



DELTA REGION
AIDS EDUCATION
& TRAINING CENTER

Educating
health care providers
about HIV/AIDS

HIV Clinician

ISSN51-885X

formerly FACULTY NOTES

Winter 2012 • Vol. 24, No. 1

Keeping patients in care: A critical component in controlling HIV

PEER-REVIEWED

*Deborah J. Konkle-Parker, PhD, FNP,
and Ginger Barnett, MSN, RN*

The concept of adherence as it relates to clinical HIV care has expanded from adherence to medications to the critically important issue of adherence to care. This article will cover the evidence that supports the importance of that inclusion as it relates to HIV management and mortality.

Early work on adherence to HIV treatment examined the predictors for appointment attendance (Catz, McClure, Jones, & Brantley, 1999; Israelski, Gore-Felton, Power, Wood, & Koopman, 2001) in clinics in Louisiana and California. Both studies used the number of missed medical appointments as the measure of adherence to care. Consistencies between these

studies were that younger individuals, minorities, and those with higher CD4 counts missed significantly more appointments (Catz *et al.*, Israelski *et al.*) (Fig.1). Catz *et al.* noted that perception of lower levels of social support also contributed to non-adherence ($F = 5.29$, $p < .001$), and Israelski *et al.* found that heterosexual orientation ($t = 2.79$, $p < .01$) and lower income ($t = -3.18$, $p < .01$) were also linked to non-adherence. The authors suggested that interventions to support attendance be targeted to these populations.

More recent work, conducted using data on more than 2,000 men from the United States Department of Veterans Affairs (Giordano, Hartman, Gifford, Backus, & Morgan, 2009) and in a large public clinic (Giordano *et al.*, 2005) showed similar findings about predictors of poor retention in care, despite it

See *Retention in care*, next page

Inside

8 Adherence

11 Nutrition

12 Consultation

15 Conferences

16 CE Programs

16 Journal Articles

Documenting mental health for disability claims

Joshua L. Holmes, JD

“There was only one catch and that was Catch-22, which specified that a concern for one’s safety in the face of dangers that were real and immediate was the process of a rational mind. Orr was crazy and could be grounded. All he had to do was ask; and as soon as he did, he would no longer be crazy and would have to fly more missions. Orr would be crazy to fly more missions and sane if he didn’t, but if he were sane he had to fly them. If he flew them he was crazy and didn’t have to; but if he didn’t want to he was sane and had to.”¹

HIV/AIDS can become debilitating for patients not just in the physical health arena, but also as it relates to mental health. Mental health issues and HIV/AIDS have a complex relationship within the marginal-

ized communities that suffer the most from these co-occurring illnesses. A lack of proper mental health care is one of the greatest risk factors for HIV,

See *Documenting mental health*, page 5



Learning characteristics of non-adherent patients is critical

[Retention in care, from previous page](#)

being a population with almost universal coverage of health care. These studies used the number of quarters of the year where there was an attended clinic appointment as their measure of adherence. In addition to the previously mentioned predictors, they found that the absence of other chronic medical conditions, the presence of Hepatitis C, and substance abuse were further predictors of poor retention in care. An additional finding (Giordano *et al.*, 2007) was the fact that 17% of men in their first year after starting HIV medications attended ≤ 2 visits for that year, and that their survival rate was significantly worse than those who attended visits in all four quarters of the year (hazard ratio=1.42 or higher, depending on the number of visits attended, 95% CI, 1.11–1.83 or higher).

The threat of limited retention in care in the first year of HIV care appears to be particularly great, and with outcomes that affect survival. In a large clinic in Alabama, individuals who missed visits in their first year after initiating HIV treatment had a significantly higher rate of mortality (hazard ratio 2.90, 95% CI, 1.28–6.56) (Mugavero *et al.*, 2009), were significantly more likely to delay initiation of antiretroviral therapy (hazard ratio 6.66, adjusted for CD4 < 350, 95% CI, 4.27–10.41) (Ulett *et al.*, 2009) and maintained a higher viral burden (Beta coefficient=0.11 per 10% visit non-adherence, 95% CI, 0.76–0.91) (Mugavero *et al.*, in press), as compared to those with perfect clinic attendance during

that year. Poor persistence in HIV care, defined as visits in less than four six-month blocks in the first two years after initiating HIV care, had many of the same predictors as missed visits or retention defined as a visit in four quarters of the year: worse retention/persistence was associated with younger age, substance abuse, and higher CD4 count, though minority status was not significantly associated in this study.

Retention measurement

In most of these studies, adherence to care was defined as at least one visit in each quarter of the year. In the literature (Horstmann, Brown, Islam, Buck, & Agins, 2010) there are wide ranges reported in various studies about the extent of non-adherence to care. When measured by missed visits, Horstmann *et al.* report rates ranging from 25% to 35% in general HIV clinics, and 25% to 45% of patients had missed at least one appointment in a defined period of time.

The rate of missed visits for an individual patient does not necessarily translate into lack of continuous HIV care if missed appointments are promptly rescheduled, but it does translate to decreased productivity by clinical providers, and decreased efficiency. When viewing the concept of retention in care as a patient-oriented measure, the number of visits per block of time may be more descriptive. This would assure sufficient appointments to identify complications, to provide important counseling and education, and to provide prescriptions for medications to

control viral replication. When measuring patient retention rates as defined by one medical visit every six months, rates have been reported in the literature from 20% to 100%, depending on the clinic and the specific segment of the clinic population (Horstmann, *et al.*, 2010).

The Health Resources and Services Administration (HRSA) HIV/AIDS Bureau (HAB) has a performance measure of at least two primary care visits in a year which are more than three months apart. At least two clinic appointments shows continuity for a particular patient, and having them at least three months apart assures that visits solely during an acute illness will not be confused with retention. Nonetheless, it may not be the best measure of retention in care to reflect persistence or constancy over the long run (Mugavero, Davila, Nevin, & Giordano, 2010). Because of the varied frequencies that are required by individuals at various stages of viral control, using the measure of at least one visit in each half of the year can be a useful measure of constancy that will give accurate results for those in chronic maintenance as well as those in early stages of treatment.

One study (Horstmann, *et al.*, 2010) defined proportions of the clinic population as regular users (at least one complete appointment every six months), sporadic users (those who complete at least one appointment per year but are “no shows” for at least two appointments per year), and non-engagers (those who completed the initial appointment but did not return) This study



(Dekker, Relf, & Alampay, 2003) found that 25% of that clinic were found to be regular users, 32% were sporadic users, and 43% were nonengagers.

Local data collection

At the University of Mississippi Medical Center (UMMC) Infectious Diseases (ID) Clinic, 28% to 39% of scheduled visits per month were missed in the year from July 2010 through June 2011, with an average of 34% missed appointments per month.

At the UMMC ID clinic, data about patient-level missed visits were much more difficult to obtain than clinic-level data, though theoretically could be obtained from UMMC appointment records or through individual electronic record review. CAREWare, a HRSA-sponsored patient-level reporting database (<http://hab.hrsa.gov/manageyourgrant/careware.html>), utilized primarily by clinics that are funded by the Ryan White Program, can develop reports on visits attended in a particular period of time, but not on missed visits unless this information is entered into CAREWare.

At UMMC, retention in care as defined by the HRSA/HAB performance measure showed that of the 1491 patients who had an appointment with a primary care provider in the year July 2010 through June 2011, 1150 (77%) had at least two appointments that were at least three months apart. Another analysis showed that 70% had attended at least one appointment in the previous year in each half year (July–December 2010, and January–June 2011), and again, almost all of those (96%) who did not meet that definition had not been formally moved to another place of HIV care.

