaired ("brain fog"). The mechanism(s) underlying these findings remains to be defined.

Kramer, et al., studied the impact of HCV infection on cognitive brain function.⁹ Fifty-eight non-cirrhotic patients with chronic HCV infection were studied by P300 event-related potentials (an objective measure of cognitive processing recorded through an array of scalp electrodes) and by the SF-36 questionnaire for assessment of health-related QoL. Findings were compared to 58 matched healthy subjects.

Cognitive processing was found to be impaired in HCV patients as compared to healthy subjects. Similarly, P300 amplitude was reduced in patients with HCV infection. Health-related quality of life was significantly reduced in patients with HCV infection but in this study there was no clear correlation between neurophysiological function and health-related QoL or activity of hepatitis.

The use of a standardized test to evaluate depression in those undergoing treatment for HCV was discussed at the American Association for the Study of Liver Diseases (AASLD) meeting in Boston in Nov. 2002.¹⁰ The development of depression while receiving IFN/RBV is one of the factors contributing to poor adherence, early discontinuation, and lower sustained viral response rates. In addition, treatment-related depression adversely affects patient QoL. To facilitate the diagnosis of depression and suicidal ideation in those begun on IFN/RBV, patients were administered an automated version of the Beck

Depression Index (BDI) utilizing the Point of View (POV) 2000 hand-held survey unit.

The BDI was given prior to therapy and repeated within the first three months of treatment and 448 patients treated with combination IFN/RBV were evaluated. Prior to therapy, all patients were classified by BDI as having minimal depression.

Follow-up BDI revealed that 65% were unchanged from baseline, 18% developed mild depression, 9% developed moderate depression, and 7% developed severe depression. One percent responded that they would kill themselves if they had the chance. Anti-depressive therapy was initiated for all patients who reported moderate depression or greater.

All patients with moderate depression or less were continued on therapy, unless suicidal ideation was present. Twenty-two out of 30 patients with severe depression completed therapy. Therapy was stopped for those patients who considered suicide. Of note, standard physician questioning did not reveal suicide ideation in any of the 17 patients with suicidal ideation.

The presenter concluded that the POV 2000 BDI is useful, and appears to be more sensitive than standard physician interviews in determining the presence and degree of depression. Use of this instrument may allow for earlier detection of depression and earlier intervention, which may lead to greater patient adherence to therapy. Interestingly, many patients considering suicide did not report severe depression.

Of Special Concern: Suicide

Suicidal behavior should always be a concern when dealing with the chronically ill and the incarcerated. Rates of suicide among HIV-infected individuals are higher than among other chronically ill populations, and HIV-infected inmates demand careful attention. A valuable model for dealing with suicidal thinking and behavior is to be aware of the risk and protective factors affecting suicidal thinking and behavior.¹¹

Both risk and protective factors for suicidal thinking and behavior are grouped into historical, personal, psychosocial-environmental, and clinical factors. Knowledge of these factors for individual inmates can help correctional health care providers detect and manage suicidal risk in this high-risk group (see Table 1). In addition to these general risk factors, context-specific factors such as first-term status or a new HIV infection or hepatitis diagnosis should guide health care decisions and treatment.

Mental Health Services in HIV Primary Care

In the past, most mental health care was provided by specialty mental health clinicians. In the last decade, primary care medical providers have been thrust into the role of providing a significant portion of mental health care. This is partly due to changes in health

care delivery systems, but can also be attributed to new, safer medications for common psychiatric disorders and new practice guidelines for the treatment of mental health disorders in primary care. Given the prevalence of psychiatric disorders in patients being treated for HIV and hepatitis, it is only natural that mental health care be integrated into general medical practice.

Screening

Screening for mental health disorders can be conducted efficiently and cost-effectively. Both questionnaires that are completed by the patient and brief screening interviews have been found to be highly sensitive to the presence of significant psychiatric symptoms and impairment.¹² Typical screening instruments for depression in primary care include the Center for Epidemiological Study Depression Scale (see HEPP Report, January 2000), the Hospital Anxiety and Depression Scale (HADS),¹³ and other self-report scales of depression and anxiety. Because it was developed to take account of the overlap of psychiatric syndromes and physical symptoms, the HADS scale is particularly useful in primary care and medical specialty clinics.

