EDITORIALS

HIV Care and General Internal Medicine

The Next Generation

As we enter the third decade of the AIDS pandemic, there are still enormous morbidity and mortality costs associated with HIV/AIDS. As of June 2000, the Centers for Disease Control reported a cumulative total of 753,907 cases of AIDS in the United States, with 438,795 deaths.¹ Over 800,000 Americans are estimated to be living with HIV infection/AIDS. For those aged 25 to 44 years, HIV/AIDS ranks among the top five causes of death and is the leading cause of death among African Americans in this age group.¹ Worldwide, the numbers dwarf U.S. figures, with over 34 million people estimated to be infected and nearly 19 million deaths attributed to AIDS.²

In the United States, HIV treatment has progressed greatly, especially with the introduction in 1996 of effective combination antiretroviral therapy.^{3,4} Once considered a uniformly fatal disease, many people with HIV are living longer and fuller lives. Treatment advances, however, have dramatically increased the complexity of HIV care. Providers who now treat people living with HIV face important challenges, three of which are highlighted by articles in the current issue of the *Journal*: recognition, access and quality of care.

1). **Recognition:** In a large, 8-city evaluation of care for HIV-related *Pneumocystis carinii* pneumonia (PCP), Kim et al. found that among patients cared for between 1995 and 1997, patients aged 50 years and older were less likely than younger patients to survive hospitalization.⁵ These findings may be related to older patients being less likely to have HIV mentioned in the chart and less likely to receive early treatment for PCP. Supporting this interpretation, the effect of age disappears with adjustment for PCP severity. The study relied on data obtained from chart abstraction, and it is possible that differential charting practices could explain some of the differences attributed to age. Nonetheless, the findings are a disheartening follow-up to an earlier study of care for PCP in the late 1980s and early 1990s.⁶ The message appears to be that systematic consideration of HIV in the differential diagnosis, regardless of the age or appearance of the patient, is necessary to improve the recognition of HIV-related complications. As Sir William Osler commented, "...diagnosis ... is our chief weapon of offence. Lack of systematic personal training in the methods of the recognition of disease leads to the misapplication of remedies..."⁷

2.) **Access:** Using data from the HIV Cost and Services Utilization study (HCSUS), a national representative

probability sample of HIV-infected adults receiving care in the U.S. in 1996, Turner et al. evaluated the effects of drug and alcohol abuse and mental disorders on use of antiretroviral therapy (ART).⁸ Over one third of the population had mental disorders or reported recent severe drug abuse/dependence, or HIV exposure from injection drug use. These characteristics were associated with a significant reduction in the use of ART. After controlling for sociodemographic and clinical factors, participants with drug dependence were much less likely to receive ART. A strong provider-patient relationship, however, was associated with a lower refusal rate for ART.

We agree with the authors that these data reveal challenges in evaluating the effects of substance abuse and mental health problems on HIV treatment. Given the high prevalence of these problems, the issues are critical. However, this provocative study leaves several questions unanswered. Perhaps most important is the question of whether the lower rates of treatment observed in the study are appropriate. Is temporarily withholding treatment ever appropriate or ethical? Given the fact that if ART is not taken properly, 90% to 95% of the time patients can develop permanent drug resistance,⁹⁻¹¹ premature treatment can leave the individual without treatment options. From a societal perspective, resistant virus can be transmitted to others, rendering them untreatable from the start.

The findings from the HCSUS sample represent only people in care. Patients seen by a mental health provider were more likely to receive ART. While this may be due in part to the effectiveness of antidepressant therapy, it may also reflect patients that were sufficiently involved in care. Frequent missed visits may inhibit HIV clinicians from prescribing complex and potentially harmful regimens when the prospects seem limited for adequate monitoring and follow-up. How can these individuals be engaged sufficiently to be able to become "patients" and to benefit from therapy? How can practices and providers deliver appropriate care to patients with such difficult and challenging lives?

3). **Quality of Care:** Bolstering the growing body of literature that HIV expertise leads to better outcomes,¹²⁻¹⁴ Keitz et al. report on one of the few prospective trials to evaluate an innovation in care.⁵ Patients were randomized to receive HIV care either at a general internal medicine (GIM) residents' clinic or the infectious disease (ID) clinic. Housestaff were required, and their preceptors invited, to attend an HIV educational intervention. The

results were mixed. Measures of process of care, and rates of ART use between groups, were similar for GIM and ID patients. On the other hand, in a twelve-month follow-up, there was a 50% greater length of hospital stay, higher emergency department utilization, and more HIV-related admissions for patients treated in the GIM practice. Some factors other than the processes of care measured in the study seem to have led to better outcomes in the ID clinic group.

A partial explanation is provided by differences in the characteristics of these two clinics. In the ID clinic, only half of the providers were residents, whereas all providers in the GIM clinic were residents in clinic for one half-day a week. The average number of HIV patients followed by GIM faculty supervisors was minimal, less than 3 per provider, with little additional exposure. (Other than study patients, less than 50 HIV patients were followed in the GIM clinic.) The average number of patients per ID attending was ten, but each oversaw a substantially larger panel, with 1,100 HIV patients in the ID practice. Equally important, critical structural elements differed between the clinics, including HIV-targeted nursing and the social work resources.

