Clinical Case of the Month

A 50-Year-Old Man With A Persistent Rash

Paula S. Seal, MD, MPH; Melissa A. McKay, MD; Fred A. Lopez, MD, FACP

In September 2006, the United States Centers for Disease Control and Prevention (CDC) published updated recommendations for routine opt-out human immunodeficiency virus (HIV) testing in all healthcare settings. As late diagnosis of infection increases individual and societal risks, a goal of the 2010 National HIV/AIDS Strategy is to increase the percentage of those aware of their infection. In 2008, two years following changes in the CDC testing recommendations, 44.6% of individuals 18-64 years of age reported a history of having a HIV test, resulting in close to 40,000 new HIV diagnoses. Emergency departments accommodate more than 120 million patient visits per year in the United States and can be the only point of contact individuals have with the healthcare system, particularly in uninsured and marginalized groups. Further implementation of opt-out testing can result in earlier diagnosis and improved health outcomes at the both the individual and public health levels.

CASE PRESENTATION

A 50-year-old man with a past medical history of alcohol and cocaine use presented to his local emergency department (ED) complaining of a rash after exposure to poison ivy. He works as a gardener and landscaper. A pruritic skin rash developed, which was unrelieved by calamine lotion. He presented to his local ED, where he was noted to have a streaking papular rash of his forehead, checks, abdomen, back and extremities with linear excoriations. No pustules were noted. He was released with a diagnosis of poison ivy exposure and prescribed diphenhydramine, an unknown H2-receptor antagonist and prednisone.

He returned to the ED seven days later without improvement in his diffuse skin rash. Exam noted a new weeping scrotal skin lesion. He denied any fever, chills, night sweats, dysuria, diarrhea, or dyspnea. Upon exam, he was afebrile, with a blood pressure of 110/62 mmHg, heart rate of 98 beats/min, respirations of 18 breaths/min with an oxygen saturation of 99% on room air. His exam was notable for a diffuse scaling erythematous papular rash of his entire body. White plaques were noted on posterior oropharynx. He was tachycardic on exam, but no murmurs were noted. Exam of his scrotum revealed bilateral descended testes with multiple areas of draining abscesses from the base of scrotum towards to the rectum. No rectal involvement was noted.

A leukocytosis of 25.6 cells/μL (normal: 4.5-11 cells/μL) with a hematocrit of 42.9 g/dL (normal: 40-51 g/dL) and platelet count of 209x10^3 platelets/μL (normal: 130-400 platelets/μL) were noted on his complete blood count. Renal and liver function tests were normal with a creatinine of 0.90 mg/dL (normal: 0.70-1.40 mg/dL), aspartate aminotransferase (AST) and alanine aminotransferase (ALT) of 17 U/L (normal: <46 U/L), and ALT of 11 U/L (normal <45 U/L), respectively. A rapid HIV test performed in the emergency department was positive. The patient was previously tested for HIV in 2009 and was negative at that time.

He was admitted to the hospital for drainage of his scrotal abscesses in the setting of a clinical diagnosis of thrush and seborrheic dermatitis. CD4 count at the time of diagnosis was 636 cells/mm^3 (normal: 800-1050 cells/mm^3), but his CD4% was disproportionately low at 16.8% (normal: 37-63%), with a HIV viral load of 574,161 copies / ml (normal: 0 copies/ml). After discharge from the hospital, he established care at the hospital-affiliated HIV clinic within a month. Identified HIV risk factors revealed a former remote history of injection drug use, as well unprotected heterosexual sex.

