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# HIV Clinician

ISSN: 1551-885X

formerly FACULTY NOTES

Summer 2010 • Vol. 22, No. 3

## The aging process in HIV-infected patients: a comorbidity that needs more research

A PEER-REVIEWED ARTICLE

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A segment of the HIV-infected population is growing old, resulting in increasing instances of comorbid conditions due to the aging process. Numerous reviews in the literature relate to the aging of HIV-infected patients, most reporting on epidemiologic changes, the influence of antiretrovirals, T-cell count, and comorbidities in this group.<sup>5,6,12,13,18</sup>

It is well known that aging brings significant comorbidities such as cognitive dysfunction, cardiovascular problems, coronary artery disease, cerebrovascular disease, and frailty syndrome, among other issues. The effect of HIV infection on the development of these problems is as yet unknown.<sup>1,3,4,7,14</sup>

Research studies of issues beyond the epidemiological are scarce in this population. Numerous gaps exist in our knowledge about HIV and the aging/frailty syndrome in HIV-infected individuals has not been well defined. Outcomes related to the impact of antiretrovirals on the aging process and the characteristics of frailty syndrome in HIV-infected patients have not been studied in depth.

This article explores research options to evaluate the differences between chronological and biological age in HIV-positive patients, frailty syndrome in HIV-infected populations, the impact of antiretroviral

therapy on the aging process of HIV-infected patients, the potential reversibility of frailty syndrome in HIV-positive populations with the use of antiretroviral therapy, and the potential delay of the aging process.

RESEARCH STUDIES IN  
AGING HIV-INFECTED PATIENTS

### Epidemiological Studies

In a critical review of available literature, Martin *et al.*<sup>8</sup> mentions that approximately 25% of HIV infections occur in the over-50 age group. The authors posit that HIV care in elderly patients is more complex due to comorbidities, lack of clear guidelines, absence of studies on interactions between antiretrovirals and other medications taken by this group, and the impending development of age-related or geriatric syndromes.

In a recent multicentric cross-sectional study conducted in Spain, Mothe *et al.*<sup>11</sup> described the clinical characteristics of patients over 70 years old with HIV infection. The majority of them were male (76%) with low CD4 counts at diagnosis (52%), compared to 34% of those in younger populations having low CD4 counts at the time of diagnosis. Dyslipidemia, hypertension, diabetes, cardiovascular disease, chronic renal failure, malignancies, and cognitive dysfunction were the most common comorbidities

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## When your HIV-infected patient doesn't speak English

Katrina Badger, MPH, GSW, MSW

In 2007, more than 55 million people in the U.S. (19.7% of the population) spoke a language other than English at home. Of those, almost half reported that they spoke English less than 'very well.'<sup>1</sup> In Louisiana, 8.2% of the population speaks a language other than English at home, 6.4% in Arkansas, and 3.4% in Mississippi, according to the 2007 Census estimates.<sup>2</sup>

Imagine you are living temporarily in another country, for example Ethiopia, and you do not speak the language spoken there. How do you find

out about where to go for testing, information and treatment for HIV? Once you have been lucky enough to find out where these services are provided, the question remains: does the organization provide services in English? If not, you have to bring someone with you who *does* speak both English and Amharic so that they can help you to communicate. Who should you bring with you to help you communicate when you go in to get tested and learn about HIV? Your brother? Your partner? Your daughter?

It is no wonder that public health departments and HIV programs are seeing low

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# In HIV, chronologic and biologic ages may differ by 15-20 years

## [Aging process, from page 1](#)

found. Interestingly, the authors found an average use of three drugs besides antiretrovirals.

In a study within the HIV Outpatient Clinic of the Interim Louisiana Public Hospital in New Orleans, 151 patients over 60 years of age were identified. The median age of this group was 61.8, and their baseline CD4 count was 404, with approximately 28% of patients having CD4 counts <200 /mm<sup>3</sup>. Hypertension, diabetes, dyslipidemia, hepatitis C, and depression were the most common comorbidities.<sup>17</sup> The authors of this study found that diabetes and mobility problems were statistically significant issues in patients over 60 years of age.

## **Biologic versus chronologic aging in HIV-infected patients**

Chronologic age and biologic age are two dynamic and individual variables in the continuum of the aging process. It is difficult to establish a common aging scale for individuals and in the case of HIV-infected populations the presence of HIV factor might add another confounding variable. For the study in our clinic, the arbitrary cutoff age of 50 was chosen to identify elderly patients with HIV infection.

Coronary aging in HIV-infected patients has been studied by Guaraldi *et al.*,<sup>7</sup> who evaluated 400 patients infected with HIV in a cross-sectional study. The patients underwent cardiac computed tomography imaging to identify coronary artery calcium. Interestingly, the authors found increased vascular age (approximately 15 years) compared to chronological age in 162 patients (40.5%). In a regression analysis, the authors also found that the only predictor of increased vascular age was an *increased* CD4 T-cell count. These results may have significant implications in view of the fact that antiretroviral therapy with a concomitant increase in CD4 count would heighten chances of increased coronary aging.

Ances *et al.*<sup>1</sup> studied the interactions between HIV infection and aging on brain function in 26 HIV-seropositive patients and 25 non-HIV-infected patients. The authors found no interaction between HIV infection and aging. It is worth noting that the functional brain demands in HIV-positive patients were equivalent to those of HIV-negative patients who were 15 to 20 years older.

These two studies mention the potential difference of 15 to 20 years between chronological and biological ages in HIV-infected patients. Other factors such as comorbidities, effects of antiretroviral therapy, and genetic predisposition may play significant roles in the final determination of the difference between chronologic and biologic aging in HIV-infected populations. These may be confounding factors that should be taken into account in research studies if a head-to-head analysis between chronologic and biologic ages is intended.

## **Fragility syndrome in the elderly HIV-infected**

Fragility syndrome is frequently encountered in elderly populations. Fragility has been defined as a geriatric syndrome of increased vulnerability to environmental factors. Fragility has been considered synonymous with disability and comorbidity, to be of high prevalence in old age, and to confer a high risk for falls, hospitalization, and mortality.<sup>2,3,4,6</sup>

The inherent characteristics of fragility syndrome have not been studied in depth. Similarities and differences between general fragility syndrome and HIV-related fragility syndrome need to be established. The impact of antiretroviral therapy, immune reconstitution, and HIV viral load control should be evaluated in relation to the potential reversibility of HIV-related fragility syndrome.

In a prospective study, Onen *et al.*<sup>14</sup> evaluated 445 persons with a mean age of 41.7 years, 71% male, 63% African American, with a mean 8.4 years of HIV diagnosis. Fragility prevalence was 9%. The authors used Fried's fragility scale for evaluation of these patients (Fried *et al* constructed an index that comprises five physical features: weakness, low grip strength, low energy, slow gait speed, and low activity levels. Fragility is defined by the presence of three or more criteria and pre-fragility is defined as the presence of one or two criteria). They concluded that unemployment, a greater number of comorbid conditions, past opportunistic illnesses, a higher depression severity score, receipt of antidepressants, and lower serum albumin were independent predictors of fragility. They further determined that HIV infection was associated with a premature presentation of fragility.

