

# Advancing HIV Prevention: The Science Behind the New Initiative



## *Why a new initiative for HIV prevention?*

An estimated 40,000 new HIV infections still occur in the United States each year. An estimated one quarter of the 850,000 to 950,000 people living with HIV in the United States do not yet know they are infected.<sup>1</sup> In addition, data from several studies have shown increases in syphilis diagnoses among men who know that they are infected with HIV, suggesting increases in risk behaviors among people living with HIV and their partners.<sup>2-5</sup>

## *How does the Advancing HIV Prevention initiative address this problem?*

This initiative consists of the following 4 strategies aimed at reducing barriers to diagnosis of HIV infection and access to and use of quality medical care, treatment, and ongoing prevention services for persons with HIV.

- ◆ Make HIV testing a routine part of medical care whenever and wherever patients go for care.
- ◆ Use new models for diagnosing HIV infection outside of traditional medical settings.
- ◆ Prevent new infections by working with people diagnosed with HIV and their partners.
- ◆ Continue to decrease mother-to-child HIV transmission.

## *How will increasing HIV testing help to reduce HIV infections?*

There are many benefits to early knowledge of HIV infection, including early entry into treatment to prevent illnesses that arise from a weakened immune system, treatment of other conditions like substance abuse and sexually transmitted diseases, and access to social services and medical treatments, when appropriate.<sup>6</sup> HIV-infected persons in care are now living longer than before thanks to new highly effective treatments.<sup>7</sup>

In addition to these personal benefits, knowledge of one's HIV infection can help prevent spread of the infection to others. When people know that they are infected with HIV, they are significantly more likely to protect their partners from infection than when they were unaware of their infection.<sup>8-11</sup>

About 40% of HIV-infected persons first find out that they have HIV less than 1 year before AIDS diagnosis.<sup>12</sup> On average, it takes 10 years after HIV infection for symptoms of AIDS to appear. People who have their first HIV test close to getting an AIDS diagnosis have been infected and not known it, possibly for many years, potentially passing the infection to their partners. Early diagnosis of HIV enables infected persons and those close to them to take steps to prevent transmission.<sup>13,14</sup>

If a person with HIV is tested, learns of his or her status, and has access to appropriate treatments, the amount of virus in the body can be reduced, which may decrease the risk for transmission to partners.<sup>15</sup> This reduction of HIV transmission is most clearly seen in reducing transmission of HIV from mother to child by treating pregnant women who are HIV positive.<sup>16-19</sup>

## **Why these 4 strategies?**

### **Make HIV testing a routine part of medical care**

Routine voluntary screening for disease is a basic and effective public health tool used to identify unrecognized medical conditions so that treatment and other services can be offered.<sup>20,21</sup> HIV screening meets the three generally accepted principles that apply to screening efforts:

- ◆ It is a serious disease that can be detected before symptoms occur using a reliable and inexpensive test.
- ◆ Treatment given before symptoms develop is more effective than waiting until after symptoms develop.<sup>22-24</sup>
- ◆ Cost of screening is reasonable compared with anticipated benefits.<sup>25-27</sup>

Screening all persons in high-prevalence medical settings, regardless of what if any HIV risks are reported, makes sense because testing based on reported or perceived risk alone fails to identify many HIV-infected persons.<sup>28</sup> Acceptance of HIV testing, as demonstrated among pregnant women, is greater when it is offered routinely than when it is based on risk assessments.<sup>20</sup>

### **Use new models for diagnosing HIV infection outside of traditional medical settings**

HIV testing programs outside of traditional medical settings are more likely to reach some racial/ethnic minorities and persons who report increased risk for HIV but do not have access to medical care.<sup>29</sup> In addition, the rate of positive test results in non-traditional settings is generally higher compared with conventional testing sites.<sup>29</sup>

For example, it has been estimated that nearly 25% of persons living with HIV pass through the corrections system,<sup>30</sup> yet fewer than half of these systems routinely test inmates at entry.<sup>31</sup> This means that many HIV-infected persons miss out on the opportunity to be routinely screened.

Recently approved rapid HIV tests can be done outside a traditional laboratory setting and can reduce the time it takes to process tests from 2 weeks to 20 minutes.<sup>32</sup> The availability of these tests means testing can be implemented in diverse settings and essential health information can be provided quickly in settings where people may be unlikely to return to receive test results. These tests provide opportunities to dramatically increase the number of people who know their HIV status.<sup>33,34</sup>

### **Prevent new infections by working with people diagnosed with HIV and their partners**

Each person living with HIV who adopts safer behavior can prevent many transmissions of HIV infection. There is much evidence that upon learning one is HIV-positive, infected persons reduce their risk behaviors and the likelihood of transmitting HIV to partners.<sup>8-11</sup> Among persons testing positive for HIV, there was a 70%

reduction in reported risk behavior at 1 year after diagnosis.<sup>35</sup> Among persons testing negative for HIV, those receiving enhanced risk reduction counseling had only 18% fewer sexually transmitted infections at 1 year after testing compared with persons receiving standard counseling.<sup>36</sup> These studies suggest that working with HIV-infected persons will result in greater reductions in risk behaviors and HIV transmission than working with HIV-negative persons.

In studies of partner counseling and referral services, researchers found that 8% - 39% of partners of persons with HIV infection who were tested were found to have previously undiagnosed HIV infection.<sup>37,38</sup> Because of this finding, CDC will increase emphasis on assisting HIV-infected persons in notifying partners of their recent exposure and ensure voluntary testing of partners.

Prevention interventions including ongoing case management, focused risk-reduction counseling, medical interventions, and support for other psychosocial stressors, are recommended under this initiative to help HIV-positive persons maintain protective behaviors.<sup>39-43</sup>

### **Continue to decrease perinatal HIV transmission.**

Each year approximately 6,000-7,000 women with HIV give birth resulting in more than 300 HIV-infected infants. The use of appropriate anti-HIV medications that begins during pregnancy,<sup>16</sup> together with other obstetric interventions can maximally reduce the risk for mother-to-child transmission to less than 2%.

Efforts are underway to eliminate perinatal HIV transmission in the United States and the CDC currently recommends that all pregnant women be screened for HIV in order to take advantage of the medical interventions that dramatically reduce the risk for transmission.<sup>44</sup> CDC strongly supports the “opt-out” testing strategy for prenatal HIV screening on the same voluntary basis as other tests.<sup>45</sup> Making HIV screening part of the standard battery of tests for pregnant women sets the stage for continued prevention and furthers efforts to eliminate perinatal HIV transmission in the United States.<sup>20</sup>

### ***Implementation of initiative activities***

Implementation of the new initiative requires strong and extensive partnerships with cooperation and coordination among CDC, the public health community, and the medical care community. With the support of the Department of Health and Human Services, CDC and its partners, including other federal agencies, state and local health departments, community-based organizations, and professional organizations will implement these activities and reenergize our efforts to meet the challenges of this changing epidemic.

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*For more information...*

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