

Missed opportunities for HIV testing in Asia

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Introduction

The HIV epidemic is driven by those who do not know they are infected. Roughly two-thirds of people will cease to engage in high-risk sex behaviours upon notification of a positive HIV test result [1]. Thus testing is a major HIV prevention strategy. Moreover, a positive test result allows persons living with HIV/AIDS (PLHA) to seek treatment and care services and preserve their own lives. However, currently in Asia, fewer than half of PLHA are aware of their serostatus. Thus, widespread testing for HIV must be an urgent priority if HIV/AIDS is to be controlled in the Asia Pacific region. The present paper will review this situation and discuss strategies for increasing the rate of HIV testing in Asia.

Who knows they are HIV positive?

In recent years, and with considerable help from international funding agencies, the availability of testing services within Asia has increased remarkably. However, evidence suggests that few PLHA are actually aware of their serostatus. For example, table 1 shows the numbers of reported HIV infections versus the estimated total number of infections for several Asian countries. For the countries listed, the highest proportion of people knowing their HIV status is just 57% (Thailand).

<insert table 1 here>

Recognising the importance of ensuring high-risk groups are tested for HIV, the latest UNGASS (United Nations General Assembly Special Session on HIV/AIDS) indicators also include an indicator for the proportion of people tested for HIV who know their test results. As can be seen from table 2, these figures are also substantially lower than needed to be able to effectively control the epidemic.

<insert table 2 here>

The need for testing in HIV prevention and control

Knowing one's HIV status is important for the control and prevention of HIV. It has long been known that testing positive is itself an HIV prevention strategy, since many of those testing positive reduce their risk behaviours [1, 2]. In the context of VCT, testing provides an important opportunity to provide prevention counselling to those who test negative. For those who test positive, counselling focuses on reducing the spread of infection to others. Testing also provides a gateway to accessing ART treatment, which reduces viral load and subsequently the infectivity of treated PLH. Theoretically, universal treatment could ultimately eliminate HIV [3].

Currently, many of those testing positive are presenting with AIDS. Thus, on average, they may have been exposing their contacts for 8+ years. For example, in China last year 11,000 of 15,000 new AIDS cases were newly-identified infections; in Japan, roughly, 30% of those testing positive for the first time had AIDS [4]. Testing protects the partners of PLHA. While public health workers are obliged to protect the infected from stigma and discrimination and ensure access to care, their primary duty is to protect the uninfected.

Barriers to HIV testing in Asia

Many Asian countries simply lack the infrastructure to support wide-scale testing of their populations. This includes availability of convenient testing facilities and laboratories, as well as well-trained staff. Governments need to choose the locations of clinics to be in areas of greatest need, even if they must leave some low prevalence areas without services. The costs of establishing these facilities can consume

a significant proportion of the total HIV budget e.g. 20% of the Thai AIDS budget is spent on VCT [5]. Moreover, governments may need to factor in the costs of providing ART to patients identified with AIDS.

For patients too, the costs of testing may be prohibitive. Even when HIV testing is free according to government policy, in practice healthcare providers may charge for some services, as has been reported to occur in Cambodia [4]. Additionally, if clinics are far away, patients may not be able to afford the time or costs of getting to services and the consequent loss of pay [6].

In the absence of adequately informed campaigns, patients may simply be unaware of testing locations or of their personal risk. Even with highly-targeted campaigning, patients may fail to perceive themselves as at risk. For example, as mentioned above, 11,000 of China's new AIDS cases last year were tested for the first time at diagnosis. Some of these people were former plasma donors from provinces which have experienced years of testing campaigns, have ample facilities to provide testing, and have already tested thousands among this group [7]. However, it seems that these targeted campaigns failed to be heard by all.