Conclusions

The purpose for data collection regarding retention in care will drive the type of measurement used. For clinic productivity/efficiency, missed visits may be most useful. When trying to understand the characteristics of individuals that are less engaged in care, missed visits and measures of visit constancy would both be useful, as they may point to different aspects of the problem. Missed visits may describe transience and chaotic living situations, and/or system-level changes that need to be instituted by the clinic, such as reminders prior to visits. Visit constancy may describe the extent of full engagement in care on a chronic basis. Discovering the characteristics of patients associated with either of these measures of retention would assist in developing interventions to prevent poor adherence, as these interventions could be targeted to individuals who exhibit those characteristics.

To develop interventions to improve the clinic population's level of retention in care, resources targeted toward specific levels of retention will likely be beneficial in spreading resources to where they are needed. Interventions can be targeted toward a particular category of patient: regular users, sporadic users, or non-engagers. Regular users would be more likely to benefit from reinforcement for their full engagement in care, while assessment of the factors leading to poor retention would result in directed case management for sporadic users and outreach to re-engage non-engagers.

While data systems may not be in place to make the associations between patient characteristics and their retention level,

CAREWare or other patient-level databases can be used to identify those individuals who are less engaged in care. A random sample of these individuals interviewed about barriers and facilitators to retention in care may be helpful, potentially by using an instrument such as that used in the CDC Medical Monitoring Project (Division of HIV/AIDS Prevention, 2008). This questionnaire (Fig. 2) is a single question, "What were the reasons you didn't go to your health care provider for the period you were out of care for at least six months?," and is coded by the interviewer using a list of possible categories such as "Felt good and didn't need to go" and "Didn't know where to go." It may then be followed up with the question "Of these reasons, what is the *main* reason that you didn't go to your health care provider?" Using this information, interventions can be developed that address the barriers that are most evident in the sample interviewed.

At the UMMC ID clinic, assessments have been conducted in a variety of ways. In 2008, focus groups were conducted (Williams, Amico, & Konkle-Parker, 2010) that described barriers and facilitators to retention in HIV care (Fig. 3). Participants described clinic-level barriers like fragmentation of the system of care, and personal-level barriers like competing demands, stigma, negative affect, and a sense of HIV care not being important as having impact on their retention in care.

In addition, a qualitative/quantitative assessment of barriers to retention in care was conducted in 2007 (Konkle-Parker, Amico, & Henderson, 2011) among those who reported at least one gap of six months in HIV care

See *Retention in care*, next page



Targeted interventions can help maximize a clinic's resources

Retention in care, from previous page

(n=94). The most frequent responses given were they felt good and didn't feel they needed to go to the clinic (21% gave this as a barrier, 13% as the main barrier), they were not in town at the time of the appointment (21% a barrier, 8% main barrier), they were unable to get transportation (20% a barrier, 13% main barrier), or it was due to drinking or using drugs (14% a barrier, 11% main barrier).

Clinic-based interventions might center on: a) developing coordination between various health care settings and supporting increased levels of privacy, b) providing education about the importance of routine clinical care, and c) encouraging active engagement in care and increased support through support groups, Consumer Advisory Boards, and/or other projects that allow patients to become more active in the clinic. Other education may center on resources available for transportation, or encouragement to attend drug or alcohol treatment. Targeting interventions to barriers identified in the particular clinic allows for a greater likelihood of effectiveness, and thus increased retention in care. ♦

REFERENCES

-Catz, S. L., McClure, J. B., Jones, G. N., & Brantley, P. J. (1999). Predictors of outpatient medical appointment attendance among persons with HIV. [Research Support, U.S. Gov't, P.H.S.]. *AIDS Care, 11*(3), 361-373.

-Dekker, D., Relf, M., & Alampay, M. (2003, September 2003). *Factors predicting retention in HIV-oriented primary care*. Paper presented at the U.S. Conference on AIDS, New Orleans.

-Division of HIV/AIDS Prevention. (2008, June 28). Medical Monitoring Project (MMP). Retrieved April 21, 2007, from <http://www.cdc.gov/hiv/topics/treatment/mmp/index.htm>

-Giordano, T. P., Gifford, A. L., White, A. C., Jr., Suarez-Almazor, M. E., Rabeneck, L., Hartman, C., et al. (2007). Retention in care: a challenge to survival with HIV infection. *Clinical Infectious Diseases, 44*(11), 1493-1499.

-Giordano, T. P., Hartman, C., Gifford, A. L., Backus, L.

I., & Morgan, R. O. (2009). Predictors of Retention in HIV Care Among a National Cohort of US Veterans. *HIV Clinical Trials, 10*(5), 299-305.

-Giordano, T. P., Visnegarwala, F., White, A. C., Jr., Troisi, C. L., Frankowski, R. F., Hartman, C. M., et al. (2005). Patients referred to an urban HIV clinic frequently fail to establish care: factors predicting failure. *AIDS Care, 17*(6), 773-783.

-Horstmann, E., Brown, J., Islam, F., Buck, J., & Agins, Bruce D. (2010). Retaining HIV-Infected Patients in Care: Where Are We? Where Do We Go from Here? *Clinical Infectious Diseases, 50*, 752-761.

-Israelski, D., Gore-Felton, C., Power, R., Wood, M. J., & Koopman, C. (2001). Sociodemographic characteristics associated with medical appointment adherence among HIV-seropositive patients seeking treatment in a county outpatient facility. *Preventive Medicine, 33*(5), 470-475.

-Konkle-Parker, D. J., Amico, K. R., & Henderson, H. M. (2011). Barriers and facilitators for initiation and continuity of HIV clinical care in a Southern minority population. *Journal of the Association of Nurses in AIDS Care, 22*(2), 90-96.

-Mugavero, M., Amico, K. R., Westfall, A. O., Crane, H. M., Zinski, A., Willig, J. H., et al. (in press). Early retention in HIV care and viral load suppression: Implications for a Test and Treat approach to HIV prevention. *Journal of Acquired Immune Deficiency Syndrome*.

-Mugavero, M., Davila, J. A., Nevin, C. R., & Giordano, T. P. (2010). From Access to Engagement: Measuring Retention in Outpatient HIV Clinical Care. *AIDS Patient Care and STDs, 24*(10), 607-613.

-Mugavero, M., Hui-Yi Lin, Willig, J. H., Westfall, A. O., Ulett, K. B., Routman, J. S., et al. (2009). Missed visits and mortality among patients establishing initial outpatient HIV treatment. *Clinical Infectious Diseases, 48*, 248-256.

-Ulett, K. B., Willig, J. H., Lin, H.-Y., Routman, J. S., Abrams, S., Allison, J., et al. (2009). The therapeutic implications of timely linkage and early retention in HIV care. *AIDS Patient Care and STDs, 23*(1), 41-49.

-Williams, B., Amico, K. R., & Konkle-Parker, D. J. (2010). Barriers to HIV care: patients' perspectives. *Journal of the Association of Nurses in AIDS Care, 22*(4), 307-312.

Deborah Konkle-Parker is a Nurse Practitioner, Division of Infectious Diseases, University of Mississippi Medical Center, and Medical Director, Delta AETC Mississippi. Ginger Barnett is RN Case Manager, Division of Infectious Diseases, University of Mississippi Medical Center.

