

# Changing Approaches in HIV Testing

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In 1985, when HIV testing first became available, the main goal of such testing was to ensure blood safety. Hemophiliacs and other patients who were transfusion-dependant were the initial patients that needed to be protected as they were exposed to iatrogenic risk. It dawned very quickly to health authorities even then that alternative testing sites had to be quickly established to deter persons from using blood bank facilities for HIV testing purposes. At that time, professional opinion was divided regarding the value of HIV testing and whether HIV testing should be encouraged because no consensus existed regarding whether a positive test predicted transmission to sex partners or from mother to infant<sup>1</sup>. No effective treatment existed then and stigma and discrimination faced by those who were found positive was rampant in many parts of the world. Counseling was designed, in part, to ensure that persons tested were aware of the implications of a positive result and in part, to address the person's risk behavior to reduce transmission to others.

During the next two years, the implications of positive HIV serology became evident, and in 1987, the United States Public Health Service (USPHS) issued guidelines making HIV counseling and testing a priority as a prevention strategy for persons, likely to be infected or who practised high-risk behaviors. The initial guidelines recommended routine testing of all persons seeking treatment for sexually transmitted infections, regardless of healthcare setting. "Routine service" was then defined as one that was provided to all clients after informing them that testing would be conducted<sup>2</sup>.

In 1993, the Centers of Disease Control (CDC), Atlanta, recommended voluntary HIV counseling and testing (VCT) to be extended to include both hospitalised patients and out-patients in acute-care hospitals, including emergency departments. Hospitals with HIV seroprevalence rates of >1% or AIDS diagnosis rates of >1 per 1,000 discharges were encouraged to adopt a policy of offering voluntary HIV counseling and testing routinely to all patients aged 15-54 years<sup>2</sup>. In 1994, VCT guidelines for persons with high-risk behaviors specified 'prevention counseling' to develop specific prevention goals and strategies for each person (client-focused counseling). In 1995, after perinatal transmission of HIV was demonstrated to be substantially reduced by administration of zidovudine to HIV-infected pregnant women and their newborns, many international health agencies recommended that all pregnant women be counseled and encouraged to undergo voluntary HIV testing<sup>3</sup>.

In 2001, CDC modified the recommendations for pregnant women to emphasize HIV screening as a routine part of prenatal care, simplification of the testing process so that pretest counseling would not pose a barrier, and flexibility of the consent process to allow multiple types of informed consent<sup>4</sup>.

The opt-out clause was included in many HIV testing approaches so as to facilitate a higher uptake from patients. CDC also recommended that HIV testing be offered routinely to all patients in high HIV-prevalence healthcare settings. In low prevalence settings, in which the majority of clients are at minimal risk, targeted HIV testing on the basis of risk screening was considered more feasible for identifying the limited numbers of HIV-infected individuals<sup>5</sup>.

In 2003 as the AIDS pandemic continued to rage in many parts of the world, the CDC introduced the "Advancing HIV Prevention: New Strategies for a Changing Epidemic" initiative<sup>14</sup>. The two key strategies of this initiative were 1) to make HIV testing a routine part of medical care on the same voluntary basis as other diagnostic and screening tests and 2) to reduce perinatal transmission of HIV by universal testing of all pregnant women including the use of rapid tests during labor and delivery or postpartum if the mother was not screened antenatally. In this document, the CDC acknowledged that prevention counseling is desirable for all persons at risk for HIV but recognised that such counseling might not be appropriate or feasible in all settings. Modifications to the traditional one-on-one encounter have now been included as acceptable alternatives. The CDC 2006 HIV testing guidelines went further in expanding coverage and access of HIV testing by recommending HIV testing of all at-risk individuals in healthcare settings, community-based organizations (CBOs), and outreach settings. Repeat screening of pregnant women in the third trimester in areas with high rates of HIV-infected women was also included in its recommendations<sup>6</sup>.

It is evident that the evolution of HIV testing over the last two decades of the AIDS pandemic has been determined by various factors including; the failure to control its global HIV spread thus far, the advancement and improving access of HIV technologies and therapeutics as well as new clinical and public health data. Screening is a basic public health tool used to identify unrecognized health conditions. Early detection allows treatment to be offered before symptoms develop and thus reduce morbidity and mortality and, for communicable diseases, such interventions can also reduce the likelihood of continued transmission<sup>7</sup>. With the advances in HIV medicine especially in the area of potent antiretroviral therapies, screening HIV early so as to institute early therapy is a strong rationale for expanded HIV screening<sup>8</sup>. Improved access to antiretroviral therapy in Malaysia in the last few years justifies the need to expand HIV testing facilities locally.