Desquilbet *et al.*<sup>3</sup> investigated the relation between HIV and the prevalence of fragility-related phenotype (FRP). The authors defined FRP based on the defini-

tion of Linda Fried's fragility index. Subsequently, they assessed the prevalence of fragility among HIV-non-infected individuals followed in the Multicenter AIDS Cohort Study (MACS) between 1994-2004 (to which a total of 1,977 individuals contributed 12,155 visits). Finally, the authors evaluated the association between FRP and HIV infection before the era of antiretrovirals (during which 245 HIV-infected patients contributed to 691 visits). They found that HIV infection was strongly associated with FRP prevalence and that the FRP prevalence for 55-year-old men infected with HIV for less than four years was similar to that of HIV-uninfected men over 65 years old.

The relation between FRP and progressive deterioration of the immune system in HIV-infected men before and after the appearance of highly active antiretroviral therapy was studied in 1,046 HIV-infected men from 1994 to 2005. CD4-T cell count and plasma HIV-RNA viral load were evaluated as predictors of FRP. The authors found that adjusted prevalence of FRP remained low for CD4-T cell counts >400. After 1996, CD4-T cell count was the only factor independently associated with FRP. The authors concluded that CD4-T cell count predicted the development of FRP among HIV-infected men, independent of antiretroviral use. Finally, the study suggests that the deterioration of the immune system in HIV-infected individuals contributes to the systemic physiologic dysfunction of fragility.<sup>3,4</sup> These findings may have interesting implications for the prevention of fragility syndrome in HIV populations.

## **POTENTIAL RESEARCH STUDIES IN THE ELDERLY**

Numerous areas exist for potential research studies in elderly HIV-infected patients but this article will concentrate on two main areas: the influence of HIV on the aging process through the determination and difference, if any, between chronologic and biologic aging, and fragility-syndrome prevalence and characteristics of HIV-infected populations.

## **Biologic aging scale in HIV-infected patients**

There is a need for randomized control trials comparing the aging process in non-HIV-infected and HIV-infected populations. Fortunately, a significant number of biologic aging scales that have already been applied to non-HIV aging



groups may also be applied to HIV-infected groups.

One possibility is age grouping HIV-infected patients into comparable non-HIV-groups studying the aging of the two groups by comparing and contrasting the aging processes and their characteristics. The scale used should be validated. Mitnitski *et al.*<sup>10</sup> proposed that accumulation of deficits might be used as a proxy of measure of aging. A well-known scale is Rockwood's accumulation deficits, a 92-item scale.<sup>9</sup> The authors subsequently validated a study in which 40 of the 92 were used as proxies for evaluation of the aging process.<sup>9,10</sup>

Studying the aging process in HIV-positive patients is important because it could be studied from an HIV perspective and then compared to the general aging process. The potential delay of the aging process with the use of antiretroviral therapy would be an exciting prospect if substantiated.

#### **Frailty syndrome in HIV-infected populations**

The applicability of general frailty indices depends on the scale utilized. In a cross-sectional analysis, Cigolle *et al.* compared three models of frailty (deficiencies in function, index of health burden, and biological syndrome) based on the Health and Retirement Study, in which a total of 11,113 adults aged 65 and older were studied. According to at least one model, 30.2% of respondents were frail; 3.1% were frail according to all three models. The authors conclude that different models of frailty might capture different groups.<sup>2</sup>

The frequency of frailty syndrome in the HIV-infected population has already been determined by certain groups. It is well known that older age groups may have higher frequencies. The characteristics of the process (onset point, clinical and serological markers, contributing factors, role of the HIV virus, and reversibility) have not been studied in depth.

One possible way to study frailty syndrome in HIV-infected patients would be to compare its frequency to non-HIV infected populations across different age ranges. This could be achieved by using the gold standard utilized in general populations (general frailty index) and subsequently applying the same index to HIV-positive patients. Rockwood *et al.*<sup>15</sup> recommended the use of accumulation of deficits as a proxy for evaluation of frailty.<sup>15,16</sup>

Another possible way to study frailty in HIV-positive patients is to develop a new HIV-frailty index. This new index

might be compared to the "gold standard" already applied to this population. The differences between the two, if significant, might reveal the fact that HIV infection *per se* is a contributing factor to frailty. It is well known that certain HIV-infected patients may already be frail without clinical manifestations, and the only way to detect these problems may be with the use of serum markers of frailty. In HIV-infected patients, other factors such as cognitive dysfunction/dementia, bone loss, severe immunosuppression (CD4 cell count <200), and vitamin D deficiency may play a significant role in the development of frailty.

The importance of the study of frailty syndrome is that this syndrome might be reversible up to a certain extent in this population, in contrast to what usually happens in non-HIV-infected patients in whom this problem is irreversible. The application of preventive measures and the treatment options for frailty syndrome in HIV-infected patients have not been studied in depth.

Trials are needed to compare these two processes between HIV-infected and non-HIV-infected populations. Details of the aging process and its potential delay, as well as details of frailty syndrome and its potential reversibility, could be elicited from these studies. ♦

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## New language access standards likely coming in 2011

### Language barriers, from page 1

representation of limited English proficient (LEP) individuals despite large populations of Latino, Vietnamese, and other language-speaking populations in the Southeastern region of the United States. Adults with limited English proficiency and their children are much less likely to have insurance and a usual source of care, have fewer physician visits, and receive less preventive care than those who only speak English.<sup>3,4,5,6</sup>

People must know where to find services in order to access them. Therefore, all of the advertisement, outreach, community education, prevention, and awareness efforts done in English must be undertaken in each language of significant prevalence to the region. Because of the high degree of stigma associated with HIV, LEP individuals may be reluctant to bring a friend or family member to help them communicate with providers. In order to successfully provide services to this population, the services must be accessible in the language of the client, e.g. Spanish, Vietnamese, or Portuguese.

A lack of effective communication affects patient safety, resulting in inappropriate use of prescribed medications or the patient's inability to comply with follow-up instructions, increasing the probability of adverse medication reactions.<sup>7</sup> Many clients might have a basic or even conversational proficiency in English, and thus the need for language assistance is not immediately obvious. However, a much higher level of English proficiency is needed by the HIV-infected client in order to communicate effectively through the personal, emotional, and technical aspects of HIV care. For this reason, it is always important to ask the client in which language he or she prefers to receive health care.