Figure 1

Differences in number of missed appointments

Younger age: Catz *et al* $r = -.21, p < .01$;
Israelski *et al* $t = -4.28, p < .001$

Minority status: Catz *et al* $F = 11.35, p < .001$;
Israelski *et al* $t = 3.87, p < .0001$

Higher CD4 counts: Catz *et al* $r = .18, p < .05$;
Israelski *et al* $t = -3.01, p < .0001$

Figure 2

What were the reasons you didn't go to your health care provider for the period you were out of care for at least six months? [Check all that apply.]

- Felt good, didn't need to go 01
- Didn't like the clinic 01a
- Didn't like the doctor or NP 01b
- Forgot to go 02
- Missed my appointment(s) 03
- Too busy to go 04
- Moved or out of town 05
- Didn't want to think about being HIV positive 06
- Didn't believe test result 07
- Unable to get transportation 08
- Unable to get childcare 09
- Inconvenient (locations, hours, time, etc.) 10
- Didn't know where to go 11
- Hard to find right doctor or good doctor for me 12
- Initial CD4 count and viral load were good 13
- Drinking or using drugs 14
- Living on the street 15
- Didn't have money 16
- Didn't have insurance 17
- Unable to get earlier appointment 18
- Incarcerated 19
- Was worried about my privacy 19a
- Other 20
(Specify: _____)
- (Specify: _____)
- (Specify: _____)
- (Specify: _____)
- Refused to answer 77
- Don't know 99

Figure 3

Barriers to and Facilitators for Attending Regularly Scheduled Medical Care Visits

- BARRIERS**
1. Competing demands
 2. System of care
 3. Stigma
 4. Negative affect
 5. Beliefs about HIV health care not being important
- FACILITATORS**
1. Support
 2. Active engagement in care
 3. Positive aspects of health care visit
 4. Perceived vulnerability to negative consequences



A consistent narrative is helpful in documenting claims

Documenting mental health, from page 1

as those without proper coping mechanisms engage in high risk behavior, such as risky sex and sharing needles.² On the other end of the relationship, an HIV/AIDS diagnosis can undermine the mental health of an otherwise vibrant, happy person.³

The complexities of this relationship often coalesce to the disadvantage of disability benefit claimants before the Social Security Administration (SSA). As patients, these claimants often use language which does not adequately express their symptoms. Medical documentation does little to account for this inability, such that the true symptoms and even conditions with which claimants present before the SSA are inadequately documented in their medical history.

Additionally, several Catch-22s confront the mental health disability claimant with HIV/AIDS, similar to the bureaucratic mental health Catch-22 that is the title dilemma of Joseph Heller's novel cited at the beginning of the article. Given these obstacles, this article guides the mental health medical practitioner in properly and fully developing the HIV/AIDS patient's disabling mental health condition—per the SSA's rules—through documented medical evidence.

Three primary Catch-22-like situations face the HIV/AIDS

claimant for mental health disability benefits. Like the fighter pilots who requested retirement from flying due to their own mental health conditions—and who, in turn, were denied because they had enough “sanity” to recognize their condition—claimants who recognize their own mental health condition and advocate for themselves based on it often find their credibility questioned. Terms like “malingerer” are often applied to such claimants.

Alternatively, SSA will question mental health conditions if and when arising with, or diagnostically shifting, around the time of an HIV/AIDS diagnosis. 20% of people living with HIV/AIDS experience a psychological issue related to their diagnosis as their *first* symptom, while up to 73% will experience at least one disorder of psychiatric character.⁴ SSA does recognize this connection, but often sees these mental health issues as circumstantial, and therefore of limited duration. Additionally, a shift in mental health diagnosis will give the SSA evidence that either diagnosis is incorrect based on the other.

The Catch-22 for both of these situations becomes painfully clear for psychiatric claimants who cannot acknowledge their mental health diagnosis. These clients are denied SSA benefits because they are “non-compliant” in taking their medication. Since they do perceive they have a mental health condition, and do not take medica-

tions, they are denied.

The solution to these dilemmas is more apt and appropriate documentation of mental health problems. While these issues all present the SSA an opportunity to deny a claim, the rules for making those determinations can be relied on to the benefit of the claimant.

“Disability,” as the SSA defines it, is “the inability to do any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than twelve months.”⁵ SSA has, in addition to this broad definition under which they award disability benefits, a set of listings outlining specific medical conditions and history as statutorily defined disabilities.

Given the above definition, the medical practitioner might not see how the Catch-22 outlined above might undermine a legitimate claim. “Medically determinable” is the key phrase, and when two separate mental health diagnoses exist for claimants with no explanation of their relation, the “medical determinability” of each is undermined. Of course, such a shift in diagnosis does not indicate a *misdiagnosis*, nor does it justify a denial of benefits. The claimant likely has an even greater need for assistance

See Documenting mental health, next page



Providers are urged to document *all* mental health challenges

Documenting mental health, from page 5

managing this shift.

A narrative is an important tool for health care providers to explain how a shift in diagnosis has occurred, and that this shift is consistent with the change in life circumstances brought on by this new diagnosis of HIV/AIDS. By providing facts and medical information that bridge the gap between the pre-existing mental illnesses of these patients with the new mental conditions stimulated by their new life situations, we can better advocate for the mental health disability needs of these individuals.

In addition to linking past diagnosis to present conditions through a consistent narrative, it is important to thoroughly document those facts that clearly outline a need for assistance managing the individual's mental condition. The SSA has defined those mental illnesses that are compensable, as well as the factors that tend to prove the existence of these mental illnesses, in Form SSA-2506-BK, accessible at www.ssa.gov.

Categories upon which the medical disposition is based include: organic mental disorders, psychotic disorders, affective disorders, mental retardation, anxiety-related disorders, somatoform disorders, personality disorders, substance addiction disorders, autism, and other pervasive developmental dis-

orders.⁶ Form SSA-2506-BK clearly defines these categories while also providing a list of factors that are used as the basis for determining whether any of these disorders are present in the patient.

The SSA defines “organic mental disorders” as: psychological or behavioral abnormalities associated with a dysfunction of the brain. Evidence in support of this claim include the following factors: disorientation to time and place, memory impairment, perceptual or thinking disturbances, change in personality, disturbance in mood, emotional lability and impairment in impulse control and/or loss of measured intellectual ability of at least 15 IQ points from pre-morbid levels or overall impairment index clearly within the severely impaired range on neuropsychological testing.⁷

If a medically determinable impairment is present but does not precisely satisfy the diagnostic factors listed, it is important that you provide a medically determinable impairment that is sufficient to substantiate the patient's diagnosis. All pertinent signs, symptoms and laboratory findings that tend to substantiate the presence of the impairment should be included.

As you may have noticed from the SSA categories listed above, some mental disorders may not fit neatly within one of the SSA's listings. Certain DSM-IV mental illnesses may appear to fit neatly within a particular listing—for instance, schizo-

phrenia and listing 12.03.⁸ It is important, regardless of how straightforward the analysis may appear, to examine all of the potential categories and listed factors in order to ensure that each claim is buttressed by as many relevant facts as possible.

For instance, while emotional withdrawal and/or isolation may not be a listed factor within category 12.02 Organic Mental Disorders, and while the patient may not exhibit clinical signs of schizophrenia under which category this factor is listed, the fact that a patient is withdrawing from normal social interaction may very well be a “pertinent symptom” that helps to illustrate that an organic mental disorder is present.