This study does not address how HIV expertise is developed. It does provide some hints (i.e., difference in clinic set up, the team approach, etc.) to the growing issue of deficiencies in the current method for training housestaff in HIV care. Expertise comes from providing care to large numbers of patients, keeping current on treatment modalities and having a keen interest in HIV care, rather than simply having completed subspecialty (infectious disease) training.¹⁵ Many generalist physicians provide expert care to HIV-infected individuals. Most began their training at a time when medicines were limited, and acquired additional expertise through caring for patients. However, current training for internal medicine residents may not afford the next generation sufficient experience to care for HIV patients.^{12,16} Equally important, non-HIV-related prevention and health care issues are emerging as patients' life expectancy increases. Sub-specialty fellowships may not provide the necessary training to address primary care and non-HIV-related issues.

What is the message for educators and clinicians in general internal medicine? First, it is important to maintain a generalist's approach to the patient. To effectively fulfill the generalist's role as expert diagnostician, we should not succumb to an overly narrow focus. Since it is often the generalist who sees the patient before an HIV diagnosis is made, it is important for generalists to include HIV in the differential, and even to recognize acute HIV seroconversion. For patients not known to be infected, the generalist needs to promote prevention. Housestaff need training in these skills as well as in the primary care of HIV-infected individuals.

Second, generalists need to ensure that their patients benefit from an appropriate level of expertise. Skill sets from many disciplines are required. Expertise includes not

only the complexities of highly active antiretroviral therapy (HAART) and genotype testing that are the province of HIV specialists, but also issues closest to the generalist: communication, addressing complex psychosocial issues, and developing trusting provider-patient relationships. A crucial skill is knowing when you don't know, and seeking timely advice when necessary. Quoting Osler again, "To confess ignorance is often wiser than to beat about the bush with a hypothetical diagnosis."¹⁷

A final and more difficult issue deals with developing care systems that appeal to, and engage, disadvantaged patients and other HIV-infected patients who lead complicated lives. The efforts of generalist physicians will be essential to developing, studying, and improving appropriate education for trainees and physicians, and to exploring care systems to meet this population's substantial needs. — **JOSEPH COFRANCESCO JR, MD, MPH**, Assistant Professor of Medicine, Johns Hopkins Medical Institutions, Baltimore, Md and **ALBERT W. WU, MD, MPH**, Associate Professor of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore Md.

REFERENCES

- Centers for Disease Control and Prevention. U.S. HIV and AIDS cases reported through June 2000. HIV Surveillance Report. Vol. 12; 2001.
- UNAIDS. Report on the Global HIV/AIDS epidemic; 2000 ISBN: 92-9173-000-9.
- Moore RD, Chaisson RE. Natural history of HIV infection in the era of combination antiretroviral therapy. *AIDS*. 1999;13:1933-42.
- Weidle PJ, Holmberg SD, DeCock KM. Changes in HIV and AIDS epidemiology from new generation antiretroviral therapy. *AIDS*. 1999;13(Suppl A):S61-8.
- Kim BA, Lyons TM, Parada JP, et al. HIV-related *Pneumocystis carinii* pneumonia in older patients hospitalized in 1995-1997. *J Gen Intern Med*. 2001;16:583-9.
- Keitz SA, Bastian LA, Bennett CL, Oddone EZ, DeHovitz JA, Weinstein RA. AIDS-related *Pneumocystis carinii* pneumonia in older patients. *J Gen Intern Med*. 1996;11:573-82.
- Osler W. *Aequanimitas, with Other Addresses to Medical Students, Nurses, and Practitioners of Medicine*. Birmingham, AL: Classics of Medicine Library; 1987.
- Turner BJ, Fleishman JA, Wenger N, et al. Relative effects of drug abuse and mental disorders on use and type of antiretroviral therapy in a national sample of HIV-infected persons. *J Gen Intern Med*. 2001;16:625-33.
- Paterson DL, Swindells S, Mohr J, et al. Adherence to protease inhibitor therapy and outcomes in patients with HIV infection. *Ann Intern Med*. 2000;133:21-30.
- Cinti SK. Adherence to antiretrovirals in HIV disease. *AIDS Read*. 2000;10:709-17.
- Knobel H, Guelar A, Carmona A, et al. Virologic outcome and predictors of virologic failure of highly active antiretroviral therapy containing protease inhibitors. *AIDS Patient Care STDS*. 2001;15:193-9.
- Stone VE, Mansourati FF, Poses RM, Mayer KH. Relation of physician specialty and HIV/AIDS experience to choice of guideline-recommended antiretroviral therapy. *J Gen Intern Med*. 2001;16:360-8.
- Kitahata MM, Van Rumpae SE, Shields AW. Physician experience in the care of HIV-infected persons is associated with earlier

- adoption of new antiretroviral therapy. *J Acquir Immune Defic Syndr*. 2000;24:106-14.
14. Heath KV, Hogg RS, Singer J, Schechter MT, O'Shaughnessy MV, Montaner JS. Adherence to clinical guidelines for the therapeutic management of HIV disease. *Clin Invest Med*. 1997;20:381-7.
15. Hecht FM, Wilson IB, Wu AW, Cook RL, Turner BJ. Optimizing care for persons with HIV infection. Society of General Internal Medicine AIDS Task Force. *Ann Intern Med*. 1999;131:136-43.
16. Turner BJ, McKee L, Fanning T, Markson LE. AIDS specialist versus generalist ambulatory care for advanced HIV infection and impact on hospital use. *Med Care*. 1994;32:902-16.
17. Osler W. *Ephemerides*. *Montreal Med J*. 1996;24:518-22.