Not only is it a moral and public health responsibility to reach those LEP individuals in our communities, but it is also a legal responsibility for most public health organizations. Title VI of the Civil Rights Act<sup>8</sup> (1964), Clinton's Executive Order 13166<sup>9</sup> (2000), and HHS Office of Civil Rights Guidance<sup>10</sup> (2003) mandate that any organization or program that receives federal financial assistance (i.e., Medicaid, Medicare, federal grants, Ryan White funding, etc.) must provide meaningful access to their services and not discriminate based on national origin. This includes

the provision of language access services for LEP clients, which should be provided at no extra cost to the client.<sup>11,12</sup>

Other groups have established guidelines and standards for language access services in health care as well. The Joint Commission has recently established new standards regarding language access services, which will likely be implemented beginning in 2011.<sup>13</sup> The Office of Minority Health also established the National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care, which serve as a model for organizations and those setting legislative or policy standards around culturally and linguistically appropriate services in healthcare.<sup>14</sup>

All of these laws and standards discourage the use of family members, friends, and minors as interpreters. This is not only due to confidentiality issues mentioned in the opening questions of this article, and HIPAA, but also because by using these individuals who are not trained as professional interpreters or screened for competency, they may not be proficient in medical terminology, may not possess the necessary skills to interpret, may omit or alter important information either unintentionally or intentionally, or may not be emotionally mature enough to handle the information being conveyed. The client may also choose to withhold or change important health information due to not wanting the individual interpreting to know.<sup>15</sup>

Simply being bilingual does not make someone a competent interpreter. Trained professional medical interpreters are bound by a code of ethics and have professional expertise in specific content areas (i.e., proficiency in medical vocabulary in both English and the target language), as any other medical professional would.<sup>16,17</sup> Moreover, interpreters are not necessarily translators. Interpretation is the transmission of a spoken message from one language to another, whereas translation is the transmission of a written message from one language to another. Expertise necessary for translation is distinct from that necessary for interpretation.<sup>18</sup>

The literature demonstrates that "use of professional interpreters is associated with improved clinical care as compared to the use of ad hoc interpreters. Professional interpreters appear to raise the quality of care for LEP patients to approach or equal that of patients without language barriers."<sup>19</sup> However, professional interpreters are not the only aspect

to consider as you create a plan to serve LEP clients. A comprehensive language access plan for a health care organization should take into account both their client population and the population of the surrounding geographical area. Language access services include not only professional interpreters, but also translation of all "vital documents," as well as bilingual signage. Bilingual providers, professional staff interpreters, telephonic interpreter services, and contract interpreters are all important components of a comprehensive language services plan. A plan should spell out what resources to utilize for which client services situations, including, but not limited to: phone calls, intake, clinic visits, follow-up mail, etc. Very importantly, staff should not only be trained in language access policy and procedures, but should also be involved in the development and implementation of them in order to ensure that they are appropriate and effective. ♦

### **Resources available to organizations or individuals interested in developing or strengthening language access services include:**

- *The Office for Civil Rights' regional offices. The Office for Civil Rights is the enforcement agency for Title VI of the Civil Rights Act. This office also dedicates time and resources to provide technical assistance outside of enforcement upon request to organizations that fall under their jurisdiction.*
- *The American Translators Association is a valuable resource to locate professional translators to contract for the written translation of vital documents. <http://www.atanet.org/>*
- *The Louisiana Language Access Coalition is a grass-roots group doing advocacy work to improve language access services and legislative support for such services. <http://reachnola.org/langpartlac.php>*
- *A Patient-Centered Guide to Implementing Language Access Services in Healthcare Organizations<sup>20</sup> is one of many guides that takes a step-by-step approach to how to plan and implement a language access services plan.*
- *For links to additional resources and guides please visit: [www.reachnola.org/languageaccess](http://www.reachnola.org/languageaccess).*



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## Clinical Consultation for Health Care Providers

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**National Clinicians' Post-Exposure Prophylaxis Hotline (PEpline)**  
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# Untreated depressive disorders have big impact on HIV

A PEER-REVIEWED ARTICLE

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Depressive disorders, classified by DSM-IV as mood disorders, are a group of defined mental conditions linked by the common symptom of persistent feelings of low mood, low self esteem, and loss of interest or pleasure. Major Depressive Disorder (MDD) (see Box 1), also known as clinical depression, major depression, unipolar depression, or unipolar disorder, is the most common but not the only type of depression disorder. Others include dysthymic disorder, psychotic depression, postpartum depression, seasonal affective disorder, bipolar disorder, cyclothymic disorder, mood disorder due to a general medical condition, and substance-induced mood disorder.<sup>1</sup> Most humans will, at some time, experience fleeting periods of “depression” or sadness that may temporarily interrupt daily life. However, when this feeling persists and continues to impact the person’s quality of life, one of the depression disorders may be the appropriate diagnosis. Though many depressive disorders have similar symptoms, their different characteristics and pathologies require different treatments. Over the past decades, treatment for MDD, as well as for many of the other depression disorders, has greatly improved, allowing many individuals with these diagnoses to remain symptom free.

It is estimated that nearly 50% of HIV-infected individuals have a comorbidity of depressive disorder.<sup>2</sup> It is known that the symptoms of depressive disorders increase the potential for engagement in behaviors that allow the transmission of HIV.<sup>3</sup> Studies have correlated decreased immune status with untreated depressive disorders.<sup>4</sup> Researchers have also found that symptoms of depressive disorders decrease adherence to HIV antiviral therapy, leading to the development of resistant virus.<sup>5</sup> Both HIV-infected and uninfected persons with an untreated depressive disorder report more somatic symptoms and have a higher utilization of health care services that is not explained by the addition of mental health services.<sup>6</sup> Thus an untreated depressive disorder is a major contributor to increasing HIV rates, development of resistant virus, and the cost of caring for HIV.<sup>5</sup>

One of the major issues in the treatment of depressive disorders is that they are often undiagnosed despite identified symptoms<sup>7</sup> and frequently attributed to other non-psychiatric conditions.<sup>8,9</sup> Some practitioners may not have the skills or knowledge to accurately assess symptoms of depressive disorders.<sup>10,11</sup> Furthermore, studies have found that some health practitioners do not recognize depressive disorder as an existent diagnosis, but instead consider the symptoms an indication of a patient’s character or feel that the symptoms can be addressed through will power or a better attitude.<sup>12</sup>

A known barrier for both diagnosis and treatment of depressive disorders is the persistent stigma associated with mental illness and specifically with depressive disorders.<sup>13</sup> The diagnosis of a depressive disorder is frequently associated with the idea of “personal weakness,” the belief that the person could “snap out of it”, or that it is not a real medical diagnosis.<sup>12</sup> Even in supportive environments, there is a high degree of self-stigma or perceived stigma within this population.<sup>14</sup> Further intensifying the situation, it has been found that the negative attitude about “self,” guilt, and decreased self-worth often experienced in untreated depressive disorders may increase the degree of self-stigma found in the population prior to treatment.<sup>13</sup> Health care providers are also known to hold a significant degree of stigmatizing attitude regarding depressive disorders.<sup>13</sup> Despite its source, stigma may result in avoiding treatment for depressive disorders as well as non-adherence to treatment.<sup>13,14</sup>

