Committee on Oversight and Government Reform, Chairman Henry A. Waxman

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Testing for HIV

The technology available to detect HIV infection has evolved since the beginning of the epidemic. This week's factsheet provides an overview of HIV testing techniques available today.[i]

STANDARD HIV TESTING

Standard HIV tests do not detect the virus itself but rather the antibodies produced in response to the HIV infection. When HIV enters the body, it attacks white blood cells called T4 lymphocyte cells, or "CD4 cells." The immune system produces antibodies which try, unsuccessfully, to eliminate the infection; the test detects these antibodies.

Testing involves two steps. The first, either an enzyme immune assay (EIA) or an enzyme-linked immunosorbent assay (ELISA), looks for antibodies in the blood. If the first test is positive and remains positive upon repetition, a more specific test called a Western blot is conducted to confirm that the antibodies are a response to HIV.

HIV testing can be conducted on blood, urine, or oral fluid. Blood tests for HIV were first developed in 1985. Oral tests became available in 1996, and urine tests in 1998. For an oral HIV test, a specially treated pad is placed in a person's mouth, and gently rubbed between the lower cheek and gum. The pad collects an oral fluid call oral mucosal transdate, which contains HIV antibodies in an HIV-infected person.

Standard HIV test results take 1-2 weeks.

RAPID TESTING

Rapid HIV blood tests were first approved in 2002. These tests produce results in about twenty minutes, allowing a patient to be tested and receive the results in the same visit. Rapid tests can be done using blood or oral fluid. A positive rapid HIV test must be confirmed with one of the standard testing methods.

TIMING OF TESTING

Most people who are infected by HIV develop a detectable quantity of antibodies within 3 months. During the "window period" before antibodies become detectable, standard testing may not be accurate.[ii]

A newer procedure called polymerase chain reaction (PCR) amplifies the HIV-1 RNA in a sample, allowing detection of HIV itself. This procedure can detect infection even in someone who has been infected very recently, when the risk of transmission to others is highest.[iii]

HOME HIV TESTING KITS

There is currently only one home-collection HIV testing kit approved by the Food and Drug Administration that is available at drug stores and through the Internet. The kits allow individuals to take a sample at home and mail it into a laboratory for testing.[iv]

CENTERS FOR DISEASE CONTROL AND PREVENTION TESTING RECOMMENDATIONS

In September, 2006, the CDC issued revised recommendations for HIV testing procedures. The recommendations are intended for all health-care providers in the public and private sectors, including those working in hospital emergency departments, primary care settings, urgent care clinics, inpatient services, substance abuse treatment clinics, public health clinics, community clinics, and correctional health-care facilities.[v]

The most significant change is the recommendation of routine "opt-out" screening in all health-care settings. In an opt-out system, HIV screening is provided for every patient unless the patient declines after being notified of the test.[vi]

The goals of increased screening are to detect HIV infection earlier; identify and counsel the nearly 25% of people with HIV that are unaware of their status and link them to clinical and prevention services; and further reduce perinatal transmission of HIV in the United States.[vii]

ENDNOTES

[i] Except where otherwise indicated, information in this factsheet is from the National HIV Testing Resources, A Service of the Centers for Disease Control and Prevention, *Frequently Asked Questions about HIV and HIV Testing* (accessed Feb. 4, 2008) (online at http://www.hivtest.org/subindex.cfm?FuseAction=FAQ).

[ii] UNAIDS, *Fast Facts About AIDS* (accessed January 2008) (online at http://www.unaids.org/en/MediaCentre/References/default.asp).

[iii] *National HIV Testing Resources*, *supra* note i.

[iv] U.S. Food and Drug Administration. *Testing Yourself for HIV-1, the Virus that Causes AIDS* (accessed Feb. 4, 2008) (online at http://www.fda.gov/cber/infosheets/hiv-home2.htm).

[v] Centers for Disease Control and Prevention, *Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings*, Morbidity and Mortality Weekly Report 55(RR14); 1-17 (Sep. 22, 2006) (online at http://www.cdc.gov/mmwR/preview/mmwrhtml/rr5514a1.htm).

[vi] *Id.*

[vii] *Id.*