Screening devices such as these may be less reliable in correctional populations where over-reporting of symptoms can hinder accuracy. As an alternative, health care providers can ask a series of questions that are sensitive to the presence of clinically significant psychiatric symptoms. Brief interviews have been employed in primary care for the last 10 years. An example is the Prime-MD, which was developed to diagnose several of the most common psychiatric disorders seen in primary care settings. An abbreviated version of this measure is included as Table 2.

Finally, it should be emphasized that significant psychiatric symptoms can be present in the jail or prison environment without obvious impairment of an inmate's functioning. Any effort to screen for psychiatric disorders should include questions that ask about an inmate's social functioning and activities such as attendance at meals, school, job, and medical appointments.

Alternatives to traditional delivery models

Interest in alternatives to traditional mental health service delivery models was spurred by the need to introduce efficient diagnosis and treatment of common psychiatric disorders into primary care settings. Primary care settings in the community are important for several reasons: 1) psychiatric disorders often present as primarily somatic; 2) primary care patients with mental health problems are notoriously high utilizers of medical care; and 3) only a minority of patients with mental health problems seek help from mental health specialists.

Physicians and other health care professionals can be trained to screen for psychiatric disorders. Nurses have been used extensively for this purpose in a variety of settings. Physicians have received training in medica-

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tion algorithms and have been given access to psychiatrists for consultation. Education of mental health consumers has been shown to change patient behavior and can facilitate the screening and detection process, thus enhancing the opportunity for treatment of mental disorders.

Some of the more successful programs have been termed "collaborative care" models, in which a mental health professional is integrated directly into the clinic setting. Often the clinician has been a psychiatric nurse practitioner or psychologist who acts as an on-the-scene consultant. Nurse practitioners can quickly begin patients on medications for a number of common disorders. Psychologists are often helpful in situations requiring a differential diagnosis. Both these professionals are adept at brief interventions and crisis situations.

At the November 2002 AASLD meeting, a report from the University of Cincinnati VA Medical Center discussed the use of a team of experts in managing HCV therapy for patients with behavioral, emotional and psychiatric problems.¹⁴ Patients were evaluated for treatment by a multidisciplinary team of hepatologists, psychiatrists, pharmacists, and nurses. Sixty-seven percent of those treated had one or more axis 1 diagnoses, 28% had an anxiety disorder such as post-traumatic stress or panic disorder, and 89% had an addiction disorder.

In spite of this high prevalence of co-morbid mental illness, 71% of patients completed treatment. The presenters concluded that by using a multidisciplinary team approach to treatment, patients with serious mental/emotional disturbances and chronic HCV can be treated successfully without undue risk to the patient. Treatment success based on HCV RNA clearance was found to be comparable to that described in the literature for less impaired patients.

Treatment

Once the diagnosis has been made, effective treatment of depression and anxiety are readily available to primary care physicians. Newer antidepressants that feature more benign side effect profiles and a larger margin of safety are available. Algorithms for the use of antidepressant medications such as those from the Texas Medication Algorithm Project (TMAP) provide safe and efficacious treatment in line with practice guidelines from the American Psychiatric Association and other professional groups (see HEPPigram, p. 8).

Conclusion

Mental disorders are common and can cause significant impairment among inmates with chronic illnesses such as HIV and hepatitis C. Research in the community suggests that patients with co-morbid chronic viral illness and mental health problems have poorer adherence to medical treatment. Additionally, inmates with chronic illnesses spend more

TABLE 2. The Brief Patient Health Questionnaire

	Not at all	Several days	More than half the days	Nearly everyday
1. Over the last 2 weeks, how often have you been bothered by any of the following problems?				
a. Little interest or pleasure in doing things				
b. Feeling down, depressed, or hopeless				
c. Trouble falling or staying asleep, or sleeping too much				
d. Feeling tired or having little energy				
e. Poor appetite or overeating				
f. Feeling bad about yourself - or that you are a failure or have let yourself or your family down				
g. Trouble concentrating on things, such as reading the newspaper or watching television				
h. Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual				
i. Thoughts that you would be better off dead or of hurting yourself in some way				
2. Questions about anxiety		No		Yes
a. In the last 4 weeks, have you had an anxiety attack – suddenly feeling fear or panic?				
If you checked "NO", go to question #3.				
b. Has this ever happened before?				
c. Do some of these attacks come suddenly out of the blue – that is, in situations where you don't expect to be nervous or uncomfortable?				
d. Do these attacks bother you a lot or are you worried about having another attack?				
e. During your last bad anxiety attack, did you have symptoms like shortness of breath, sweating, your heart racing or pounding, dizziness or faintness, tingling or numbness, or nausea or upset stomach?				
3. If you checked off any problems on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?				
<input type="checkbox"/> Not difficult at all <input type="checkbox"/> Somewhat difficult <input type="checkbox"/> Very difficult <input type="checkbox"/> Extremely difficult				
4. Are you taking any medicine for anxiety, depression or stress? <input type="checkbox"/> No <input type="checkbox"/> Yes				