Despite the known problems associated with untreated depressive disorders, it is estimated that nearly 50% of symptomatic HIV-infected individuals go without treatment for prolonged periods.<sup>15</sup> Furthermore, there is significant data demonstrating a lack of guidelines adherence when it comes to the treatment of depressive disorder.<sup>16</sup> This may be due to a lack of availability of mental health services, resulting in most depressive disorders being treated by primary care providers.<sup>17</sup> Additionally, the US mental health system is described, at best, as complex and fragmented.<sup>18</sup> Though primary care providers (general practitioners or infectious disease specialists) of HIV-infected individuals may initiate care, follow-up on addressing depression may be limited due to competing demand for attention to other conditions.<sup>15</sup>

## Proposed Solution

The initial step to address the issue of depressive disorders in the HIV population is to recognize the high rate and the barriers that prevent adequate treatment. Though the diagnosis and treatment of HIV may result in a transient period of depression, a prolonged period of pessimism, sadness, and feeling worthless (>2 weeks) is not an “expected” occurrence and deserves further investigation. Though not completely understood, depressive disorders are *not* a reflection of a personal flaw but a clinical condition with complex pathology.<sup>19</sup> Attempts to decrease the long history of stigma around mental illness through mental health literacy programs, as well as through exposure to individuals with successfully treated depressive disorders, have been shown to be successful.<sup>13,20</sup> Creating a health care environment that is willing to address depressive disorders is a major first step in successful treatment.

Various means to improve recognition of depressive disorders have shown significant effect. Primarily, regular routine screening of all clinic patients utilizing a well-validated tool is recommended.<sup>21</sup> The Hospital Anxiety and Depression Scale (HADS), the Center for Epidemiological Studies Depression Scale (CES-D), the Patient Health Questionnaire (PHQ-9), and the Substance Abuse and Mental Illness Symptom Screening (SAMISS) have all demonstrated sufficient reliability to be used in screening for depressive disorders in HIV-infected populations.<sup>22-24</sup> A positive screening result should lead to an in-depth psychiatric evaluation.

A positive screening for depressive disorder should also trigger a comprehensive physical exam. Some opportunistic infections, malignancies, and comorbidities associated with HIV can present with symptoms that mimic those of depressive disorders.<sup>8</sup> A complete history, including a review of *all* prescribed medications, over-the-counter medications, supplements, and recreational drugs should be included.<sup>25</sup> The physical exam should include laboratory analysis (i.e., thyroid function, chemistry, vitamin D, testosterone level, RPR, CBC).<sup>26,27</sup> Neurological imaging should also be considered based on findings of the physical exam.<sup>8</sup>

## Proposed Plan

Primarily, depressive disorders in HIV should be treated to assure optimal control of the virus.<sup>8</sup> It is well known that HIV is neuropathogenic, resulting in various



neuropsychological symptoms that may also mimic those of depressive disorder.<sup>8</sup> Though the neuropathogenic process of HIV may occur at various stages of the disease, neuropsychological symptoms are strongly associated with high viral loads.<sup>8</sup> Thus the suppression of HIV may minimize neuropsychological symptoms.<sup>8</sup>

Psychopharmacology is the mainstay of depressive disorder treatment.<sup>28</sup> For the treatment of MDD in the HIV population, selective serotonin reuptake inhibitors (SSRI) and serotonin-norepinephrine reuptake inhibitors (SNRI) have been shown to be effective.<sup>28</sup> Other classes of antidepressants, such as tricyclic antidepressants (TCA) and psychostimulants, are also effective in alleviating many symptoms of depressive disorders in the HIV-infected population.<sup>29</sup> It has also been found that testosterone supplementation, dehydroepiandrosterone (DHEA), and modafinil improve symptoms as well.<sup>28,29</sup> Ferrando and Frayberg (2008) present a thorough analysis of data regarding the use of many types of psychopharmaceuticals to treat depressive disorders in HIV, along with recommendations (see Box 2).

Unfortunately, most studies looking at these classes of psychopharmaceuticals were conducted before the beginning of the HAART era.<sup>28</sup> There is justifiable concern regarding the potential interaction of these drugs with various HIV antiretrovirals resulting in altered metabolism. Some small studies show altered metabolism of the SSRI/SNRI and/or various HAART regimes resulting in minimal changes in drug levels but not requiring changes in dosages.<sup>28, 29</sup> See Box 3 for exceptions.<sup>28</sup> Episodes of serotonergic syndrome (Box 4) have also been reported in a small number of cases with SSRI and HAART co-administration.<sup>30</sup> Thus, to avoid complications it is recommended to start psychopharmaceutical dosing low, titrate up slowly, and closely monitor for any complications when co-administering with HAART.<sup>28</sup>

Various psychosocial interventions have also been found to relieve symptoms of depressive disorders found in the HIV-infected population.<sup>31</sup> These interventions include cognitive behavior therapy, group psychotherapy, interpersonal psychotherapy, stress management intervention, and supportive psychotherapy.<sup>31-33</sup> In many cases these interventions were found to be as effective in reducing depressive disorder symptoms as psychopharmaceuticals.<sup>31</sup> Combination therapy has been promoted as the ideal treatment for depressive disorder, but if psychopharmaceutical treatment is not

an option, success has been demonstrated with psychotherapeutic interventions alone.<sup>29</sup>

Treatment of depressive disorders in HIV-infected populations has demonstrated numerous improvements in the treatment of disease as well as decreases in cost.<sup>34,35</sup> Using a multidisciplinary approach that includes nurses, HIV specialists, mental health practitioners, and social service providers, the devastating effects of depressive disorder in the HIV-infected population can be identified and treated. There is no doubt the treatment of depressive disorders will require additional resources, but these additions are minimized when compared to the cost of an increase in the number of HIV infections, the management of highly resistant HIV virus, and the heightened demand to address increased HIV symptomatology.<sup>36</sup> Decreasing depression in HIV populations can increase our ability to prevent and treat HIV. ♦

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See *Depression in HIV*, next page



### Box 1: Diagnosis Criteria for Major Depression

{{517 American Psychiatric Association 1994}}

Over a two-week period, the patient has consistently experienced 5 or > symptoms outside the parameters of the patient's normal behavior.

- Depressed mood reported either by subjective report or observations made by others\*<sup>a</sup>
- Decreased interest or loss of pleasure by subjective report or observations made by others\*<sup>a</sup>
- Change in eating or appetite or weight gain/loss without intent
- Hypersomnia or insomnia<sup>a</sup>
- Psychomotor agitation or psychomotor retardation (very lethargic) in mannerisms/behavior<sup>a</sup>
- Fatigue or loss of energy<sup>a</sup>
- Feelings of worthlessness, inappropriate guilt, or self-loathing<sup>a</sup>
- Indecisiveness or difficulty thinking/concentrating<sup>a</sup>
- Recurrent thoughts of death, suicide ideation with or without a specific plan

The symptoms do not meet criteria for a mixed Episode.