INTRODUCTION

In September 2006, the United States Centers for Disease Control and Prevention (CDC) published updated recommendations for routine opt-out human immunodeficiency virus (HIV) testing in all healthcare settings in response to the estimated 25% of the 1.1 million HIV-infected patients who were estimated to be undiagnosed.[1, 2] In HIV opt-out testing, consent is inferred unless the patient otherwise declines testing for HIV infection. The patient is informed that

a test for HIV will be performed unless he/she declines or defers testing.[2] According to the CDC, an estimated 56,000 new HIV infections occur annually.[3] Upwards of 39% of patients at the time of newly diagnosed HIV infection developed AIDS within one year of receiving their diagnosis.[4] Late diagnosis of infection increased individual and societal risks with missed opportunities in prevention of transmission, treatment interventions to increase life expectancy, and increased healthcare costs of advanced infection.[5-7]

Nationally, close to half of newly diagnosed patients entering care have CD4 counts <200 cells/mm^3, indicating missed opportunities by the medical system to diagnose HIV infection.[8-12] Forty-one percent of newly diagnosed HIV-infected patients in South Carolina, from 2001-2005, progressed to AIDS within one year of their HIV diagnosis. Seventy-three percent of these newly diagnosed HIV cases had a median of four prior encounters with the South Carolina healthcare system in which HIV testing was not performed.[13] Numerous opportunities to diagnose early HIV infection were missed, resulting in late engagement into care and treatment and consequently, earlier mortality. The public health benefit of earlier diagnosis enables earlier engagement into HIV care and subsequent improved quality and duration of life.

The change in CDC HIV testing recommendations was also made, in part, to address the transmission risk associated with undiagnosed HIV-infected individuals. At the end of 2006, of the 1.1 million HIV-infected individuals, 21% were unaware of their HIV-infection status. This accounted for 232,700 HIV-infected individuals' unaware of their HIV status, not receiving HIV therapy, and potentially transmitting HIV infection. An estimated 80% of newly diagnosed HIV infections occur via sexual transmission, where those unaware of their infected status, have 3.5 greater odds of transmitting their HIV infection compared to those aware of their HIV infection.[5] These results indicate the benefit of knowledge of HIV serostatus and the consequential changes in behavior and sexual practices, which increase secondary HIV prevention. In the setting of expanded testing, increased awareness of HIV infection has the potential to reduce newly sexually acquired HIV infections by 31%, as recently demonstrated by a mathematical model proposed by the CDC in 2006.[5] A goal of the 2010 National HIV/AIDS Strategy is to increase the percentage of those aware of their infection from 79% to 90% by 2015.[14]

LEGISLATIVE CHANGES

The 2006 HIV testing recommendations apply to clinicians, public health programs, and also to legislatures to limit barriers to the implementation of opt-out testing. In 2006, at the release of the CDC opt-out testing recommendations, the legislature of 20 states required separate written informed consent for HIV testing of adults.[15] In February 2009, Mahajan et al. published a review of current state constitutional statutes in regard to the legal parameters for consent to HIV testing. As of November 2008, they found that nine states required specific written consent prior to performing HIV testing.[16] Written informed consent statutes are associated with a 12% reduction in HIV testing compared to states without statutes requiring written informed consent. Individuals living in states requiring written informed consent are 15 times less likely to report HIV testing within the past year.[17]

As of February 2011, all 50 states and Washington D.C. have made a change in legislature or policy for HIV testing since 2006, but the remaining three states, Massachusetts, Nebraska, and Pennsylvania require written, informed consent for HIV testing.[18] These statutes set HIV apart from other chronic diseases for which people undergo routine laboratory testing. A national survey of a random representative sample of Americans found that 65% of those surveyed were in favor of approaching HIV testing as they do routine screenings for other chronic diseases.[19] Effective change is needed from the top down, from the level of policy makers, provider groups, and clinicians to not only comply with CDC recommendations but to promote change in amending current legislature.

COST EFFECTIVENESS OF HIV SCREENINGS

Two prior reports published in the *New England Journal of Medicine* in February 2005 produced results that support opt-out testing as a cost-effective public health strategy in regard to earlier diagnosis and initiation of therapy, yielding a survival advantage, as well as reduced transmission with an earlier diagnosis.[20, 21] Paltiel et al., using a computer simulation model of HIV screening and treatment, demonstrated that one-time screening for HIV in high-risk populations (3.0% prevalence of undiagnosed HIV infection) cost $36,000 per quality-adjusted life-year gained. The model demonstrated an earlier diagnosis of HIV, measured by mean CD4 count at diagnosis and increased average survival time among HIV-infected patients, measured by the mean quality-adjusted survival time.[20] Paltiel et al. found that one-time HIV screenings in populations with a 1.0% prevalence of undiagnosed HIV infection, which prior to 2006, was the CDC's threshold population for HIV testing, increased the cost effectiveness ratio to $38,000 per quality-adjusted life-year gained and resulted in greater overall life expectancies measured by the mean quality-adjusted survival.[20] The lifetime risk of HIV infection was 6.1% in the population, with a 1.0% prevalence as opposed to 41.8% in the high-risk population.[20]