Here is a partial list of factors you should look for while assessing the patient, based on the SSA mental health listings most commonly faced by people with HIV. Because these are the listed factors set forth by the SSA, special care should be taken to notate each factor listed below if it is present in the patient:

- Disorientation to time and place
- Perceptual or thinking disturbances
- Change in personality
- Disturbance in mood
- Delusions or hallucinations
- Emotional withdrawal and/or isolation
- Anhedonia or pervasive loss of interest in almost all activities



- Appetite disturbance with change in weight
- Sleep disturbance
- Decreased energy
- Feelings of guilt or worthlessness
- Difficulty concentrating or thinking
- Thoughts of suicide
- Paranoid thinking
- Hyperactivity
- Flight of ideas
- Inflated self-esteem
- Decreased need for sleep
- History of episodic periods
- Autonomic hyperactivity
- Apprehensive expectation
- Vigilance and scanning
- Recurrent and intrusive recollections of a traumatic experience, which are a source of marked distress
- Autistic thinking
- Pathologically inappropriate suspiciousness or hostility
- Oddities of thought, perception, speech and behavior
- Persistent disturbances of mood or affect
- Pathological dependence
- Passivity or aggressivity
- Intense and unstable interpersonal relationships
- Impulsive and damaging behavior.⁹

While all issues affecting the mental health disability claims made by people living with HIV/AIDS have not been addressed in this article, medical providers are urged to document *all* mental health challenges faced by HIV/AIDS patients. This article is intended to highlight the more crucial issues that AIDS Law attorneys deal with regularly in handling mental health disability claims for their HIV/AIDS clients, and as a guide to documenting medical records in an effort to allow persons who review the files for disability an opportunity to make better assessments of claims. ♦

REFERENCES

1. Joseph Heller, *Catch-22*, p. 46 (Simon and Shuster 1961).
2. Florence Baingana *et al*, *HIV/AIDS and Mental Health 17* (The International Bank for Reconstruction and Development/The World Bank 2004).
3. *Id.* at 11
4. *Id.*
5. 20 C.F.R. §§ 404.1505 & 416.905
6. 20 C.F.R. Pt. 404, Subpt. P, App. 1, Pt. A, § 12.00.
7. *Id.* at 12.02.
8. *Id.* at 12.03.
9. 20 C.F.R. Pt. 404, Subpt. P, App. 1, Pt. A, § 12.00.

Joshua L. Holmes is Staff Attorney for AIDS Law of Louisiana, the Organization Co-Chair for the Louisiana AIDS Advocacy Network, and the founding coordinator of AIDS Gulf.net. AIDS Law is a legal non-profit that is funded in part by IOLTA (LA Bar Foundation) and Ryan White Part A (Cities of Baton Rouge and New Orleans) and other generous AIDS Law supporters.

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. Author guidelines are available at deltaaetc.org/author-guidelines.htm.

**For information about
treatment guidelines, drug
interactions, and clinical trials,
visit aidsinfo.nih.gov**



A practical new approach to medication adherence in HIV

Daniele Farrisi, MPH

There is no “magic bullet” to use in improving patients’ adherence to highly active antiretroviral therapy (HAART). Patients may not take their medications correctly for many reasons: side effects, financial hardship, lack of understanding of the dosing schedule, non-belief in the treatment. For this reason, adherence improvement interventions often call for a multifaceted approach.¹ Once a patient and his/her medical provider overcome the barriers of tolerability, access, knowledge, and motivation, the work of adherence support should not stop. In fact, that is when the work of adherence support is just getting started. The most common reason patients of all types give for missing doses of medicine is simply forgetting to take the medicine.² When healthcare workers look beyond the medicine list and into the daily lives of their patients, they can offer practical solutions that will help patients achieve desired levels of adherence in the real world.

Research on HAART adherence consistently identifies certain patient characteristics as being associated with poor adherence. Among them are low literacy, psychosocial issues, cognitive impairment, and active substance abuse.³ It would be a daunting and time-consuming task to modify any of these patient factors in the hopes of improving adherence. A more practical approach is to focus on making small changes in a patient’s daily life that support medication-taking.

Russell, Ruppap, and Matteson recently described a new frame-

work for designing adherence interventions. They put forth an approach based on personal systems in which healthcare workers and patients work together to integrate medication-taking behavior into the patient’s daily routines.⁴ Many adherence interventions address patients’ understanding of medication directions and motivation to stay on treatment.¹ The personal systems approach focuses on the next step of putting a medication regimen into action in the real world circumstances of a patient’s daily life.³

The group recommends a four-step process. First, the healthcare worker asks the patient to describe his/her daily routines and identify environmental factors that may influence medication-taking. The healthcare worker proposes modifications to these routines that aim to increase adherence. Once the healthcare worker and patient have agreed on routine modifications, the second step in the process is for the patient to implement the changes. During implementation, the third step is to track medication adherence. The fourth step is to evaluate what effect, if any, the routine modifications had on adherence.⁴ This cycle may continue for several iterations until desired adherence levels are achieved.

A central idea of this framework is to link medication-taking behavior to the daily routines that the patient has already established. Though not previously elucidated in the same way as Russell, Ruppap, and Matteson, this approach has been used in HAART adherence counseling for many years. Patients are often

encouraged to use small modifications to improve adherence, such as leaving medications where they will be seen, setting alarms, or leaving notes.

Collaborative adherence planning allows healthcare workers to confirm the patient’s understanding of his/her regimen, while empowering the patient to be involved in treatment decisions. The patient is relieved of the burden of trying to make sense of medication directions that he/she may be faced with sorting out each day. This approach can be especially helpful for patients with non-traditional schedules. Taking the time to learn about a patient’s daily routine allows healthcare workers to tailor their recommendations to suit an individual’s unique circumstances. Allowing a patient to be actively involved in making decisions about medication encourages him/her to take ownership of his/her treatment plan. Moreover, a collaborative approach to adherence planning is desirable because it does not blame the patient for sub-optimal adherence.⁵

The first step in the personal systems framework is to identify the daily routines and environmental factors that may impact a patient’s medication-taking behavior.⁴ This information can be discerned through patient interview using leading questions. Examples of these types of questions include:

- Tell me about your schedule in a regular day.
- How does your routine change on the weekend or days when you don’t work?
- When do you eat during a normal day?
- Where do you keep your medications?



- Do you live with anyone? Are they aware that you are on HAART?
- What time do you usually wake up? ...go to bed?
- You are supposed to take this medicine daily (at bedtime, with food, twice daily, etc.). What time(s) will be easiest for you to remember to take it?
- How will you remember to take your medicine?

Once the healthcare worker has an understanding of a patient's routines and environmental factors, he/she can make specific recommendations to use or modify those factors to increase adherence.⁴ When developing an adherence plan with a patient, it is best to make the plan as specific as possible, including the time of day that medicines will be taken and the other circumstances that may surround it, for example: taking pills at 7:00 am because that is when the patient wakes up, or keeping pills near the TV so the patient will remember to take them when he watches the news at 10:00 pm. While these may seem like common sense solutions to those of us who think about medicines for a living, patients (especially those who have never had to manage treatment for a chronic condition) may need extra guidance in developing such an adherence strategy.

Healthcare workers often have tools at their disposal to support adherence, such as pill boxes and pill charts. The personal systems approach encourages applying these tools based on an individual's needs when it is practical to integrate them into a patient's daily life. Pill boxes can be helpful for patients who cannot remember whether they took their most recent dose of medi-

cine or those who get confused by the different directions for multiple medications. Pill charts can be a useful visual reminder for patients who have limited literacy skills. Alarms can serve as reminders for patients who are prone to forgetting doses. In particular, alarms set on cell phones are useful for patients with busy schedules outside of the home. Reminder notes left in places that patients will look as part of the daily routine, such as the bathroom mirror, television, or coffee maker, can also mitigate forgetfulness. Another tool in the personal systems approach to adherence improvement is a supportive person such as a spouse, family member, friend, or sponsor with whom the patient has daily contact.⁴ Contact does not have to be in person; it can also occur via telephone or internet. A supportive person identified by the patient can aid in remembering and managing medications.