The symptoms cause clinically significant distress or impair other important function.

Symptoms are not due to a direct physiological effect of a substance or medical comorbidity.

The symptoms are not better accounted for by bereavement or persist >2 months after the loss of a loved one.

\*Either depressed mood or decreased interest/pleasure must be one of the five

<sup>a</sup>For most of the day and almost every day

### Box 2: Pharmaceuticals studied in HIV-infected Persons for Treatment of Depression

{{559 Ferrando, Stephen J. 2008}}

#### TCA

Imipramine\*  
Desipramine

#### Other Antidepressants

Fluvoxamine  
Venlafaxine  
Bupropion  
Nefazodone  
Mirtazapine  
Modafinil

#### SSRI

Paroxetine\*  
Fluoxetine\*  
Sertraline  
Citalopram

#### Psychostimulants

Dextroamphetamine\*  
Methylphenidate  
Pemoline

\*Studied in randomized placebo controlled trials



### **Box 3: Potential Interactions Between Psychopharmaceuticals and HAART**

{{467 Repetto, Martin J. 2008}}

Bupropion + Lopinavir/Ritonavir = May require ↑ dose of bupropion

Nefazodone + any PIs = May require ↓ dose of Nefazodone

Trazodone + Ritonavir = May ↑ side effects of Trazodone

Carbamazepine + Indinavir or Delavirdine = Will ↓ level of Indinavir or Delavirdine

### **Box 4: Diagnostic Criteria for Serotonin Syndrome**

{{557 DeSilva, K.E. 2001}}

Occurring with the addition or increased dosage of a serotonergic agent, 3 or more of the following symptoms are present

- Mental status change (confusion/hypomania)
- Agitation
- Myoclonus
- Hyperreflexia
- Diaphoresis
- Shivering
- Tremor
- Diarrhea
- Lack of co-ordination
- Fever

All other etiologies have been ruled out (e.g., infection, substance withdrawal). Neuroleptic had not been started or increased prior to the onset of signs and symptoms

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# Optimizing oral health in HIV patients with diabetes mellitus

A PEER-REVIEWED ARTICLE

Marcella Hawkins, RDH, BS

Diabetes mellitus is an endocrine disorder characterized by hyperglycemia (abnormally high blood glucose). In diabetes mellitus, hyperglycemia generally results from low insulin levels or resistance to insulin at the cellular level.

Maintaining oral health can be challenging when it comes to HIV-positive individuals with diabetes mellitus. This is due to the many oral complications with which these individuals present, such as xerostomia, delayed wound healing, periodontal disease, periapical abscess, and/or oral lesions. Adding to these complications is a compromised immune system that lowers resistance to infections, as well as the side effects that can occur as the result of some HIV medications. While maintaining oral health in these patients can be challenging, it is definitely possible. Not only can clinicians help greatly to maintain oral health in this population, they can also successfully optimize the health of the oral cavity itself by reducing xerostomia and periodontal disease.

Xerostomia is commonly found in HIV patients who are diagnosed with diabetes. Xerostomia, dryness of the mouth, is caused by lack of saliva and can be attributed to severed salivary glands, the effects of hyperglycemia that cause excessive thirst leading to polyuria and depletion of extracellular fluids, and HIV medications that decrease saliva in the mouth. HIV-positive individuals are generally placed on medications designed to help them maintain a normal lifestyle and hopefully increase their life span. However, because of the potency of these drugs, side effects such as xerostomia can be detected in their oral cavities. When an individual has xerostomia, he/she is at increased risk of halitosis, infections in the oral cavity, cavities that can result in periapical abscesses, and difficulty in eating and speaking. For this specific patient population, clinicians should offer professional recommendations that can be incorporated into their home oral health care to help reduce xerostomia. One beneficial suggestion is the addition of a saliva enhancer to the client's daily regimen.

Another recommendation that clinicians can make to patients is that they increase water intake. Excessive glucose in the body draws water from tissues, causing dehydration when blood sugar is elevated. Because of this factor and the other serious health problems that can occur even with the typical diabetic patient who is HIV negative, it is extremely important that these individuals stay hydrated. Increasing water intake helps to keep the oral cavity lubricated, thereby keeping xerostomia at bay and eliminating unwanted oral complications. Other products sometimes recommended by dentists are a fluoride rinse, chewing gum that contains xylitol, and Salagen (pilocarpine), a prescription pill that increases saliva flow. Other recommendations that clinicians can discuss with patients, if applicable, are the discontinuation of habits involving caffeine, alcohol, and tobacco.

Periodontal disease is an inflammatory and degenerative disease that affects the supporting structures of the teeth. When an individual develops periodontal disease, there is the possibility of developing infections, recessions, mobile teeth, and bone loss that can result in the loss of teeth. Patients who are diagnosed with diabetes mellitus are at an increased risk of periodontal disease. Studies have shown that diabetic individuals are twice as prone to develop periodontal disease due to the increased glucose in their mouths. When HIV-positive diabetics develop a periodontal disease, clinicians must be aggressive in maintaining oral health. Initially, treatment may seem futile due to delayed wound healing and the patient's compromised immune system, however, clinicians should be persistent in optimizing oral health and expect health of the oral cavity.

As a clinician who provides services to this specific population in my clinical practice, I perform non-surgical periodontal therapy to begin the process of optimizing oral health. Scaling and root planing is one of the most effective ways to treat gum disease. This procedure, also known as deep cleaning, cleans plaque and tartar from the tooth surfaces as well as the roots. Ultrasonic tools and hand instruments are generally used for this procedure. As an adjunct to the non-surgical therapy, I irrigate the entire oral cavity with an antimicrobial agent

such as chlorhexidine. This product has been shown to eliminate harmful bacteria inside the mouth. In research that studied the role of supragingival and subgingival irrigation in the treatment of periodontal diseases, it was concluded that when an antimicrobial agent is used in conjunction with root planing, bacteria and pockets can be reduced. Lastly, I place these individuals on mandatory recall. Treating every three months has been shown to be effective in maintaining and monitoring oral health. Oral hygiene instruction (brushing twice a day, flossing, and rinsing with a non-alcohol-containing mouth rinse) is given verbally and demonstrated to ensure patient compliance, along with patient education as to the importance of such treatment. These methods produce successful results as our patients notice a difference after professional intervention has been implemented. However, for individuals who do not respond to this regime, further treatment may be needed from a periodontist who specializes in prevention, diagnosis, and treatment of periodontal diseases. These procedures may include dental implants, cosmetics, and/or periodontal surgery.