Sanders et al. had similar findings of increased life expectancy but in low prevalence settings, where screening cost $41, 736 per quality-adjusted life-year in settings of undiagnosed HIV-infection rates between 0.5% to 1%. When accounting for benefits of decreased transmission, the cost-effectiveness ratio is $15,078 per quality-adjusted life-year.[21] A 1.52 year increase in life expectancy was extrapolated from new HIV diagnoses and earlier initiation of anti-retroviral therapy at higher CD4 counts.[21] Each prevented case of HIV infection saves $367,000 in estimated

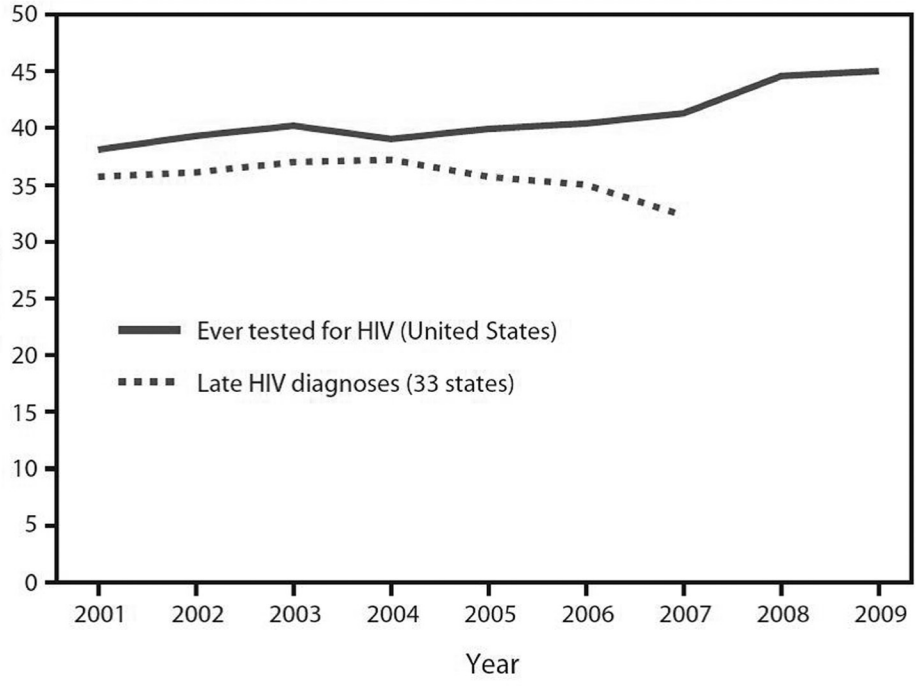

Figure 1: Percentage of persons aged 18-64 years who reported ever being tested for HIV (United States, 2001-2009*), and percentage of late HIV diagnoses (AIDS diagnosis within 12 months of initial HIV diagnosis) (33 states, 2001-2007#)

**Data from the National Health Interview Survey. Available at http://www. cdc.gov/nchs/nhis/quest_data_Related_1997_forward.htm #Data from the National HIV Surveillance System. Includes data reported from 33 states with confidential, name-based reporting of HIV infection since at least December 2000: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.*

Obtained from: Centers for Diseases Control. Vital Signs: HIV Testing and Diagnosis Among Adults-United States, 2001-2009. *MMWR Morb Mortal Wkly Rep.* 2010 Dec 3; 59(47):1550-1555.

lifetime medical costs.[22] More recent studies have shown that HIV screenings in low prevalence settings, where the HIV prevalence exceeds 0.1% to 0.2%, is also cost-effective, as is the screening in patients older than 55 years of age.[20-26] In populations with an undiagnosed HIV prevalence rate $\geq$ 0.1%, the cost-effectiveness of HIV screening resembles those of other chronic diseases, such as hypertension, Papanicolaou test, and colon cancer.[20, 21]