FOR OFFICE CODING: Major Depression Syndrome if answers to #1a or b and five or more of #1a-i are at least "More than half the days" (count #1i if present at all). Other Depression Syndrome if #1a or b and two, three, or four of #1a-i are at least "More than half the days" (count #1i if present at all). Panic Syndrome if all of #2a-e are "YES."

Developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc.

time incarcerated and may have higher rates of in-custody rule violations.

One challenge facing mental health providers and HIV/hepatitis primary care health care professionals is how best to diagnose mental illness and treat these individuals. In the past decade, changes in the delivery of mental health care in the free world have spurred efforts to develop effective interventions and the technology to deliver efficacious mental health treatment in non-traditional settings, such as jails and prisons. Efforts have included education for patients and professionals, inserting mental health professionals into primary care clinics, the use of brief screening instruments, and the use of algorithms and

practice guidelines to increase the effectiveness of psychotropic medications in primary care settings. Primary care physicians who care for patients with HIV and/or hepatitis can now make use of these emerging models and technologies to better serve inmates suffering from these and other chronic illnesses.

Disclosures: *Nothing to disclose

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ASK THE EXPERT: Case Study – Treatment for HIV and Bipolar Disorder

Case study presented by Rick Altice*, M.D., Director, HIV in Prison Program, Yale University AIDS Program. Discussion by Karl Brown**, M.D., Rikers Island Jail.

A 32-year-old female is admitted to the local jail. She is known to be HIV-infected and to have bipolar disorder. She is manic, paranoid and refuses to be examined. After a few days of observation in the mental health unit, she agrees to take valproic acid (VPA) 750mg TID. After one week, she remains paranoid and a nurse finally coaxes her to have her blood drawn. Her VPA level is therapeutic and her HIV work-up includes the following: CD4 93 (8%), VL = 167,000, VDRL non-reactive, toxoplasma antibody positive, HCV antibody positive, AST/ALT 64/79.

After a few weeks, she remains mildly paranoid, but finally agrees to some medications that might help her. She is started on TMP/SMZ one double strength tablet po QD for pneumocystis and toxoplasma prophylaxis. Two weeks later, she agrees to start medicines to treat her HIV and the psychiatric staff are prepared to release her to the general population. There is some concern expressed by nurses that she sometimes refuses her VPA and TMP/SMZ, but in the structured inpatient setting, she eventually accepts them with coaxing. The HIV doctor wants her to stay in the medical unit for observation and the psychiatrist indicates that there is no psychiatric need for her to remain an inpatient. An antiretroviral regimen with a high genetic barrier to resistance is selected out of concern for her possible impending non-adherence.

The patient weighs 165 pounds and is started on ddI-EC (250mg) QD, tenofovir 300 mg QD and lopinavir/ritonavir three capsules po BID. She has no GI side effects; however, three days after starting medications, she is brought into the medical unit by staff because she is vomiting, dizzy and unable to stand without falling. She is afebrile, normotensive without orthostasis, has a headache and nystagmus bilaterally.

What would you do and why?

Discussion

This young woman has a classical presentation for the jail setting in that she has HIV disease, mental illness, and hepatitis C. She has also been non-adherent to therapy for both her HIV disease and her mental illness and is likely not in care. With those biased assumptions stated, her HIV and her mental illness are not well controlled and the jail setting provides a brief opportunity for intervention - happily, this is done. Her chronic hepatitis C is diagnosed with minimally elevated liver function tests and work-up for this should be pursued, but her other medical illnesses warrant immediate attention.

Her acute mania is approached with rapid initiation and an increase of Valproate to therapeutic levels.