In conclusion, maintaining oral health for HIV-positive individuals with diabetes mellitus is critical. Maintenance can not only be achieved but clinicians should expect excellent results when professional intervention is utilized and recommendations are followed. For clinicians who are not dental professionals, my recommendation is to refer these patients to physicians, medical professionals, and/or dentists who are experienced in handling delicate cases such as these. Poor oral health in this patient population can have drastic effects on total health, therefore it is critical that they be managed by skilled personnel trained in the methods that will best benefit these individuals. ♦

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## Impact of new same-sex hospital visitation memorandum

*Stacy L. Morris, JD*

President Obama recently issued a request to hospitals that accept Medicare or Medicaid, via a Memorandum (hereinafter, The Memorandum) to the Secretary of Health and Human Services. The Memorandum allows same-sex hospital visits and appointments of surrogate health decision makers. How does this memorandum impact Louisiana, Arkansas, and Mississippi hospitals?

The Memorandum, in part, states that the Department of Health and Human Services is to:

"Initiate appropriate rulemaking, pursuant to its authority under 42 U.S.C. 1395x and other relevant provisions of law, to ensure that hospitals that participate in Medicare or Medicaid respect the rights of patients to designate visitors. It should be made clear that designated visitors, including individuals designated by legally valid advance directives (such as durable powers of attorney and health care proxies), should enjoy visitation privileges that are no more restrictive than those that immediate family members enjoy. You should also provide that participating hospitals may not deny visitation privileges on the basis of race, color, national origin, religion, sex, sexual orientation, gender identity, or disability. The rulemaking should take into account the need for hospitals to restrict visitation in medically appropriate circumstances as well as the clinical decisions that medical professionals make about a patient's care or treatment...

"Provide additional recommendations to me, within 180 days of the date of this memorandum, on actions the Department of Health and Human Services can take to address hospital visitation, medical decision making, or other health care issues that affect LGBT patients and their families...."

*Memorandum for the Secretary of Health and Human Services (Published in the Federal Register, April 15, 2010)*

Many of the hospitals in Louisiana, Arkansas, and Mississippi have patient visitation friendly rules already in place. The guidelines for patient visits tend to be general and broad in spectrum, with the exception of the usual visitation schedule and/or restrictions. Additionally, many of the hospitals have information available to its patients regarding surrogate decision makers. Therefore, the impact on many of those hospitals should be minimal with respect to the mandates in The Memorandum.

Arkansas has Advance Directives wherein a person can plan ahead regarding health decisions (i.e., the Arkansas Declaration that is a living will, the Arkansas Durable Power of Attorney for Healthcare); see <http://www.caringinfo.org>. Mississippi has an entire Advance Health Care Directives Packet (i.e., Advance Health Care Directive that includes a power of attorney for health care); see <http://msucare.com/pubs/publications/p2220.pdf>. And Louisiana also has Advance Directives (i.e., the Living Will, Durable Medical Power of Attorney); see, <http://www.lmhpc.org>

Potentially the greatest impact that The Memorandum has is in equality for same-sex couples in hospitals and minimizing discrimination in hospital facilities. Every hospital that accepts Medicare and Medicaid will potentially be subjected to civil liability in the instance where it disallows same-sex visitations and fails

to honor a health care proxy from a same-sex couple. Keeping in mind that The Memorandum is not a law, that it is just a request by the President, no such liability attaches at this point in time. However, liability for discrimination and violations of in-house hospital policies remain intact, notwithstanding.

Hospitals should note that the President is awaiting additional recommendations, during a 180-day time period, whereby the Department of Health and Human Services must submit said recommendations. It is uncertain at this time what recommendations the Department will submit.

Therefore, the impact of The Memorandum, with respect to hospitals in Louisiana, Arkansas, and Mississippi, should be very minimal indeed. The request that the President makes in The Memorandum is merely a restatement of the policies, procedures and safeguards that many of our hospitals currently have in place. Unfortunately, 180 days must lapse from the date of April 15, 2010 before exploring this issue further. ♦

*Stacy Morris is Interim Executive Director of AIDS Law of Louisiana.*

*Disclaimer: This attorney is duly licensed only in the State of Louisiana. Submission of this article does not constitute practicing law in either Arkansas or Mississippi.*



# Challenges associated with HIV in transgendered patients

## A PEER-REVIEWED ARTICLE

Justina E. Ogbuokiri, PharmD, FASCP; Ida Jean Davis, PhD, DC, PA

Male-to-female transgender persons are individuals who experience discomfort with their biological male gender and identify instead as women. The term “transgender” is an umbrella term that includes persons whose gender identity, expression, or behavior does not conform to societal gender norms associated with sex at birth. Transgender persons experience a gender identity that differs from their anatomical sex; they may seek to alter their physical appearance by undergoing cosmetic procedures, using hormones, or having sex reassignment surgery. Others may not choose a physical transition but rather express their gender identity through varied presentations and behaviors. These persons are also described as “gender-variant” and terms used to describe them include male-to-female, transsexual, transvestite, cross-dressers, drag queens/kings, gender-queer, and others.

Male-to-female transgender persons have high rates of HIV infection, ranging in some cohorts as high as 35%. The estimated incidence of new infections among this group, in one study in Atlanta in the early 1990s, reported rates of 3.4-7.8/100 person years; these rates were higher than among men who have sex with men (MSMs) at the height of their epidemic in the 1980s. More recently a growing body of literature has shown that African-American transgender clients had a substantially higher rate of HIV diagnosis (28.6%) than all other racial or ethnic groups (California Department of Health Services 2006). The four factors associated with risk of HIV infection among this group include being of African American race, being an intravenous drug user (IDU), having multiple sexual partners, and being at a low educational level.

Feminization of a male fetus due to inadvertent exposure to

progesterone-containing contraceptive agents *in utero* or masculinization of a female fetus due to inadvertent testosterone exposure during pregnancy may lead to features at birth that present as hemaphroditism or “intersex” and may in later life be interpreted as “transgender.” It is possible that such exposures may also occur with plant-based sources of estrogenic and androgenic substances used as foods or as medicinal plants in native cultures. This may help explain why many native and aboriginal cultures such as the ancient Romans, present-day Samoans, and Native Americans recognize and sometimes revere this phenomenon. Recent policy changes may begin to more adequately meet the social, emotional and medical needs of this highly marginalized population, especially when they are infected by HIV/AIDS.

This article will explore some of the numerous issues associated with transgenderism in the setting of HIV/AIDS, including among other concerns the use of hormones along with antiretroviral agents and medications for treatment of opportunistic infections (Ogbuokiri and Davis 2009) and a best practice model recommended to increase awareness among HIV providers and to improve cultural competency, sensitivity, and clinical capacity among all levels of HIV care providers.

### Components of best practice model

The following recommendations comprise the best practice model for managing transgender HIV-infected clients: (1) Awareness, cultural competency, clinical capacity building, and traineeships for medical, social and mental healthcare providers serving transgender minority populations; (2) Provision of transgender-friendly HIV testing sites with referral capabilities for treatment facilities; (3) Establishment of transgender-friendly primary-care and ambulatory care HIV clinics; (4) Referral or connection to care that recognizes the need for hormonal replacement therapy alongside highly active antiretroviral therapy and respectful use of personal pronouns and preferred names of clients; (5) Education of patients and providers on the need for close clinical monitoring for both hormonal and antiretroviral side effects, key drug interactions, short- and long-term adverse

events, especially in patients who continue to smoke; and (6) Establishment of a list of priority topics that must be addressed with each patient at every visit.