Evaluation of lifetime costs of HIV infection in the setting of antiretroviral therapy demonstrates an economic benefit to early diagnosis and initiation of therapy. A 2006 cross-sectional review of high-volume HIV providers in the United States estimated total care expenditures stratified by CD4 counts to be greatest for CD4 counts $\leq$50 cells/mm^3, approximating $40,000 per person. Average annual per-person expenditures for care were lowest for those with CD4 counts $\geq$500 cells/mm^3, approximating $16,000. This dichotomy in cost is, in part, attributed to greater inpatient hospitalization costs for patients with CD4 counts $\leq$50 cells/mm^3 in addition to outpatient medication expenses.[27] As previously demonstrated, late HIV diagnosis with more advanced HIV disease results in increased healthcare expenditures. A mathematical model of HIV transmission, disease progression, and cost-effective analysis examined a combination strategy of one-time HIV screenings in low-risk patients with annual screenings of high-risk patients and a proposed increase in anti-retroviral therapy by 75%. This joint strategy is estimated to prevent 17% of new infections and costs $21,580 per quality-adjusted life year gained.[28] These findings support expanding HIV testing practices in the setting of antiretroviral therapy to decrease HIV transmission while improving earlier diagnosis of HIV infection.

CHANGES IN HIV TESTING PRACTICES AND DIAGNOSIS

Data from the National Health Interview Survey (NHIS) and the National HIV Surveillance System have been used to assess changes in testing practices following the 2006 CDC opt-out HIV testing recommendations. Using data from the NHIS, the percentage of persons 18-64 years of age with a history of ever receiving HIV testing between 2001-2009 was determined (Figure 1). Estimates of numbers, percentages, and rates of HIV diagnoses and trends in late diagnoses (CD4 Ct <200 cells/mm^3) were derived from the National HIV Surveillance System.[7]

In 2008, two years following changes in the CDC testing recommendations, 44.6% of individuals 18-64 years of age reported a history of having a HIV test, resulting in close to 40,000 new HIV diagnoses. Individuals aged 25-34 years of age reported the highest percentage of being tested, followed by 35-44 years of age, 57.8%, and 56.7%, respectively. Only 33.9% of persons aged 18-24 years reported ever having a HIV test in the United States, however, their rate of HIV diagnoses, 33.1 per 100,000, approximates those rates in those aged 25-34 years (37.6 per 100,000) and aged 35-44 years (38.0 per 100,000).[7] Trends in those ever having received an HIV test from 2001-2006 approximated 40%, which increased to 45% in 2009, translating into approximately 82.9 million persons. Trends in late HIV diagnoses,

Table 1: Estimated number,* percentage, and rate of HIV diagnoses among persons aged 18-64 years (37 states[#]), and percentage who reported ever being tested for HIV (United States[!]), by selected characteristics, 2008

	HIV diagnoses (37 states)			
Characteristic	**No**	**%**	**Rate per 100,000**	**% ever tested for HIV (US)**
Age group (years)				
18-24	6,814	17	33.1	34
25-34	10,742	27	37.6	58
35-44	11,206	28	38	57
45-64	11,095	28	20.3	35
Sex				
Men	29,902	75	44.9	41
Women	9,955	25	14.9	48
Race/Ethnicity				
American Indian/Alaska Native	214	1	18.6	53
Asian	433	1	10.3	38
Black/African-American	20,387	51	112.1	62
Hispanic/Latino	6,945	17	40.5	48
Native Hawaiian/Other Pacific Islander	33	0.1	35.9	--
White	11,474	29	12.6	41
Multiple race (non-Hispanic)	370	1	29.2	54
Transmission category				
Male-to-male sexual contact	21,932	55	--	--
Injection drug use (males)	2,465	6	--	--
Injection drug use (females)	1,526	4	--	--
Male-to-male sexual contact and injection drug use	1,127	3	--	--
Heterosexual contact (males)	4,295	11	--	--
Heterosexual contact (females)	8,363	21	--	--
Other	149	.4	--	--
Total[+]	**100**	**30**	**--**	**45**