Appropriately, she receives PCP prophylaxis with TMP/SMZ daily and has her late-stage HIV approached with a regimen that has a high genetic barrier to resistance, due to concerns about non-adherence and the desire to prescribe a somewhat forgiving regimen.

She is observed (I agree with the necessity of observation) to be adherent to therapy, but is now presenting with symptoms suggestive of Valproate toxicity exemplified by vomiting, dizziness, and nystagmus. Worries regarding immune-reconstituting opportunistic infections of the CNS are lessened by absence of fever, normal blood pressure, and no lateralizing signs.

My approach to this case is, at first, "try not to do any harm." Importantly, look at the timing of her presentation. What has changed? The last intervention is likely the one impacting her current symptomatology, namely the initiation of ddI-EC, tenofovir, and lopinavir/ritonavir. In and of themselves, the regimen is an excellent choice, and appropriately dosed for the interaction between ddI and

tenofovir. Kaletra (lopinavir/ritonavir) though, is likely a part of the problem. It isn't clearly stated that there is an interaction between ritonavir and Valproate, but the product insert for Valproate states that "...drugs that are inhibitors of cytochrome P450 enzymes, e.g. antidepressants, may be expected to have little effect on Valproate clearance because cytochrome P450 microsomal mediated oxidation is a relatively minor secondary metabolic pathway compared to glucuronidation and beta-oxidation."

So now I'm really confused. I know ritonavir is a potent inhibitor of cytochrome P450, but the package insert ascribes minor problems for Valproate clearance if this pathway is inhibited.

The clarity comes when we return to her medical history. She has hepatitis C. Without liver biopsy or some assessment of liver function, could it be that her liver glucuronidation and beta-oxidation pathways are also hindered? Possibly. The short answer is to stop her Valproate and measure the level. It is also likely that her entire HAART regimen needs to be held until this is resolved. Checking the measurable levels should always be done when medications with narrow therapeutic indices such as VPA are prescribed with ritonavir-containing medications.

In this case, if the levels are high, several interventions are possible, from lowering the frequency or dosing of Valproate to changing Kaletra for a regimen that doesn't contain the most potent P450 inhibitor known. Therein, with the choices available, lies the art of medicine.

Disclosures:

*Consultant and Speakers Bureau: Agouron, Abbott, Bristol Myers Squibb, Boehringer Ingelheim, DuPont, Roche, Glaxo, Gilead, Ortho Biotech, Merck
**Nothing to disclose

A PRIMARY CARE APPROACH...

(continued from page 4)

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SPOTLIGHT: Interview with Eric Avery*, M.D.

HEPP Report interview with Eric Avery*, M.D., Assistant Clinical Professor of Psychiatry and Director of HIV Psychiatric Services, University of Texas Medical Branch, Galveston, Texas

Q: Tell us about your work in correctional health care.

A: Until early last year, I worked in the Carol Young Medical Facility, a minimum security Texas Department of Criminal Justice facility near Galveston. It's a "step-down" medical facility for several hundred women who come for their medical appointments at the University of Texas Medical Branch at Galveston (UTMB). A large number of these women have HIV.

Q: What were some of the most challenging aspects of your work with inmates?

A: I had to learn how to listen to their stories about their childhood and adulthood physical, sexual, verbal and emotional abuse. For many of these women, prison was a retraumatization. Since there was little I could do to change where they lived, we had to focus on how they did their time.

Q: What were some of the most common mental disorders that you encountered in your correctional experience?

A: Substance abuse or dependence, in remission because of incarceration, was epidemic. Major depression was common. I couldn't believe how often I diagnosed Post-traumatic Stress Disorder (PTSD) in these women compared to my "free world" work in the HIV Clinic at UTMB. Sometimes the stories of childhood abuse are such a problem that patients would tell me them in their first visits. But in others, to ask questions about childhood abuse instantly puts the patient in a flashback so I'm really careful. Since in abuse situations the survivor has felt out of control of what is happening, it's important for the patient to feel that they control what and how they disclose the trauma. I often use a childhood abuse questionnaire that I give to the patient with instructions that they control if and how they complete it. If they can fill it out, they can bring it to the next session. If they can't complete it, that's ok too. Then again, perhaps months later after treatment, we might revisit this traumatic part of their history.

Q: In your experience, how did these disorders impact upon the ability of patients to adhere to therapy?