The proposed strategies are best applied at the clinic or hospital level, at AIDS service organizations, community-based organizations, and also at correctional settings including prisons and jails.

It is important that HIV providers at all levels of primary, secondary, tertiary, or referral care receive the needed cultural competency and clinical capacity building to improve care for this marginalized population. Other individuals who can benefit from this training are front-end staff and all other personnel offering HIV services at HIV/STDs early intervention clinics, HIV/AIDS ambulatory care programs, ASOs/CBOs, hospitals, correctional facilities, associations of nurses in AIDS care, and minority-serving organizations such as the National Medical Association, National Pharmaceutical Association, and National Black Nurses Association.

### Purpose of best practice

The implementation of the best practice model should increase awareness of HIV providers and improve cultural competency, sensitivity, and clinical capacity to care for this population among all levels of HIV care providers, as well as promote health and decrease HIV infection rates through increased screenings for sexually transmitted infections (STIs) at transgender-friendly facilities based on the Center for Disease Control and Prevention HIV testing recommendations.

Numerous problems can be addressed by implementing the best practice model. Some situations that may be favorably impacted are these:

- High incidence and prevalence of HIV/AIDS, sexually transmitted infections and HIV-associated opportunistic infections
- High prevalence of smoking, drug and substance abuse
- High rates of commercial sex work
- Poverty and lack of adequate education, lack of jobs and insurance; high levels of marginalization and lack of job skills
- Current lack of visibility within the national healthcare and other public systems
- No national census figures thus no organized provision for health or other care

### Recommended steps

- 1) All providers and all staff serving this population need cultural competency



training in order to identify personal and institutional biases that may negatively impact the care offered to these persons. 2) Health education and support for care seeking behaviors, including overall engagement and retention in care, provision of hormonal replacement and HAART, and linkages to transgender-friendly ancillary services and specialist care. ♦

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*For more information about the BESAFE model developed by the National Minority AIDS Education and Training Center, contact NMAETC at Xavier University of Louisiana College of Pharmacy, 504-520-7430, or National Minority AIDS Education and Training Center, Howard University College of Medicine, Washington, DC, 202-865-8146.*

*See next page for summary of BESAFE model for transgendered patients.*

## Submit an article to *HIV Clinician*

If you are a clinician with HIV patients, we invite you to submit an article for possible publication in *HIV Clinician*. Topics must pertain to HIV and have a clinical focus. Medicine articles are peer reviewed.

Articles are included in the Medline database and are thus available to physicians and medical professionals around the globe. Authors' guidelines are available at [deltaaetc.org/author-guidelines.htm](http://deltaaetc.org/author-guidelines.htm).



## Summary of BESAFE model for transgendered patients

### Barriers to Care

- Factors associated with risk of HIV infection: African American race, intravenous drug use (IDU), multiple sexual partners, and low educational level
- Social stigma that limits employment opportunities, deepening poverty that forces many male-to-female transgender persons into commercial sex work, substance use as a coping strategy for dealing with an oppressed environment
- Psychosocial stress that manifests as feelings of isolation, depression, as well as transphobia, exacerbating HIV risk-taking behaviors leading to adverse health outcomes
- Resource constraints that limit exposure for provider acquisition of needed cultural competency and clinical skills relevant to this population
- Negligence by government and social agencies, lack of census data, lack of insurance and other assistance with health and other care such as housing, drug and substance abuse services, harm reduction, and mental health counseling.

### Ethics

Ethics refers to issues of morality and its impact on the belief system of individuals, their values and behavior. Following the belief among most transgender male-to-female HIV-infected persons that they are “trapped” in the wrong bodies, many have low self-esteem, remain pre-occupied with acquisition of the desired sexual characteristics and orientations, and often remain in abusive relationships to “affirm” their desired sexual orientation. Providers for this population need to remain aware of the high rates of suicidal ideation, drug and substance abuse, violence, and emotional/physical abuse to which such persons may be subjected.

### Sensitivity of the Provider

Certain organizations have been in the forefront of the effort to raise the issues associated with HIV-infected transgender persons and to increase the overall comfort and sensitivity of providers. Since many HIV-infected male-to-female transgender persons are unable to find meaningful work, and so engage mostly in commercial sex work, they have been stereotyped as drug-seeking and sexually promiscuous. It is important that, through sensitivity training, providers increase their understanding of the need for survival through sex work, develop an appreciation for the emotional burden in this population, and manage to get past any biases that impede delivery of optimal care to this marginalized population.

### Assessment

Because of time constraints and perhaps lack of knowledge on the part of the provider, assessment of the HIV-infected male-to-female transgender person presents the greatest challenge. Many providers lack exposure to the subject of transgenderism in their medical curriculum and often experience discomfort in assessing these patients. Any information that could potentially impact the care provided to a patient should be elicited as relevant: mental health status, domestic or intimate partner violence, street violence, homelessness, substance use, street hormones, risks of suicide, joblessness. Providers assessing these patients may need to prepare, ahead of time, a listing of the most important 10-20 questions or issues that must be addressed with each patient.

### Facts

The undefined and sometimes evolving reproductive pathology that can exist with transgender HIV-infected male-to-female patients places them at greater risk for acquisition of other sexually transmitted infections; this is especially relevant if they exchange sex for drugs or hormones or subject themselves to multiple sex partners during commercial sex work. Being African-American, a group with the highest rates of gonorrhea, syphilis and chlamydia, further places this group at higher risk for both HIV seroconversion and transmission to sexual and drug-using partners. As a result of extreme poverty, commercial sex work among this population may be carried out without condoms and with engagement in other high risk behaviors such as anal and vaginal sex. During patient interviews, it is crucial that the nature of sexual encounters be questioned by providers in order to offer necessary counseling and harm reduction strategies for each individual patient.

### Encounters

At each encounter, providers must conduct a detailed cultural assessment of the patient regarding lifestyle, beliefs about their HIV disease, co-morbidities (relationship to HIV or other treatment, use of hormonal replacement therapy), thoughts and plans for sex reassignment surgery if any, attitudes and behaviors relative to sexuality and sex work, mental health issues, violence and physical/emotional abuse. Cultural competency and acquisition of the necessary clinical skills are encouraged to optimize care for this population.