Steps three and four of the personal systems framework involve collection and evaluation of adherence data.⁴ This feedback is used to determine if the adherence plan is successful and to adjust the plan if necessary. Russell *et al.* found that participants using the "continuous self-improvement" adherence intervention had sustained adherence improvement after just one counseling session.⁵

In both of these studies, Medication Event Monitoring System (MEMS) bottle caps were used to electronically record subjects' medication-taking behaviors.^{4,5} The use of MEMS caps outside of a research setting is usually cost-prohibitive. As an alternative, healthcare workers may have patients use logs to record when medications are taken or

ask the patient to give a verbal report of how many doses were missed in the past week. Additionally, laboratory values such as viral load and CD4 count could be used as a proxy for adherence. However, there are drawbacks to this strategy, including long intervals between labs and failure to account for medication resistance.

For those of us who think and talk about HAART regimens every day at work, it is easy to disconnectedly recite dosing instructions from memory. The personal systems approach to adherence improvement encourages health care workers to pause when counseling patients and consider how these instructions will be applied in a real world setting. Patients who are not accustomed to managing treatment for a chronic condition like HIV will benefit from individualized coaching and planning to put their medication list into action. By monitoring implementation of the adherence plan and troubleshooting as necessary, healthcare workers can help patients achieve adherence success and reach the goals of their treatment. ♦

REFERENCES

1. Simoni JM, Amico KR, Smith, Nelson K. Antiretroviral adherence interventions: Translating research findings to the real world clinic. *Current HIV/AIDS Reports*. 2010;7:44-51.
2. Barford TS, Sorensen HT, Nielsen H, Rodjaer L, Obel N. "Simply forgot" is the most frequently stated reason for missed doses of HAART irrespective of degree of adherence. *HIV Medicine*. 2006;7:285-290.
3. Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents. Department of Health and Human Services. 2011.
4. Russell CL, Ruppert TM, Matteson M. Improving medication adherence: Moving from intention and motivation to a personal systems approach. *Nursing Clinics of North America*. 2011;46:271-281.
5. Russell C, Conn V, *et al.* Taking immunosuppressive medications effectively (TIMELink): a pilot randomized controlled trial in adult kidney transplant recipients. *Clinical Transplantation*. 2010.

Daniele Farrisi is Health Educator at the HIV Outpatient Program (HOP) Clinic of the LSU Interim Public Hospital in New Orleans.



Eradicating stigma through bilingual and multicultural education

*Ana De la Garza, MBA, and
Dorothy McCord, MPH*

The Jefferson Physicians' Foundation (JPF) is a 501(c)(3) public charity formed by the Jefferson Parish Medical Society (JPMS) in early 2005. Following the destruction of the New Orleans area healthcare delivery system due to hurricane Katrina, the JPF turned its focus to supporting projects that enhance and preserve a vital physician workforce and improve access to care for the low-income and uninsured in our community. Created in March 2010, our Ventanilla de Salud (VDS) program was born out of the efforts of the JPF to address the healthcare needs of Latino residents new or returning to our area following hurricane Katrina.

The United States Census Bureau has identified the Latino community as the fastest growing ethnic group across Louisiana. In particular, Jefferson Parish contains the largest number of Latino residents. Even though the numbers continue to escalate, there remains the challenge of locating and re-establishing medical services as we continue to rebuild our ability to deliver health care post-Katrina. Unfortunately, Latinos often do not have access to quality healthcare due to language barrier, lack of health insurance, or inability to qualify for government programs. In order to alleviate this gap in provision of health care services, VDS has developed a holistic philosophy to impart education, testing, and referrals to patients who want to actively enhance and sustain their health but have not yet found available, accessible, acceptable, and approachable service providers.

HIV in the Latino population has become an increasingly important issue even though it is still considered taboo. According to the Louisiana Office of Public Health, as of June 30, 2011, a cumulative total of 31,496 people have been diagnosed with HIV/AIDS. Hispanics represent 4% of the total number of people living with HIV/AIDS in Louisiana. Furthermore, in Region 1 (Jefferson, Orleans, Plaquemines, St. Bernard Parishes) a cumulative total of 13,939 people are living with HIV/AIDS, of which 5% are Hispanics. Although these statistics encompass a small percentage compared to other groups, there is still a risk of diffusion to not only other Hispanics but also the population at large, due to the barriers of access to care, lack of awareness of contagion, and stigma as-

sociated with infection. All of these are the focus of our bilingual and multicultural VDS program, which through education strives to decrease the knowledge gap and the medical attention deficiency.

Since HIV/AIDS can be an unmentionable and banned topic, it disproportionately affects the Latino population due to the lack of communication and education. High risk behaviors such as unprotected sex and drug usage represent a threat to any population, especially when there is not full disclosure of the consequences. Therefore, at VDS we eliminate the communication barrier by creating a friendly environment conducive to learning about the risks, symptoms, and opportunities to protect not only the individual but the community as a whole. Our program aims to promote an open dialogue that emphasizes the facts and dispels the common myths concerning HIV/AIDS. Even though nowadays AIDS is a manageable disease, not everyone has access to the life prolonging medications. At VDS, our intervention consists of mass awareness and informational campaigns about any and every sexually transmitted disease, delivered in creative ways such as anecdotal talks, pictorial brochures, and free condoms. The more we repeat the safety precautions that people can proactively implement in their everyday lives the more we normalize and make it acceptable to have a conversation about sex and other forbidden topics. Additionally, we offer clinics that focus on detecting the presence of the infection. If and when we identify a patient who is infected, we refer him/her to a personalized medical provider and psychological counseling sessions. Overall, our mentality of raising the collective consciousness about the importance of responsible behavior intergenerationally mobilizes the Hispanic population to set the example and lead a satisfying yet safe lifestyle.

The culturally competent Ventanilla de Salud program offers vital services to the Hispanic community that aid in keeping emergency rooms clear. Often, patients that need only basic services, rather than trauma services, crowd ERs. We are able to provide basic health services, as well as important health information and referrals to community clinics, which helps prevent unnecessary ER visits from uninsured patients. VDS is currently the only physician-sponsored bilingual referral provider in the New Orleans metropolitan area.

Our main goals are to provide health information to the underserved and underrepresented Latino population, to promote

good health practices, and to empower patients to take control of their health, all while overcoming language, education, and communication barriers. In order to further educate the population, essential health and emergency information is promulgated through interviews on Spanish radio, television, and newspapers. We serve both Louisiana and Mississippi, and often travel to remote locations throughout the two states in order to increase our proactive outreach efforts.

Preliminary results from the Health Survey Measurement Model SF-12v2 of the VDS program participants funded by the IMPACT 2010 grant show improved mental and physical health, in some cases above the national average, for program participants as a consequence of the services received.

In July 2011, the Health Resources and Services Administration of the U.S. Department of Health and Human Services recognized our VDS program for its fusion of resources and their effectiveness. Subsequently, we were invited to present at a meeting held at the Region Six offices in Dallas. This meeting was the first collaboration of its kind between the United States and Mexican Departments of Public Health in a joint effort to collaborate and improve healthcare and health outcomes.