A: Depressed and hopeless patients aren't really motivated to take on the challenges of HIV treatment. But the Infectious Disease/HIV physician who worked in the facility had a really good reputation with these women. That was one of the keys to why these women have done so well. I worked with this doctor in the HIV Clinic at UTMB so we both could reinforce what the other was doing.

One of the most crippling aspects of PTSD is the belief that the future is hopeless, that at any moment another trauma will happen. Certainly bad stuff can happen in a prison setting and there can be a lot of bad news if you've got chronic medical disorders like HIV, HCV and breast cancer. Add these medical problems to a life of trauma and you have to work really hard to overcome the hopelessness.

Getting these women on an SSRI like Sertraline, and keeping them on it for a long time helped a lot with the depression, PTSD and medical adherence. For many of these women with HIV who'd been hopelessly on street drugs and living waiting to die, getting them to understand they could control their viral loads by what they did with their medical and psychiatric care - well, it was a transformational experience for many of them. Watching this was one of the best parts of my job.

Q: Could you tell us a little about your current situation at the HCV clinic?

A: In my prison job, I saw many women co-infected with HIV and HCV but only a few were on treatment for HCV. ALTs were followed

but a lot of women were released before they'd meet criteria for HCV treatment. In the free world, I've worked for several years in a hepatitis clinic. If a patient with HCV has a history of depression or other psychiatric disorders, I'm consulted to evaluate them before they begin their treatment with pegylated interferon and ribavirin because psychiatric disorders can come back with a vengeance while on HCV treatment.

Q: What kinds of psychiatric problems do you see there?

A: The G.I. physicians have gotten comfortable diagnosing and treating depression in HCV patients so I am referred more complicated patients. Like in the prison, these patients have histories of substance abuse and dependence. Interestingly, many have stopped years ago and now are facing HCV. Of those still using drugs, benzodiazepine abuse and alcohol are more common than problems with cocaine. I'm evaluating and treating more and more Bipolar I and II patients.

What really concerns me is who I'm not seeing in the hepatitis clinic. I don't see co-infected HIV/HCV patients in this clinic. And I'm not seeing any patients referred from the psychiatry wards and psychiatric clinics. When I do weekend coverage on the inpatient psychiatric wards I'm stunned to see how many of these patients now are HCV-positive. In Houston, investigators at Baylor College of Medicine discovered that 16.9% of institutionalized psychiatric patients tested positive for HCV.

Because of the neuropsychiatric side effects of HCV treatment, most of these patients will not be treated. This is an emerging problem and the psychiatric profession hasn't figured out that their patients are the ones disproportionately getting infected with HIV and HCV. My worst-case scenario is that future psychiatric clinics will have HIV and hepatitis physicians working in them providing care, instead of the other way around.

Q: How do you manage patients with depression? What are your first- and second-line agents? What complications do you watch for?

A: I use all antidepressants in patients with HIV and HCV. Certainly the first-line agents are the SSRIs. I frequently use Sertraline (Zoloft), Paroxetine (Paxil) as my first choice for patients with depression and PTSD. In patients with medical problems the rule is to start low, so with Sertraline, I start with 25 mg in the morning, and then increase to 50 mg. You can increase up to 200 mg but I'd be looking up drug-drug interactions with the HIV medications as I increased the dose. I start Paxil with 10 mg but, because it has no metabolites, a non-adherent patient can get discontinuation symptoms if they suddenly stop it, so I counsel patients about this.