**Estimated numbers resulted from statistical adjustment that accounted for reporting delays, but not for incomplete reporting.*
[#]Data from the National HIV Surveillance System. Includes data reported from 37 states with confidential , name-based reporting of HIV infection since at least January 2005: Alabama, Alaska, Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West, Virginia, Wisconsin, and Wyoming
[!]Data from the National Health Interview Survey, 2008. Available at http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm. Percentages calculated using the number of respondents within each subgroup as the denominator.
[+]Includes hemophilia, blood transfusion, perinatal exposure, and risk factors not reported or not identified.

Obtained from: Centers for Disease Control. Vital Signs: HIV Testing and Diagnosis Among Adults-United States, 2001-2009. *MMWR Morb Mortal Wkly Rep*. 2010 Dec 3;59(47): 1550-1555.

decreased to 32% in 2007 from 37% in 2001-2004 (Table 1).[7]

A greater number of African-Americans and Latinos reported a history of receiving a HIV test compared to Caucasians at 61.8%, 47.6%, and 40.9%, respectively. Greater than 50% of new HIV diagnoses occurred in African-Americans, with rates of 112.1 per 100,000 compared to Latinos at 40.5 per 100,000. When compared to Caucasians this disparity is more pronounced. African-Americans and Latinos have new HIV diagnosis rates nine and three times greater than Caucasians (12.6 per 100,000). Risk factors for transmission, which yielded greater HIV diagnoses, were male-to-male sexual contact, 55%; and heterosexual contact, 31.8%. Ten percent of diagnoses are attributed to injection drug use (Table 1).[7]

In 2009, three years following revised CDC HIV testing guidelines, a national survey including US community and academic emergency departments, as well participants in the CDC ED HIV testing workshop sites, found that 22% and 59.7% of respondents reported the implementation of systematic and non-systematic HIV testing programs, respectively.[29] However, literature providing operational methods for the implementation of HIV testing, either by opt-in or opt-out methodology is lacking. Consequently, there is a scarcity of demonstrable evidence on the best approach for the implementation of opt-out HIV testing in emergency departments.[30] Cited barriers in the implementation of opt-out testing include the requirements of pre-test and post-test counseling. Counseling requirements involve not only the state dependent legal mandates but also time constraints, available manpower, and the utilization of ER space. All of the above mentioned factors are important considerations in the development of an ER-based HIV testing initiative, as is providing adequate linkage to outpatient HIV care.[31,32] An initiative in an urban emergency department in the Deep South has had successful linkage of newly diagnosed HIV-infected patients, where 75% attended their first HIV primary care appointments.[33]

CONCLUSION

Emergency departments accommodate more than 120 million patient visits per year in the United States and can be the first or only point of contact individuals have with the US healthcare system, particularly in uninsured and marginalized groups.[28] A cross sectional study conducted out of an urban ED found that of those patients surveyed, 81% were accepting of HIV opt-out testing.[34] Two published studies have evaluated HIV opt-out testing acceptance rates in US emergency departments following the HIV opt-out testing recommendations. In a study conducted in late 2006 at an urban academic emergency room in Washington D.C, upwards of 59% of patients accepted HIV opt-out testing, resulting in a preliminary HIV-positive rate of 1.1%.[35] In 2008-2009, a southeastern US urban ED, had an HIV opt-out testing acceptance rate of 91%, indicating that increased HIV testing is not only feasible in emergency department settings but likely will be well received.[36] Further implementation of opt-out testing can result in earlier diagnosis and improved health outcomes at the both the individual and public health levels. More widespread implementation of routine, opt-out HIV testing and future legislative changes to facilitate this approach has clear advantages for individual patients and the public health.