Prejudice towards PLHA may have deterred some of these former plasma donors from seeking earlier testing. Indeed, stigma and discrimination, particularly the attitudes of healthcare workers, have been cited as key barriers to testing [8]. Stigma will discourage people from going to testing clinics and can deter healthcare workers from working in the field, exacerbating human resource limitations [9]. Stigma towards the most at-risk populations further aggravates barriers to testing; e.g. sex workers in Thailand seeking health services and HIV prevention are given a differently coloured outpatient card from other types of patients, which may explain some of their reluctance to seek testing [5].

The attitudes and understanding of healthcare workers influences the quality of counselling they provide. In the context of VCT, pre-test counselling should only reinforce the testee's decision to be tested, so personnel costs could be saved by reducing lengthy pre-test counselling. Poor pre-test counselling can disincline patients to accept testing. For example, in Vietnam, 193,835 (55.1%) of 351,625 women counselled for PMTCT were actually tested, suggesting significant failures in pre-test counselling [10].

HIV testing strategies

The traditional VCT approach to testing – whereby patients have to specifically ask to be tested for HIV – has failed to adequately identify the majority of PLH. Thus, strategies which do not rely on people coming forward are needed. Recently, the WHO have begun promoting provider-initiated testing and counselling (PITC) in response to the large number of missed opportunities for testing in healthcare settings [11]. In PITC, patients with signs and symptoms suggestive of HIV disease or who engage in high-risk behaviours are recommended for testing by their healthcare providers, who will provide pre-test information and then carry out the test, unless the patient declines. In Asia, where the epidemic is largely low-level or concentrated, PITC is recommended for STI clinics, clinics for other at-risk populations, antenatal clinics and tuberculosis services. Several Asian countries have begun implementing various forms of PITC or have the funds to do so (e.g. China, India, Mongolia, Nepal, Papua New Guinea, Singapore). The results are promising. For example, in Papua New Guinea the introduction of PITC and contact tracing (see below) resulted in a massive nine-fold increase in the numbers tested from 3,052 in 2006 to 26,934 in 2007, particularly in ANC and STI clients [5].

Certain high risk groups may be routinely tested without pre-test counselling, such as women attending antenatal clinics in high-prevalence areas (e.g. China, Thailand, Malaysia), tuberculosis patients (e.g. India, Malaysia), drug users sent for detoxification or entering methadone maintenance treatment (e.g. China), and sex workers sent to re-education/labour camps (e.g. China, Vietnam) [7]. Routine testing in principle follows the opt-out model; i.e. physicians routinely test their patients unless specifically asked not to and test results are provided with post-test counselling. However, in practice, those tested may not know they are being tested or that they can refuse, and results may not be communicated well, if at all. The line between mandatory and routine/opt-out testing becomes blurred in these cases.

In countries which have a large overseas workforce (e.g. Philippines, Pakistan, Sri Lanka), testing is often required as part of the visa requirements, particularly for middle-eastern countries. Those returning may be strongly encouraged to seek testing upon return, but it is not mandatory (e.g. Sri Lanka, where 35% of HIV-positive women were infected abroad) [4]. Mandatory testing is practiced in some states, most notably for military conscripts or new recruits (e.g. Indonesia, Malaysia, Thailand; any armed forces personnel sent on UN peacekeeping missions), and foreigners on a work visa (e.g. China, Malaysia).

Routine testing or referral of partners of PLHA is practised in some countries (e.g. Malaysia). Partner notification and contact tracing are effective but controversial methods, and are thus not widely used in Asia (or indeed much of the world). For example, a decade ago in Japan, it was estimated that routine partner screening was a cost-effective control strategy [12], yet it has not become standard practice. Thailand has practised contact tracing of STI clinic patients for decades [13], yet this strategy is not used for HIV patients. As demonstrated in PNG, PITC and contact tracing can have a significant impact on the numbers tested and both strategies should be adopted more widely.