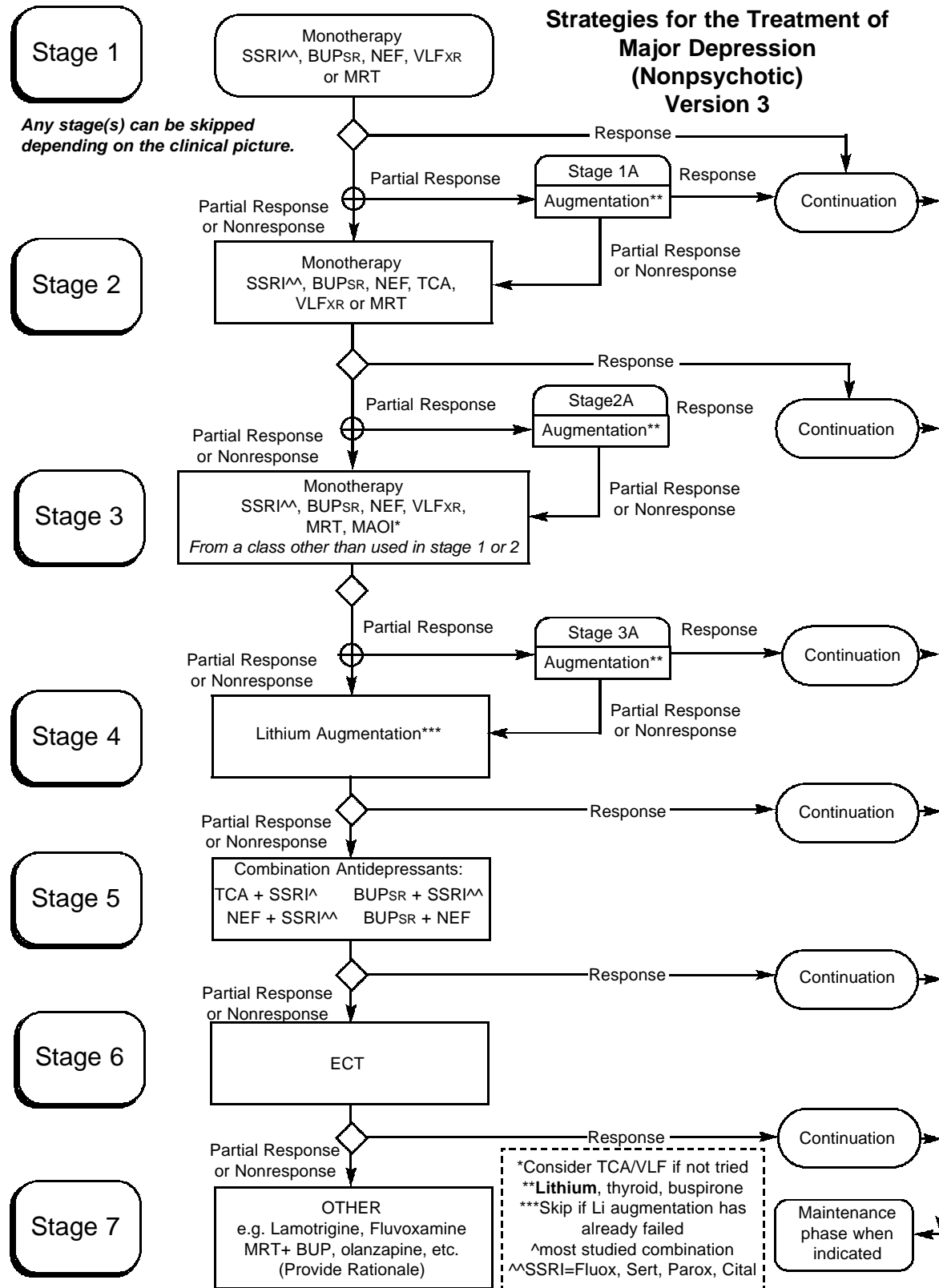
Prozac is now generic and cheaper so the prison liked me to use it. It's a really good antidepressant. Its primary metabolite's half-life is 14 days. In non-adherent patients this can be a benefit. But, if the patient has bad side effects, they'll last for a long time. It also has more drug-drug interactions, so I am watching for this when I use it in HIV-infected patients.

In patients with liver disease, I'm always careful with how I dose psychiatric medications. Again the rule is go low and increase slowly. But I tell physicians who treat HIV and HCV not to be afraid to prescribe antidepressants. Their patients will be more adherent with medical treatment if they are not depressed. They should become familiar with a few of them and use them. If they can't improve their patients' depression, then they should send them on to the psychiatrist.

**Disclosures: Nothing to disclose*

HEPPIGRAM: Texas Medication Algorithm Project (TMAP)

The Depression Algorithms



SSRI = Selective Serotonin Reuptake Inhibitor
 BUPSR = Bupropion Sustained Release (WellbutrinSR)
 NEF = Nefazodone (Serzone). Note: caution when using nefazodone with patients receiving protease inhibitors due to inhibition of cyp450 enzyme system.