REFERENCES

1. Glynn M, Rhodes P. Estimated HIV prevalence in the United States at the end of 2003 [Abstract]. Presented at the National HIV Prevention Conference, June 12-15, 2005; Atlanta, Georgia.
2. Centers for Disease Control. Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings. *MMWR Morb Mortal Wkly Rep*. 2006 Sept 22; 55(RR14):1-17.
3. Hall HI, Song R, Rhodes P, et al. Estimation of HIV incidence in the United States. *JAMA* 2008; 300 (5):520-529.
4. Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report* 2004. Atlanta: U.S. Department of Health and Human Services, Center for Disease Control and Prevention. 2005.16:1-46.
5. Marks G, Crepaz N, Janssen R. Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. *AIDS*. 2006; 20 (10):1447-1450.
6. Fleishman JA, Yehia BR, Moore RD, et al. The economic burden of late entry into medical care for patients with HIV infection. *Med Care*. 2010; 48(12):1071-1079.
7. Centers for Disease Control. Vital Signs: HIV Testing and Diagnosis Among Adults-United States, 2001-2009. *MMWR Morb Mortal Wkly Rep*. 2010 Dec 3;59 (47): 1550-1555.
8. Dybul M, Bolan R, Condoluci D, et al. Evaluation of initial CD4+ T cell counts in individuals with newly diagnosed human immunodeficiency virus infection, by sex and race, in urban settings. *J Infect Dis*. 2002; 185(12):1818-1821.
9. Gay CL, Napravnik S, Eron JJ Jr. Advanced immunosuppression at entry to HIV care in the southeastern United States and associated risk factors. *AIDS*. 2006; 20(5): 775-778.
10. Keruly JC, Moore RD. Immune status at presentation to care did not improve among antiretroviral naive persons from 1990 to 2006. *Clin Infect Dis*. 2007; 45(10): 1369-1374.
11. Mugavero JM, Castellano C, Edelman D, Hicks C. Late diagnosis of HIV infection: the role of age and sex. *Am J Med*. 2007; 120(4): 370-373.
12. Ulett KB, Willig JH, Lin HY, et al. The therapeutic implications of timely linkage and early retention in HIV care. *AIDS Patient Care STDS*. 2009; 23(1):41-49.
13. Centers for Disease Control. Missed Opportunities for Earlier Diagnosis of HIV Infection—South Carolina, 1997-2005. *MMWR Morb Mortal Wkly Rep*. 2006; Dec 1;55 (47):1269-1272.
14. Office of National AIDS Policy. National HIV/AIDS Strategy. Washington, DC: Office of National AIDS Policy; 2010. Available at http://www.whitehouse.gov/administration/eop/onap/nhas. Accessed March 27,2011.
15. Bartlett JG, Branson BM, Fenton K, Hauschild BC, Miller V, Mayer KH. Opt-Out Testing for Human Immunodeficiency Virus in the United States: Progress and Challenges. *JAMA* 2008; 300: 945-951.
16. Mahajan AP, Stemple L, Shapiro M, King, JB, Cunningham WE. Consistency of State Statutes with the Centers for Disease Control and Prevention HIV Testing Recommendations for Health Care Settings. *Ann Intern Med*. 2009; 150:263-269.
17. Ehrenkranz PD, Pagán JA, Begier EM, Linas BP, Madison K, Armstrong K. Written Informed-Consent Statutes and HIV

