

Expanded HIV Screening in the United States: Effect on Clinical Outcomes, HIV Transmission, and Costs

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The full report is titled “Expanded HIV Screening in the United States: Effect on Clinical Outcomes, HIV Transmission, and Costs.” It is in the 5 December 2006 issue of *Annals of Internal Medicine* (volume 145, pages 797-806). The authors are A.D. Paltiel, R.P. Walensky, B.R. Schackman, G.R. Seage III, L.M. Mercincavage, M.C. Weinstein, and K.A. Freedberg.

What is the problem and what is known about it so far?

Screening for HIV infection should identify HIV-infected persons who do not know that they are infected. Early detection is important because persons who know they have HIV can avoid doing things that put others at risk for becoming infected. Moreover, their doctors can monitor them for declining immune function and start antiviral treatment before trouble with infections occurs. Experts have long debated about who should receive HIV screening. Until recently, the most influential recommendation was to screen people who were at especially high risk for getting HIV infection.

Why did the researchers do this particular study?

To determine who should receive HIV screening. The researchers suspected that screening everyone would be valuable even when only a few people had unsuspected HIV infection.

Who was studied?

Simulated patient populations with low to moderate frequency of HIV infection. The patient samples included those seen in a typical primary care practice.

How was the study done?

The authors developed a mathematical model that simulated the events that occur in an HIV-infected person, including medical expenses, detection, treatment, transmitting the disease to other people, and death. The model calculated the additional costs because of screening and the additional length of life because of earlier detection. It also calculated the shortening of life as a result of becoming infected with HIV. With this information, the model can calculate the cost per extra year of life gained (cost-effectiveness) after screening. The researchers can then decide whether HIV screening provides good value by comparing its cost-effectiveness with the cost-effectiveness of other tests and treatments that doctors use routinely in daily practice.

What did the researchers find?

Screening for HIV is cost-effective even when the frequency of HIV infection is very low. In fact, screening is cost-effective for all adults, not just for those who are at extra high risk for HIV.

What were the limitations of the study?

A mathematical model is an imperfect substitute for real life and is only as good as the information used in it. Information was limited about some important things, such as the effect of HIV screening on the risk for transmitting HIV to a sexual partner.

What are the implications of the study?

The study supports the new recommendations to screen routinely for HIV infection in all adults in all health care settings. In fact, the people who developed the new recommendations used this study to help them decide what to recommend.

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