Of course, no test is useful if patients do not return for their results, and the low rate of return is a significant problem in Asia. For example, a study of IDUs in Vietnam identified that just 54% returned for their results [14]. Rapid tests are faster, less invasive, and easier for healthcare workers to use in rural settings. They are more expensive than traditional ELISA assays, but may be more cost-effective because of the often high numbers of people who do not return for their ELISA results and because rapid tests alleviate the need for sophisticated laboratory support [15, 16]. For governments, the cost-effectiveness of rapid testing may need to take into account the increase in the number of people who will be referred for ART treatment – a far more costly exercise than providing testing, but one which in the long term may lead to control of HIV [3]. For the countries listed in table 1, the data do not necessarily distinguish between total numbers tested and total numbers who received their result and these discrepancies may be large. The benefits of testing are lost if patients do not return for their results. Therefore, rapid testing has been introduced in several of these countries, including Bangladesh, Cambodia, Papua New Guinea, Singapore and Thailand, although they are not necessarily free.

Home sample collection has also been discussed in the context of developing countries [6, 17]. Here, patients collect a blood or saliva sample, send it to a clinic for testing and receive the result by phone or email. While it does alleviate the need to travel to a clinic, patients still need to travel somewhere to get the collection kit. There are several issues with the scale up of this kind of testing in developing countries, such as illiteracy, proper sample collection, how to deal with a false-positive (or false-negative) result, how to ensure adequate post-test counselling is provided, and whether people would seek confirmatory testing. Home self-testing, using Orasure™ kits that provide a result within 20 minutes, has also been suggested, for which these dilemmas remain with the additional risk that the kits could be used to test people without their knowledge [18, 19]. To our knowledge, no Asian country has yet

implemented home sample collection or home testing. Home testing appears to offer no additional benefits to rapid testing, and poses several problems. Thus, rapid testing at a clinic in the presence of a health provider seems the better option.

Conclusions

Asian governments are expanding the availability of HIV testing, but barriers remain. PITC and rapid testing should be the norm, with pre-test counselling by health workers to promote, rather than deter, testing. The need for widespread testing is urgent. Without close to universal testing it will be difficult to control the epidemic.

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Table 1: Ratio of estimated to reported HIV infections for selected countries

Country	Number reported	Estimated total	Proportion of PLHA known to authorities
Bangladesh	1,207	7,500	16%
China	223,501	700,000	32%
Mongolia	36	820	4%
Nepal	10,369	70,000	15%
Pakistan	3,061	96,000	3%
PNG	18,484	46,275	40%
Philippines	3,061	8,300	37%
Sri Lanka	957	3,800	25%
Thailand	346,107	610,000	57%
Vietnam	132,628	290,000	46%

Data are from national reports, available at: <http://www.unaids.org/en/CountryResponses/Countries/default.asp>

Table 2. UNGASS Indicator 8: Percent of most at-risk populations who received an HIV test in the last 12 months and who know their results

Country	Sex Workers		MSM	IDU
	Female	Male		
Bangladesh	5.1%	7.8%	6.4%	3.4%
Cambodia	Direct: 68.1%	-	58.1%	-
	Indirect: 51.8%			
Laos	-	-	4.8%	-
India	34.2%	-	3-67%	3-70%
Indonesia	25.1	52.2	31.9%	35.9%
Iran	20.4%	-	-	22.9%
Mongolia	52.9%	-	60.0%	-
Nepal	36.8%	51.8%	30.0%	21.0%
Pakistan	5.2%	MSWs: 3.5%	4.60%	-
<25 yrs		HSWs: 8.6%		
>25 yrs	4.6%	MSW: 5.5%	4.10%	-
		HSW: 9.6%		
Philippines	12.0%	-	16.0%	4.0%
Sri Lanka	42.6%	-	13.6%	-
Thailand	52.6%	-	34.9%	-
Vietnam	15.1%	-	16.3%	11.4%

Data are from UNGASS reports, available at <http://www.unaids.org/en/CountryResponses/Countries/default.asp>; “-“ no data available; MSW: Male Sex Worker; HSW: Hijra Sex Worker; MSM: Men who have Sex with Men; IDU: Injecting Drug User