Testing. *Am J Prev Med*. 2009; 37(1):57-63.
18. Compendium of State HIV Testing Laws Quick Reference Guide for Clinicians. February 4, 2011. National HIV/AIDS Clinicians' Consultation Center (NCCC). San Francisco General Hospital. University of California, San Francisco. http://www.nccc.ucsf.edu/docs/QRG.pdf. Accessed on March 24, 2011.
19. Kaiser Family Foundation. Survey of Americans on HIV/AIDS. Menlo Park, CA: Kaiser Family Foundation; 2006. http://www.kff.org/kaiserpolls/7513.cfm. Accessed March 31, 2011.
20. Paltiel AD, Weinstein MC, Kimmel AD, Seage GR 3rd, Losina E, Zhang H, et al. Expanded screening for HIV in the United States-an analysis of cost-effectiveness. *N Engl J Med*. 2005; 352:586-95.
21. Sanders GB, Bayoumi AM, Sundaram V, Bilir SP, Neukermanns CP, Rydzak CE, et al. Cost effectiveness of screening HIV in the era of highly active antiretroviral therapy. *N Engl J Med*. 2005; 352: 570-85.
22. Schackman BR, Gebo KA, Walensky RP, et al. The lifetime cost of current human immunodeficiency virus care in the United States. *Med Care* 2006; 44:990-7.
23. Paltiel AD, Walensky RP, Schackman BR Seage GR 3rd, Losina E, Zhang H, et al. Expanded screening for HIV in the United States—effect on clinical outcomes, HIV transmission, and costs. *Ann Intern Med*. 2006; 145: 797-806.
24. Owens DK, Sundaram V Lazzeroni LC, Douglass LR, Sanders GD, Taylor K, et al. Prevalence of HIV infection among inpatients and outpatients in department of Veterans Affairs health care systems: implications for screening programs for HIV. *Am J Public Health*. 2007; 97:2173-8.
25. Sanders GD, Bayoumi AM, Holodniy M, Owens DK. Cost-effectiveness of HIV screening in patients older than 55 years of age. *Ann Intern Med*. 2008; 148:889-903.
26. Long EF, Brandeau ML, Owens DK. The cost –effectiveness and population outcomes of expanded HIV screening and antiretroviral treatment in the United States. *Ann Intern Med*. 2010; 153:778-789.
27. Gebo K, Fleishman A, Conviser R, Hellinger J, Hellinger F, Hospehs J, Keiser P, Gaist P, Moore R. Contemporary costs of HIV healthcare in the HAART era. *AIDS* 2010;24: 2705-2715.
28. Centers for Disease Control and Prevention. National Center for Health Statistics. Available at http://www.cdc.gov/nchs/fastats/ervisits.htm. Accessed April 1, 2011.
29. Rothman RE, Hsieh Y, Harvey L et al. 2009 US Emergency Department HIV Testing Practicing. *Annals of Emergency Medicine* 2011;58 (1): S3-S9.
30. Haukoos JS, White DE., Lyons M, et al. Operational Methods of HIV Testing in Emergency Departments: A Systematic Review. *Annals of Emergency Medicine* 2011;58 (1) S96-S103.
31. Moran G, Talan D. Processes and Models for HIV Screening in the Emergency Department: Can and Should We Do This?. *Annals of Emergency Medicine* 2011;58 (1): S172-S173.
32. Mumma B, Suffoletto B. Less Encouraging Lessons From the Front Lines: Barriers to Implementation of an Emergency Department-Based HIV Screening Program. *Annals of Emergency Medicine* 2011;58 (1): S44-S48.
33. Wheatley MA. Efficacy of an Emergency Department-Based HIV Screening Program in the Deep South. *J of Urban Health: Bulletin of the New York Academy of Medicine* 2011. 88 (6);1015-1019.
34. Haukoos JS, Hopkins E, Byyny RL. Patient Acceptance of Rapid HIV Testing Practices in an Urban Emergency Department: Assessment of the 2006 CDC Recommendations for HIV Screenings in Health Care Settings. *Ann Emerg Med*. 2008; 51:303-9.
35. Brown J, Shesser R, Simon G, Bahn M, Czarnogorski M, Kuo I, Magnus M, Sikka N. Routine HIV Screening in the Emergency Department Using the New US Centers for Disease Control and Prevention Guidelines: Results from a High-Prevalence Area. *J Acquir Immune Defic Syndr*. 2007; 46:395-401.
36. Freeman AR, Sattin RW, Miller KM, Dias JK, Wilde JA. Acceptance of Rapid HIV Screening in a Southeastern Emergency Department. *Acad Emerg Med*. 2009; 16:1156-1164.

Dr. Seal is an Assistant Professor in the Department of Medicine at the Louisiana State University Health Sciences Center in New Orleans. **Dr. McKay** is a Clinical Assistant Professor in the Departments of Medicine and Emergency Medicine at LSUHSC-New Orleans. **Dr Lopez** is the Richard Vial Professor and Vice Chair in the Department of Medicine at LSUHSC-New Orleans. He also serves as Section Editor for the *Journal of the LSMS*.