VLFXR = Venlafaxine Sustained Release (EffexorXR)
 MRT = Mirtazapine (Remeron)
 TCA = Tricyclic Antidepressant (Amitriptyline, Nortriptyline)
 MAOI = Monoamine Oxidase Inhibitor
 ECT = Electroconvulsive Therapy

SAVE THE DATES

Hepatitis C Management for Prisoners

January 25-26, 2003
San Antonio, Texas

For abstract forms and more information, visit
<http://www.med.umn.edu/cme/html/hepcoordinators.html>

National Hepatitis Coordinators' Conference

January 26-30, 2003
San Antonio, Texas

Fee: \$125

Call: 800.776.8636

Visit: <http://www.med.umn.edu/cme/brochures2002/hepco-ord2003/hepcoordbro2003.html>

10th Conference on Retroviruses and Opportunistic Infections

February 10-14, 2003
Boston, Massachusetts
call: 703.535.6862

Email: info@retroconference.org
Visit: <http://www.retroconference.org/2003>

Management of HIV/AIDS in the Correctional Setting

Satellite Videoconference
Hepatitis B & C with HIV Co-infection: A Diagnostic & Treatment Update
March 11, 2003

12:30-3:30 p.m. Eastern Time

CME & Nursing Credits Available
www.amc.edu/Patient/HIV/hivconf.htm

Email: ybarraj@mail.amc.edu
Call: 518.262.4674

15th National HIV/AIDS Update Conference

Focusing on the Front Lines:
Practical Lessons in Prevention, Treatment, and Care
March 30-April 2, 2003
Miami, Florida

Scholarships available

Email: nauc@total.net

Visit: <http://www.amfar.org/nauc>

Clinical Updates in Correctional Health Care

NCCCHC Spring Meeting
April 12-15, 2003

Anaheim, California

Call: 773.880.1460

Visit: <http://www.ncchc.org>

INSIDE NEWS

HIV

FDA Approves Once-Daily Version of Zerit

The FDA approved a new "extended release" version of Bristol-Myers Squibb's Zerit (d4T, stavudine). The new formulation, which will be marketed as Zerit XR, has been shown to maintain measurable plasma concentrations in patients for 24 hours following the once-a-day dose. Zerit XR is indicated for treatment of HIV infection in combination with other antiretrovirals. The full label will be available in the future at <http://www.fda.gov/cder/approval/index.htm>. As of January 10, 2003, Zerit XR was not yet available in pharmacies. *Kaiser Daily HIV/AIDS Report, 1/02/03*

Report: Infection by Closely-Related HIV Strains Possible

A recent issue of *Nature* reports findings from Bruce Walker, M.D., a researcher at Massachusetts General Hospital and Harvard Medical School, of an individual infected with two closely related strains of HIV. The two strains differed in overall amino acid sequence by about 12 percent (variation between subtypes of HIV is about 30 percent) and is the first published report of infection by two strains of the same subtype. This data provides further strength to the recommendation that HIV-infected individuals protect themselves from super-infection with other HIV strains. *NIH News Release, 11/27/02*

Gilead to Buy Triangle Pharmaceuticals

California-based Gilead Sciences has agreed to buy North Carolina-based Triangle Pharmaceuticals for \$464 million. With the deal, Gilead's development portfolio is strengthened with three of Triangle's HIV and HBV drugs, including Coviracil (FTC, emtricitabine), which could be approved by the FDA in 2003. According to Gilead's chief operating officer, Coviracil (an NRTI) could be combined with Gilead's Viread to make a once-a-day tablet. *Kaiser Daily HIV/AIDS Report, 12/06/02*

Study to Evaluate Tenofovir as Prevention Method

The Bill & Melinda Gates foundation awarded a \$6.5 million, three-year grant for a multinational

clinical trial to evaluate Gilead Science's tenofovir (Viread) as an approach to HIV prevention. The trial is designed to evaluate the safety and efficacy of tenofovir as a method of reducing the risk of HIV infection in sexually active adults who are regularly exposed to the virus. *Gilead Press Release, 10/28/02*

HIV-Positive Alabama Inmates Sue Over Living Conditions

A suit filed on behalf of five HIV-positive inmates at Alabama's Limestone Correctional Facility charges the state Department of Corrections and NaphCare with "inadequate living conditions" and medical care. According to the plaintiffs' lawyer, more than 40 inmates with HIV have died at the Limestone facility over the past three years. Limestone is a special unit of the state prison system and houses more than 200 HIV-positive inmates. *Kaiser Daily HIV/AIDS Report, 11/25/02*