### Challenges

- Scarcity of providers and both front- and back-end staff with training, empathy, medical and cultural competencies needed to optimally serve this population
- Scarcity of transgender-friendly clinics at ambulatory care clinics, hospitals, and correctional facilities
- Fear of rejection by society at large and health clinics in particular
- Lack of adequate family and social support
- Addressing patients with the wrong or offensive pronouns
- Rushing patients through visits and creating a sense that they are not welcome at that site
- Failure to maintain patient confidentiality
- Institutional barriers such as lack of referrals for needed services including smoking cessation, hormonal replacement, substance use treatment and counseling, gender reassignment surgery, lack of medical insurance, screening for cancer-related diseases, and other co-morbidities common in this population.

### Need for Comprehensive and Transgender-Friendly Services

- The scarcity of providers interested in taking care of the transgender population in rural settings forces many such persons to migrate to larger, urban cities, where such providers may still be in scarce supply.
- Sensitization of medical providers toward the needs of this population should start with inclusion of this topic in the training curriculum for physicians, nurses, and other health care providers.
- Lack of knowledge on the part of providers continues to be a major barrier.
- For the few providers with the relevant knowledge, skills and empathy, time constraints may make it mandatory that they treat more patients in less time, a factor that makes improved care through relationship-building difficult.



### Impact and Expected Outcomes

- Reduced number of infections among male-to-female transgender persons and, by extension, the general population with whom they interact
- Increased access to transgender-friendly programs and providers with increased access to both antiretroviral and hormonal therapies
- Enhanced clinical capacity and cultural competency among HIV providers serving male-to-female transgender persons of color
- Male-to-female transgender HIV-infected persons experiencing and reporting greater satisfaction and better quality of HIV and other care
- Recognition of the problem of transgenderism and the creation of programs to serve the unmet needs of this highly marginalized population starting with their recognition through census and other data collection processes by government. This is long overdue and is a human rights issue.<sup>20,21</sup>

### Critical Issues and Lessons Learned

Cultural competency, sensitization, and increased awareness by providers of the problems associated with this population will create a cadre of providers who can identify better with these patients and so improve engagement and retention in care. Patient empowerment through health education, self-esteem support, and training for life and job skills will foster enhanced quality of life

For more information about the BESAFE model developed by the National Minority AIDS Education and Training Center, contact NMAETC at Xavier University of Louisiana College of Pharmacy, 504-520-7430, or National Minority AIDS Education and Training Center, Howard University College of Medicine, Washington, DC, 202-865-8146

## Make plans now to attend HIV/AIDS conferences

### ▲ September 12-15, 2010 United States Conference on AIDS

Orlando, Florida  
[www.nmac.org/index/2010-united-states-conference-on-aids](http://www.nmac.org/index/2010-united-states-conference-on-aids)

### ▲ September 12-15, 2010 50th Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC)

Boston, Massachusetts  
[www.icaac.org/](http://www.icaac.org/)

### ▲ October 9-13, 2010 National Commission on Correctional Healthcare

Las Vegas, Nevada  
[www.ncchc.org/education/index.html](http://www.ncchc.org/education/index.html)

### ▲ October 21-24, 2010 48th Annual Meeting of the Infectious Diseases Society of America

Vancouver, BC, Canada  
[www.idsociety.org/meetings.htm](http://www.idsociety.org/meetings.htm)

## Stay current with the latest HIV/AIDS journal articles

▲ **HIV and maternal mortality: turning the tide.** Abdool-Karim Q, Abouzahr C, Dehne K, Mangiaterra V, Moodley J, Rollins N, Say L, Schaffer N, Rosen JE, de Zoysa I. *Lancet*. 2010 Jun 5;375(9730):1948-9.

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▲ **Tough decisions faced by people living with HIV: a literature review of psychosocial problems.** Bravo P, Edwards A, Rollnick S, Elwyn G. *AIDS Rev*. 2010 Apr-Jun;12(2):76-88.

▲ **Interactive effects of HIV/AIDS, body mass, and substance abuse on the frontal brain: A P300 study.** Bauer LO. *Psychiatry Res*. 2010 May 22.

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▲ **IL-8 decreases HIV-1 transcription in peripheral blood lymphocytes and ectocervical tissue explants.** Rollenhagen C, Asin SN. *J Acquir Immune Defic Syndr*. 2010 Jun 23.

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▲ **Distinct molecular pathways to X4 tropism for a V3-truncated human immunodeficiency virus type 1 lead to differential coreceptor interactions and sensitivity to a CXCR4 antagonist.** Del Prete GQ, Leslie GJ, Haggarty B, Jordan AP, Romano J, Hoxie JA. *J Virol*. 2010 Jun 23.

▲ **Antiretroviral regimens for patients with HIV who fail first-line antiretroviral therapy.** Humphreys EH, Chang LW, Harris J. *Cochrane Database Syst Rev*. 2010 Jun 16;6:CD006517.

▲ **An introduction to family-centered services for children affected by HIV and AIDS.** Richter L. *J Int AIDS Soc*. 2010 Jun 23;13 Suppl 2:S1.

▲ **Irreversible loss of pDCs by apoptosis during early HIV infection may be a critical determinant of immune dysfunction.** Meera S, Madhuri T, Manisha G, Ramesh P. *Viral Immunol*. 2010 Jun;23(3):241-9.

▲ **Use of mental health services among people with co-occurring disorders and other mental health co-morbidities: Employing the behavioral model of vulnerable populations.** Small LF. *Ment Health Subst Use*. 2010;3(2):81-93.



HIV Clinician is published four times a year by Delta Region AIDS Education and Training Center (AETC), 136 S. Roman St., New Orleans, LA 70112. Phone 504-903-0623, Fax 504-903-7186

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*Clinical preceptorship for physicians, nurse practitioners, physician assistants:* Care and Management of the Patient with HIV Disease—September 13-14, 2010. 15.5 CMEs. Contact Danielle Pierce, 504-903-0788 or [dpierc@lsuhsc.edu](mailto:dpierc@lsuhsc.edu).

*Clinical preceptorship for dentists and dental professionals:* Oral Health Management for the HIV/AIDS Patient—October 10, 2010. Up to 6.7 CDEs. Contact Danielle Pierce, 504-903-0788 or [dpierc@lsuhsc.edu](mailto:dpierc@lsuhsc.edu).

*Clinical preceptorship for nurses and clinical service providers:* Comprehensive Management of the Patient with HIV Disease—November 1-2, 2010. 11 contact hours. Contact Danielle Pierce, 504-903-0788 or [dpierc@lsuhsc.edu](mailto:dpierc@lsuhsc.edu).

### JACKSON, MISSISSIPPI

*Course for physicians, physician assistants, nurse practitioners, nurses, pharmacists, case managers, social workers:* Care and Management Overview of HIV Infection—September 16-17, 2010. Discipline-specific CEUs. Contact Joan Bounds, 601-984-1300 or [jbounds2@umsmed.edu](mailto:jbounds2@umsmed.edu).

### PINE BLUFF/LITTLE ROCK, ARKANSAS

*Clinical preceptorships for primary care providers—ongoing by request.* To arrange, contact Derrick Newby, 870-535-3062 or [dnewby700@aol.com](mailto:dnewby700@aol.com).