Through a partnership with the Consulate of Mexico in New Orleans, JPF opened the VDS program in a private office adjacent to the Consulate of Mexico that is convenient and accessible by public transportation. Our VDS program provides completely free of charge: health screenings, onsite rapid HIV testing, flu vaccines, healthcare education, advocacy, referrals, and counseling to individuals and families in need, regardless of insurance or country of origin. Since we opened our doors, Ventanilla de Salud has enabled the integration of vulnerable individuals and/or families into the healthcare delivery system in a friendly environment, which ultimately encourages everyone to be proactive and take responsibility for sustaining a holistically healthy lifestyle. ❖

REFERENCES

U.S. Census Bureau, State and County QuickFacts, 2010, LA, USA.

Louisiana Department of Health and Hospitals, Office of Public Health: HIV/AIDS Surveillance Quarterly Report, 2011, Vol. 9, No. 2, New Orleans, LA.

Ana De la Garza and Dorothy McCord are affiliated with Jefferson Physicians' Foundation.



Refeeding Syndrome: An old problem with new challenges

*Leigh Anne Kamerman
Burns, MS, RD, LDN*

Case

A 19-year-old male was referred to the nutritionist after being screened with a low body mass index in his first visit to an outpatient clinic. He lost 40 pounds during a three-month hospitalization. He is 5'6" and weighs 72 pounds; with a body mass index (BMI) of 11. He has had poor intake and loose watery stools up to ten times daily since hospitalization. His treatment includes the initiation of antiretroviral (ART) medications. He presented to the outpatient clinic with an increased intake of simple carbohydrates, including oral supplement, and diarrhea symptoms improving. Evaluation of lab results identified phosphorus, potassium, and magnesium as below normal, with potassium and phosphorus at panic levels. This result confirms that the patient is experiencing refeeding syndrome.

HIV patients seen in outpatient settings in Zambia have a high mortality rate due to hypophosphatemia and hypokalemia within ninety days of initiation of ART (Nyirenda, 2009). However, the patient described above is not in a third world country. He is one of the severely malnourished patients being seen in outpatient clinics in the Southern region of the United States.

Refeeding syndrome is identified as a potentially lethal complication in severely malnourished patients that occurs during the reinstatement of nutrition. The problems begin as the patient

has an increase in the absorption of foods and nutrients. Unfortunately patients are often not in acute care settings during these phases of treatment and must receive medical care in an outpatient setting. The adverse effects of cellular replenishment of energy during the refeeding of malnourished patients can cause electrolyte replacement associated with hypophosphorus, hypokalemia and hypomagnesemia, as well as thiamine. The electrolyte depletion is associated with clinical complications of cardiac, respiratory, hematological, and muscular systems, and can result in mortality (Stanga, 2003).

Use of ART medication therapy for the treatment of HIV/AIDS has affected nutrition-related problems. Benefits of the medications have decreased the malnutrition and wasting complications among the majority of the patients being treated in the outpatient setting. Although now smaller in numbers, malnutrition can still exist among newly-diagnosed patients, patients with disease resistance, or those not receiving treatment. Causes can also include increased metabolic rates related to uncontrolled HIV/AIDS, malabsorption and diarrhea, GI intolerance, oral candidiasis, hepatitis C, tuberculosis, or food insecurity (Liu 2011).

A bigger problem for severely malnourished patients with BMI <18.5 is rapid refeeding and the complications that can result, including death, due to refeeding syndrome. Data from sub-Saharan Africa suggest that severe malnutrition (i.e., a BMI of 16.0

kg/m²) is associated with the greatest risk of early mortality on ART (Koetge 2009.) Malnutrition and the use of body mass index can be a powerful and independent predictor of early mortality after the start of ART (Lui 2011).

This medically-worrisome refeeding syndrome is usually preventable. The general dictum to follow with regard to dietary calorie repletion is "Start low, advance slow." Problems are associated with overly aggressive refeeding protocols early in the refeeding process with severely anorectic patients. (Mehanna 2009).

Guidelines can assist clinicians in the management of patients with severe malnutrition and/or at risk of refeeding syndrome. In 2006, the National Institute for Health and Clinical Excellence (NICE) provided a reference guide for nutrition support that includes the guidelines for screening, treatment and monitoring of refeeding syndrome (NICE 2006).

Conclusion

Challenges of medical care for the patients living with HIV in today's settings include an increase in the care in outpatient settings. The inability to control a patient's nutritional intake can increase her or her risk for experiencing refeeding problems. It is important to educate clinical practitioners, patients, and caretakers on the ways to recognize and prevent severe complications associated with refeeding syndrome. Patient education is also vital regarding avoidance of over-

See Refeeding Syndrome, next page



Rapid reinstatement of nutrition can trigger complications

Refeeding Syndrome, from preceding page

feeding with enteral supplemental products such as Ensure and Boost, as well as foods and fluids high in simple carbohydrates, such as soft drinks, fruit juices, chocolates, candy, and jelly. The complete protocols, as well as anthropometric and clinical monitoring of nutrition support, are available for review on the NICE web page at <http://www.nice.org.uk/CG032quickref-guide>. Although the treatment of refeeding syndrome in outpatient settings is not readily available,

a review of available information can help increase practitioners' knowledge. Quick identification and management including nutritional screening, proper monitoring, and treatment can save lives of patients living with HIV in all populations. ❖

REFERENCES

1. Nyirenda, C; Edmond, I; Kabagambe, K; Bagchi, S; Potter, D; Bosire, C; Krishnasami, K; Heimbürger, D. Acute hypophosphataemia and hypokalaemia in a patient starting antiretroviral therapy in Zambia—a new context for refeeding syndrome? *BMJ Case Reports* 2009
2. Stanga, Z; Brunner, A; Leuenberger, M; Grimbé, RF; Shenkin, A; Allison, SP; and Lobo, RB; Nutrition in clinical practice—the refeeding syndrome: illustrative cases and guidelines for prevention and treatment *European Journal of Clinical Nutrition* (2008) 62, 687–694.
3. Liu, E., Spiegelan, D., Semu, H., Hawkeins, C., Chalamilia, G., Aveika, A. Nyamsangia, S., Mehta,

- S., Mtasiwa, D., and Fawzi, W. Nutritional Status and Mortality Among HIV-Infected Patients Receiving Antiretroviral Therapy. *Tanzania Journal of Infectious Disease* 2011, 204: 282-290
4. Koethe, J; Chi, B; Megazzini, K; Heimbürger and Stringer, J; Macronutrient Supplementation for Malnourished HIV-infected Adults: A review of the Evidence in Resource-Adequate and Resource-Constrained Setting. *Clinical Infectious Diseases* 2009
 5. Mehanna, H; Nanjuvell, P; Moledina, J; and Travis, J. Refeeding syndrome: awareness, prevention and management. *J Nutr Metab. Feb 7 2010*
 6. Mehler, P; Winkelman, A, Andersen, D, and Gaudiani J. Nutritional Rehabilitation: Practical Guidelines for Refeeding the Anorectic Patient, *Nutr Metab. Feb 2010*
 7. NICE Guidelines 2006. Nutrition Support in Adults Clinical Guideline 32, Feb. 2006. National Collaborating Centre for Acute Care, National Institute for Health and Clinical Excellence. <http://www.nice.org.uk/CG32>

Leigh Anne Burns is Instructor of Clinical Medicine/ Nutrition, LSUHSC School of Medicine, and Nutritionist, Interim LSU Hospital HIV Outpatient Program (HOP) Clinic.

Clinical Consultation for Health Care Providers

Delta AETC consultants are HIV specialists at state university medical centers. Requests for consultation are taken from 9:00-4:00 CST on weekdays and by voicemail on weekends. Consultants return calls within two business days.