HCV

FDA Approves Pegasys/Copegus Combination for HCV Treatment

The FDA approved combination therapy with Roche Pharmaceutical's Pegasys and Copegus (ribavirin) for the treatment of adults with chronic HCV infection who have compensated liver disease, and have not been treated with interferon alpha. Pegasys, a premixed solution, is injected once a week; Copegus is available as a 200mg tablet (administered at 800 to 1200mg) taken twice daily as a split dose. *Kaiser Daily HIV/AIDS Report, 12/05/02*

HCV Therapy-Related Depression Reduces Adherence, Decreases Viral Response

A study presented at AASLD examined whether the degree of depression caused by HCV therapy was related to the type of therapy (either INF/ribavirin or PEG-INF/ribavirin compared to INF monotherapy). Results showed that combination therapy significantly increased the depression induced by therapy, and as adherence is affected by severe depression, it often results in early dropout, resulting in poor viral response. The study suggests that better control of depression at the initiation of therapy might improve compliance, and ultimately, viral response. *www.hivandhepatitis.com, 11/18/02*

RESOURCES & WEBSITES

Office of HIV Psychiatry

American Psychiatric Association
Training and education, technical assistance, policy guidance, and resources.
Phone: 202-682-6163
email: aids@psych.org web: <http://www.psych.org/aids/>

National Institute of Mental Health Office of AIDS Research

Phone: 301-443-6100
email: nimh aids@ngmsmtp.nimh.nih.gov
web: <http://www.nimh.nih.gov/oa/>

Criminal Justice/Mental Health Consensus Project

<http://consensusproject.org/>

Medscape: HIV/AIDS

<http://www.medscape.com/hiv-aidshome>

AIDSinfo

A service of the U.S. Department of Health and Human Services. AIDSinfo is a merger of the HIV/AIDS Clinical Trials Information Service (ACTIS) and its sister service, the HIV/AIDS Treatment Information Service (ATIS)
<http://www.aidsinfo.nih.gov/>

SELF-ASSESSMENT TEST FOR CONTINUING MEDICAL EDUCATION CREDIT

Brown Medical School designates this educational activity for 1 hour in category 1 credit toward the AMA Physician's Recognition Award. To be eligible for CME credit, answer the questions below by circling the letter next to the correct answer to each of the questions. A minimum of 70% of the questions must be answered correctly. This activity is eligible for CME credit through July 31, 2003. The estimated time for completion of this activity is one hour and there is no fee for participation.

1. Which of the following is a "protective" factor that may decrease the likelihood of suicidal thinking and behavior?
 - a) Married or in a significant relationship
 - b) Having children under the age of 18
 - c) Involved in mental health treatment
 - d) All of the above
 - e) None of the above

2. Brief screening interviews and self-report scales have been found to be sensitive to the presence of significant psychiatric symptoms and impairment and may be useful in correctional settings.
 - a) True
 - b) False

3. According to the Bureau of Justice, the following number of state prisoners were receiving psychotherapy or counseling in the year 2000:
 - a) 3%
 - b) 13%
 - c) 27%
 - d) 41%

4. Which of the following might be a sign of depression?
 - a) Trouble falling or staying asleep, or sleeping too much
 - b) Feeling tired or having little energy
 - c) Poor appetite or overeating
 - d) Trouble concentrating on things, such as reading the newspaper or watching television
 - e) All of the above

5. The presence of major mental illness is an absolute contraindication to treatment for hepatitis C infection.
 - a) True
 - b) False

6. In the absence of cirrhosis, patients with chronic viral hepatitis are unlikely to demonstrate any cognitive impairment when studied with neuropsychological testing.
 - a) True
 - b) False

HEPP REPORT EVALUATION

5 Excellent 4 Very Good 3 Fair 2 Poor 1 Very Poor

1. Please evaluate the following sections with respect to:

	educational value	clarity
Main Article	5 4 3 2 1	5 4 3 2 1
HEPPigram	5 4 3 2 1	5 4 3 2 1
Inside News	5 4 3 2 1	5 4 3 2 1
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2. Do you feel that HEPP Report helps you in your work? Why or why not?

3. What future topics should HEPP Report address?

4. How can HEPP Report be made more useful to you?

5. Do you have specific comments on this issue?

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