It has also been shown that the majority of persons who are aware of their HIV infections substantially reduce sexual behaviors that might transmit HIV after they become aware they are infected<sup>9</sup>. In a meta-analysis of findings from eight studies,

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the prevalence of unprotected anal or vaginal intercourse with uninfected partners was on average 68% lower for HIV-infected persons who were aware of their status than it was for HIV-infected persons who were unaware of their status<sup>9</sup>. To increase diagnosis of HIV infection, destigmatize the testing process, link clinical care with prevention, and ensure immediate access to clinical care for persons with newly identified HIV infection, the Institute of Medicine (IOM) and other healthcare professionals with expertise<sup>10,11,12</sup> have encouraged adoption of routine HIV testing in all healthcare settings.

HIV infection fulfills all the generally accepted criteria applied to diseases that justify screening: 1) HIV infection is a serious health disorder that can be diagnosed before symptoms develop; 2) HIV can be detected by reliable, inexpensive, and noninvasive screening tests; 3) infected patients have years of life to gain if treatment is initiated early, before symptoms develop; and 4) the costs of screening are reasonable in relation to the anticipated benefits<sup>7</sup>. Among pregnant women, screening has also been proven to be substantially more effective than risk-based testing for detecting unsuspected maternal HIV infection and preventing perinatal transmission<sup>13</sup>.

Nonetheless, it is also clear from all established guidelines that certain ethical principles have to be adhered to. Coercion to take the HIV test has long been frowned upon as it would appear to go against basic human rights of personal decision making. Mandatory testing is also often done without due regard for pre-test counseling, a crucial component of HIV testing, advocated by all international health agencies and professional medical bodies. The patient or client usually has more difficulty accepting and facing the adverse implications of a positive HIV result as he perceives these difficulties to have been forced onto him. This is more so in societies and communities where stigma and discrimination is still rampant. To compensate for these shortfalls in a mandatory approach, heads of such programs must ensure easy access to effective and appropriate patient/client focused counseling as well as create a network of HIV-friendly referral services to address the needs HIV-infected individuals.

Many countries have implemented premarital HIV testing. Authorities have done so mainly in an attempt to address sexual HIV transmission between to be spouses. Numerous countries support the approach adopted by UNAIDS and the World Health Organization (WHO) that is to encourage and facilitate VCT among couples planning marriage. VCT provides the counseling and support needed by couples contemplating marriage to deal with a life-changing event of an HIV positive result. A premarital testing program is therefore consistent with the current strategy to expand HIV testing in all communities with a high HIV prevalence. In low prevalent countries, routine pre-marital HIV testing in all couples is not cost-effective. The state of Illinois, USA, legislated mandatory HIV testing for all premarital couples in 1988. During the first six months of the program, 8 of 70,846 applicants for marriage licenses were found to be seropositive, yielding a seroprevalence of 0.011%. The total cost of the testing program for six months was estimated at US\$2.5 million or US\$312,000 per seropositive individual identified. Fifty percent of the reported seropositive individuals reported a history of risk behavior. During the same period, the number of marriage licenses issued in Illinois decreased by 22.5%, while the number of licenses issued to Illinois residents in surrounding states increased significantly<sup>14</sup>.

The effectiveness of a mandatory premarital screening program to curtail the spread of HIV infection in the U.S. was examined by a subgroup of the Study Group on AIDS and Public Policy in the Division of Health Policy Research and Education at Harvard University. In one year, such screening would detect fewer than 0.1% of HIV-infected individuals at a cost of more than USD\$100 million with more than 100 false-negative and more than 350 false-positive tests. They conclude that public health education, individual counseling, and discretionary testing of populations with a moderately high prevalence of infection would be a more effective and efficient use of resources to reduce transmission of HIV<sup>15</sup>.

The data presented in the paper entitled "A Study of Premarital HIV Screening in Johor (2002-2004)" published in this volume of the MJM, examines the outcome of the mandatory premarital HIV testing for Muslim couples in the state of Johor<sup>16</sup>. A total of 123 new HIV cases (0.17%) were detected from 74,210 marriage applicants. The data here deferred from the Illinois experience in that there was an increase in marriage applicants by 2.8% from 2002 to 2004. The financial cost of the program as well as the negative events related to the screening were however not discussed. It would require a more holistic look at the program to determine its cost-effectiveness in a low prevalent population. Areas that will require further study will include; the effectiveness of pre and post-test counseling, the practice of safer sex in discordant couples as well as the frequency of breaches in confidentiality and its subsequent consequences. For the time being, keeping premarital HIV testing voluntary would be consistent with WHO and UNAIDS policy of expanding HIV testing opportunities without encroaching on personal liberties.

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