If you are a clinician and wish to discuss a case with one of our consultants, use these numbers to contact an HIV specialist:

STATE RESOURCES FOR HIV CONSULTATION

In Louisiana:
504-826-2186

In Mississippi:
601-984-5542

In Arkansas:
870-535-3062 x104

NATIONAL RESOURCES FOR HIV CONSULTATION

National HIV Telephone Consultation Service (Warmline)
800-933-3413

National Perinatal HIV Consultation and Referral Service (Perinatal Hotline)
888-448-8765

National Clinicians' Post-Exposure Prophylaxis Hotline (PEPLINE)
888-448-4911



GUIDELINES FOR IDENTIFICATION OF PATIENTS AT HIGH RISK FOR REFEEDING SYNDROME

Patient has one or more of:

- BMI <16 kg/m²
- Unintentional weight loss of >15% in the previous 3-6 months
- Little or no nutritional intake for >10 days
- Low levels of potassium, phosphorus, or magnesium before refeeding

-OR- Patient has two or more of:

- BMI <18.5 kg/m²
- Unintentional weight loss of >10% in the previous 3-6 months
- Little or no nutritional intake for >5 days
- History of alcohol misuse or drugs, including insulin, chemotherapy, antacids, or diuretics (NICE 2006).

MONITORING RECOMMENDATIONS

- Healthcare professionals with the relevant skills and training in nutritional monitoring should undertake the monitoring.
- A review of the indications, route, risks, benefits, and goals of nutrition support should occur at regular intervals; many practitioners recommend weekly or more frequent reviews until involuntary weight loss, protein malnutrition, and refeeding syndromes have resolved.
- Both patients and caregivers should be trained to recognize and respond to adverse changes in well-being and in the management of the nutritional delivery system. (NICE 2006).

PRESCRIPTION FOR PEOPLE AT HIGH RISK OF DEVELOPING REFEEDING PROBLEMS

- Start nutrition support at a maximum of 10/kcal/day, increasing levels slowly to meet or exceed full needs by 4–7 days. Use only 5 kcal/kg/day in extreme cases.
- Restore circulatory volume and monitor fluid balance and overall clinical status closely.
- Provide immediately before and during the first 10 days of feeding: oral thiamine 200-300 mg daily, vitamin B complex, 1 or 2 tablets, three times a day (full dose daily intravenous vitamin B preparation, if necessary) and a balanced multivitamin/trace element supplement daily.
- Provide oral, enteral, and intravenous supplements of potassium (likely requirement 2-4mmol/kg/day), phosphate (likely requirement 0.3-0.6 mmol/kg/day), and magnesium (likely requirement 0.2 mmol/kg/day orally unless pre-feeding plasma levels are high). Pre-feeding correction of low plasma levels is unnecessary. (NICE 2006).

Visit Delta AETC's clinician site at deltaaetc.org

Clinicians with HIV patients will find much to benefit them at deltaaetc.org as the site was designed to meet your needs.

Among the features:

- Official HIV Treatment Guidelines
- HIV CE Training Calendars
- Hepatitis Resources

- Fact Sheets for Patients
- *HIV Clinician* issues
- HIV Statistics
- HIV Clinical Trials



Should longterm stable patients have biannual monitoring?

PEER-REVIEWED

*Samuel Harris, MD, and
Rebecca Clark, MD, PhD*

Monitoring of patients on antiretroviral therapy (ARV) at specified intervals is important to assess medication tolerance, toxicity, and efficacy. In addition, patients on ARVs may have some degree of immune compromise putting them at risk for various adverse conditions. This need for close monitoring is counterbalanced by the fact that, as drugs have improved, patients have achieved a better health status for prolonged periods of time.

Studies evaluating resource-poor settings suggest clinics select which laboratory tests to perform based on the cost effectiveness of each test.¹ Some experts have recommended the same strategy in the United States in this era of restricted financial support.² The annual costs of care per patient have ranged from \$20,300 in 1996 to \$19,912 in 2006.³ CD4 cell counts are associated inversely with the cost of care. The cost of care tends to be higher for those with more immune compromise, as revealed by a lower CD4 cell count.

At least one group has evaluated the clinical impact of extending the duration between laboratory monitoring to every six months. Sayana *et al.* conducted a retrospective cohort study in an outpatient clinic based in Los Angeles, Califor-

nia, to evaluate differences in HIV-1 RNA levels and CD4 cell counts of patients seen every three months compared to those seen every six months.² They included 846 patients in a 12 month period (Sept 1, 2008 to Sept. 1, 2009). They found no differences in terms of gender, race/ethnicity, CD4 cell counts, and HIV-RNA levels between the two groups at baseline and there were no differences in HIV RNA levels between the two groups at followup. However, patients having quarterly screening did have a slightly higher rise in their mean CD4 cell count at followup compared to those having semi-annual screening (29 cells versus 6 cells, $p=0.03$).

Given the focus on healthcare costs, the most recent version of the Department of Health and Human Services guidelines⁴ recommends the interval for HIV RNA monitoring be extended to every six months in adherent patients with suppressed viral loads and stable clinical and immunologic status for at least two to three years. They state that CD4 cell counts may be monitored as infrequently as every 6 to 12 months.

Decreasing the frequency of monitoring could significantly decrease outpatient costs. The most recent review done in 2006 based calculations for outpatient visits on the Medicare National Physician Fee Schedule for 2006. Unit costs ranged between \$91.72 to \$107.97 per visit based on the geographical location. The costs for CD4 cell count testing and HIV RNA level

testing were \$38 and \$90, respectively. The costs for complete blood counts (CBCs) and comprehensive chemistries were not given in the review, but at the Interim LSU Public Hospital these costs are \$11.14 and \$15.14, respectively.

Using these numbers, the annual cost for a stable patient meeting criteria for less frequent monitoring would be cut by approximately \$292.28. This is based on the assumption that stable patients could cut at least one clinician visit, HIV RNA level check, routine CBC and chemistry profiles, and possibly two CD4 cell count levels from their historical monitoring schedule. This would be a total savings of \$146,140.00 for every 500 stable patients. In addition, decreasing the need for monitoring would also decrease the time and financial costs for stable patients. Future prospective studies are warranted to better determine the risk versus cost benefit for selected patients with HIV who are considered to be stable. ♦

REFERENCES

1. Koenig SP *et al.* Clinical Impact and Cost of Monitoring for Asymptomatic Laboratory Abnormalities Among Patients Receiving Antiretroviral Therapy in a Resource-poor setting. *Clin Infect Dis.* 2010;51:600-608
2. Sayana, S, Javanbakht M *et al.* Clinical Impact and Cost of Laboratory Monitoring Need Review Even in Resource-Rich Setting. *J Acquired Immune Deficiency Syndrome.* 2011; 56:e97-e98
3. Gebo, KA *et al.* Contemporary costs of HIV health-care in the HAART era. *AIDS* 2010; 24:2705-2715.
4. <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>. Accessed 11/15/11.

Dr. Harris is a Fellow in LSU Health Sciences Center Section of Infectious Diseases; Dr. Clark is Professor, LSUHSC Section of Infectious Diseases, and Medical Director, HIV Outpatient Program (HOP) Clinic, LSU Interim Public Hospital.



Let us customize an HIV training for your facility

▲ WORKSHOP

▲ CASE CONFERENCE

▲ CHART REVIEW

▲ PRECEPTORSHIP

▲ MINI-RESIDENCY

To discuss possibilities in
Louisiana, contact Dana
Gray at 504-826-2144

In Mississippi, contact
Mauda Monger at
601-984-5552;

In Arkansas, contact
Derrick Newby at 870-535-
3062x105.

