How Underestimates of Need Contribute to Biased Conclusions

We thank Klein[1] for discussing human immunodeficiency virus (HIV) testing among older adults, whom we define for the purposes of routine HIV testing as persons ages 50–64 years. Citing the US Preventive Services Taskforce guidelines,[2] Klein suggests routine HIV testing is not warranted among older adults because their relatively low rates of HIV infection render it an inefficient use of resources. Neither those guidelines nor the Centers for Disease Control and Prevention's 2006 HIV testing recommendations[3] prescriptively defines what periods constitute "routine" for health care visits or HIV tests; we[4] use "the last 12 months" as a proxy for an annual primary care visit and opportunity to test. We respectfully disagree with Klein on several assertions, including that providers must document HIV prevalence before implementing routine HIV testing. The recommendations explicitly state the opposite: "Health care providers should initiate screening unless prevalence of undiagnosed HIV infection in their patients has been documented to be <0.1%. In the absence of existing data for HIV prevalence, health care providers should initiate voluntary HIV screening until they establish that the diagnostic yield is <1 per 1000 patients screened.[3 (p.7)]" This letter focuses on 2 of our concerns: Klein (1) underestimates the need for HIV testing among older adults and (2) does not consider issues of equity. The resulting conclusion about the appropriateness of HIV testing is biased downward.

According to Klein, the "greatest parameter of interest in determining the appropriateness of routine HIV testing is the prevalence of undiagnosed HIV infection *within the age group*" [italics added][1 (p. 411)]. Despite making this claim, Klein fails to define "older adulthood" carefully. With respect to routinized HIV testing, we recommend setting its lower cutpoint at age 50 years, consistent with the HIV prevention literature, and the upper cutpoint at either 64 years, consistent with the Centers for Disease Control and Prevention recommendations, or 65 years consistent with the US Preventive Services Taskforce's most recent guidelines.[2] Based on variation with respect to care-seeking behaviors, the need for testing, and the applicability of relevant age-linked policies within this age range, we further recommend stratifying older adulthood by its constituent subcategories of 50–54 years, 55–59 years, and 60–64 years.

Nearly half of all older adult HIV diagnoses occur[5] among those ages 50–54 years, but Klein does not address this. Klein's conclusions rely upon both (1) excluding this sub-category (50–54 years) in which HIV incidence and prevalence and, thus, the need for HIV testing is greatest, and (2) including the oldest subcategory (65 years and older) to which the recommendations do not even apply. To buttress an assertion that routine testing is not cost effective, Klein cites evidence[6] from a study in which the (simulated) sample's age range exceeded the age range specified in the routine testing recommendations. As is widely known, all high-risk persons should receive HIV testing regardless of their age, and screening is not recommended for people older than 65 years, though some evidence suggests there are circumstances under which it is cost effective.[6–8]

Equally important, Klein does not address the issue of equity. From a health equity perspective, a determination regarding the appropriateness of screening among older adults can only be made if aging-related inequities and racial/ethnic disparities are considered.[9] That HIV screening yields fewer diagnoses among older adults (overall) than younger ones cannot be the sole basis for recommending against screening in the older group. Different populations often require different HIV prevention strategies. These include risk-based strategies in high-risk populations as well as alternative strategies to detect HIV early among those who may be overlooked in risk-based screening environments or burdened disproportionately if diagnosis occurs late in the course of disease. One critical but implicit assumption in Klein's paper is that the cost of diagnosing cases of HIV infection remains stable across age categories. In actuality, the costs and complications of late diagnosis may be greater for older adults than younger ones for a variety of reasons. For instance, the prevalence of chronic conditions, such as cardiovascular disease and cancer increases with age.[10] For persons of any age, the presence of comorbid conditions complicates the management of HIV infection and any comorbidities. For older adults, aging-related biological factors (eg, frailty) and the social determinants of health (eg, fixed income) further exacerbate prognosis and care.[11–13]

In conclusion, although cost effectiveness is important to consider when planning the delivery of healthcare services, Klein underestimates the burden of HIV/acquired immune deficiency syndrome among older adults and does not consider issues of equity. These errors lead Klein to the logical but biased conclusion that routine HIV testing is inappropriate for older adults.

Chandra L. Ford, PhD, MPH, MLIS
Fielding School of Public Health
University of California at Los Angeles
Los Angeles, CA

Mesfin S. Mulatu, PhD, MPH
Division of HIV/AIDS Prevention
Centers for Disease Control and Prevention
Atlanta, GA

Tommi L. Gaines, Dr. PH
Department of Medicine
Division of Global Public Health
University of California at San Diego
San Diego, CA

Dionne C. Godette, PhD
Division of Epidemiology and
Prevention Research National Institute of
Alcohol Abuse and Alcoholism
National Institutes of Health
Rockville, MD

REFERENCES

1. Klein PW. At what frequency should older adults receive HIV testing? Sex Transm Dis 2015; 42:411–412.
2. Moyer VA; U.S. Preventive Services Task Force. Screening for HIV: U.S. Preventive Services Task Force Recommendation Statement. Ann Intern Med 2013; 159:51–60.
3. Branson BM, Handsfield HH, Lampe MA, et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR-Morbidity and Mortality Weekly Report 2006; 55:1–17.
4. Ford CL, Godette DC, Mulatu MS, et al. Recent HIV testing prevalence, determinants, and disparities among U.S. older adult respondents to the behavioral risk factor surveillance system. Sex Transm Dis 2015; 42: 405–410.

5. Centers for Disease Control and Prevention. Diagnoses of HIV infection among adults aged 50 years and older in the United States and dependent areas, 2007–2010. HIV Surveillance Supplemental Report. 2013;18. http://www.cdc.gov/hiv/topics/surveillance/resources/reports/#supplemental. Accessed January 3, 2013.
6. Sanders GD, Bayoumi AM, Holodniy M, et al. Cost-effectiveness of HIV screening in patients older than 55 years of age. Ann Intern Med 2008; 148:889–903.
7. Lucas A, Armbruster B. The cost-effectiveness of expanded HIV screening in the United States. AIDS 2013; 27: 795–801.
8. McNulty M, Cifu AS, Pitrak D. HIV screening. JAMA 2016; 316:213–214.
9. Linley L, Prejean J, An Q, et al. Racial/ethnic disparities in HIV diagnoses among persons aged 50 years and older in 37 US States, 2005–2008. Am J Public Health 2012; 102: 1527–1534.
10. Brooks JT, Buchacz K, Gebo KA, et al. HIV infection and older Americans: The public health perspective. Am J Public Health 2012; 102:1516–1526.
11. Goodroad BK. HIV and AIDS in people older than 50. A continuing concern. J Gerontol Nurs 2003; 29:18–24.
12. Schouten J, Wit FW, Stolte IG, et al. Cross-sectional comparison of the prevalence of age-associated comorbidities and their risk factors between HIV-infected and uninfected individuals: The AGEhIV cohort study. Clin Infect Dis 2014; 59:1787–1797.
13. Althoff KN, Jacobson LP, Cranston RD, et al. Age, comorbidities, and AIDS predict a frailty phenotype in men who have sex with men. J Gerontol A Biol Sci Med Sci 2014; 69:189–198.