Make plans now to attend HIV/AIDS conferences

▲ March 5-8, 2012
**19th Conference on Retro-
viruses and Opportunistic
Infections (CROI)**
Seattle, Washington

▲ March 30, 2012
**Improving the Management
of HIV Disease (IAS-USA)**
New York, NY

▲ April 14, 2012
**Clinical Update on HIV/AIDS
for Infectious Disease and
HIV Specialists**
Lexington, Kentucky

▲ April 16, 2012
**Improving the Management
of HIV Disease (IAS-USA)**
San Francisco, California

▲ April 27, 2012
**Improving the Management
of HIV Disease (IAS-USA)**
Atlanta, Georgia

▲ May 10-12, 2012
**American Conference for the
Treatment of HIV (ACTHIV)**
Denver, Colorado

Case Consultation for Health Care Providers

Delta AETC consultants
are HIV specialists at state
university medical centers.

Requests for consultation
are taken from 9:00-4:00 CST
on weekdays and by voicemail
on weekends. Consultants re-
turn calls within two business
days.

If you are a clinician and
wish to discuss a case with
one of our consultants, use
these numbers to contact your
state warmline:

In Louisiana:
504-826-2186

In Mississippi:
601-984-5542

In Arkansas:
870-535-3062 x104

HIV Clinician back issues are online at deltaaetc.org



HIV Clinician is published four times a year by Delta Region AIDS Education and Training Center (AETC). The central office is located at 2235 Poydras Street, New Orleans, LA 70119. Phone 504-826-2187

Executive Editor
Ronald D. Wilcox, MD

Managing Editor
Toni Newton

Non-commercial reproduction of this publication is encouraged. The opinions expressed are those of the authors and are not necessarily those of Delta AETC. Delta AETC is funded through the Ryan White Care Act by HRSA Grant 2-H4AHA00059-09-00.

HIV Clinician

LSUHSC School of Public Health
Delta Region AIDS Education & Training Center
1542 Tulane Avenue
New Orleans, LA 70112

Return Service Requested

Non-Profit Org.
U.S. Postage
PAID
New Orleans, LA
Permit No. 1017



HIV Clinician back issues are online at deltaaetc.org

Stay current with the latest HIV/AIDS journal articles

▲ **Disparities among US states in HIV-related mortality in persons with HIV infection, 2001-2007.**

Hanna DB, Selik RM, Tang T, Gange SJ. *AIDS*. 2012 Jan 2;26(1):95-103.

▲ **Youth and HIV: the intersection of homelessness, orphaned status, injection drug use and sexual risk.**

Mastro TD, Cunningham J, Medrano T, van Dam J. *AIDS*. 2012 Jan 2;26(1):111-3

▲ **Retention in HIV care: what the clinician needs to know.**

Giordano TP. *Topics in Antiviral Medicine*. 2011 Feb-Mar;19(1):12-6.

▲ **Essential components of effective HIV care: A policy paper of the HIV Medicine Association of the Infectious Diseases Society of America and the Ryan White Medical Providers Coalition.**

Gallant JE, Adimora AA, Carmichael JK, Horberg M, Kitahata M, Quinlivan EB, Raper JL, Selwyn P, Williams SB. *Clinical Infectious Disease*. 2011 Dec;53(11):1043-50.

▲ **Newer drugs and earlier treatment: impact on lifetime cost of care for HIV-infected adults.**

Sloan CE, Champenois K, Choisy P, Losina E, Walensky RP, Schackman BR, Ajana F, Melliez H, Paltiel AD, Freedberg KA, Yazdanpanah Y; for the Cost-Effectiveness of Preventing AIDS Complications (CEPAC) investigators. *AIDS*. 2012 Jan 2;26(1):45-56.

▲ **HIV now firmly established in the Middle Ages.**

Saag MS. *Clinical Infectious Disease*. 2011 Dec; 53(11):1140-2.

▲ **How prepared are our future doctors for HIV/AIDS?**

Lee SS, Lam A, Lee KC. *Public Health*. 2011 Nov 25.

▲ **The epidemiology of hepatitis E virus infections in developed countries and among immunocompromised patients.**

Nelson KE, Kmush B, Labrique AB. *Expert Review of Anti-Infective Therapy*. 2011 Dec;9(12):1133-48.

▲ **Effects of vitamin D deficiency and combination antiretroviral therapy on bone in HIV-positive patients.**

Childs K, Welz T, Samarawickrama A, Post FA. *AIDS*. 2011 Nov 22.

▲ **The effects of a harm reduction housing program on the viral loads of homeless individuals living with HIV/AIDS.**

Hawk M, Davis D. *AIDS Care*. 2011 Nov 22

▲ **Building blocks for peer success: Lessons learned from a train-the-trainer program.**

Tobias CR, Downes A, Eddens S, Ruiz J. *AIDS Patient Care and STDs*. 2011 Nov 21

▲ **HIV vaccine development: Challenges and opportunities towards a solution of the HIV vaccine-neutralizing antibody problem.**

Koff WC. *Vaccine*. 2011 Nov 16.

▲ **Paradoxical immune reconstitution inflammatory syndrome in HIV-infected patients treated with combination antiretroviral therapy after AIDS-defining opportunistic infection.**

Achenbach CJ, Harrington RD, Dhanireddy S, Crane HM, Casper C, Kitahata MM. *Clinical Infectious Disease*. 2011 Nov 17.

▲ **Cervical screening rates among culturally diverse women in a specialist HIV/AIDS clinic.**

Smith ML, Chan DJ. *International Journal of STD & AIDS*. 2011 Oct;22(10):614-5.

▲ **High-sensitivity C-reactive protein levels do not decrease with the use of statins in all persons with HIV infection.**

Fichtenbaum CJ, Evans SE, Aberg JA. *AIDS*. 2011 Oct 23;25(16):2053.

▲ **Behavioral health risks in perinatally HIV-exposed youth: co-occurrence of sexual and drug use behavior, mental health problems, and nonadherence to antiretroviral treatment.**

Mellins CA, Tassiopoulos K, Malee K, Moscicki AB, Patton D, Smith R, Usitalo A, Allison SM, Van Dyke R, Seage GR 3rd; Pediatric HIV/AIDS Cohort Study. *AIDS Patient Care & STDs*. 2011 Jul;25(7):413-22.

DELTA AETC's ONGOING CONTINUING EDUCATION PROGRAMS

NEW ORLEANS, LOUISIANA

Clinical course for dentists and dental professionals: Oral Health Management for the HIV/AIDS Patient—January 23, 2012. 6.5 CDEs. Contact Edwina McBride, 504-826-2133 or emcbri@lsuhsc.edu

Clinical preceptorship for nurses and clinical service providers: Comprehensive Management of the Patient with HIV Disease—May 7-8, 2012. 11 contact hours. Contact Edwina McBride, 504-826-2133 or emcbri@lsuhsc.edu.

Clinical preceptorship for physicians, nurse practitioners, physician assistants: Care and Management of the Patient with HIV Disease—September 10-11, 2012. 15.5 CMEs. Contact Lauren Parker, 504-826-2134 or lbran1@lsuhsc.edu.

JACKSON, MISSISSIPPI

Course for physicians, physician assistants, nurse practitioners, nurses, pharmacists, case managers, social workers: Care and Management Overview of HIV Infection—March 21-23, 2012. Discipline-specific CEUs. Contact Joan Bounds, 601-984-1300 or 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.

Delta Region AETC central office and Louisiana site are now located at 2235 Poydras Street, New Orleans, LA 70119