HIV and Related Surveillance in the South Asia Region

By the late 1990s, all five South Asian Region countries included in the core review had established some form of sentinel serological surveillance in adherence with the World Health Organization’s recommended practice of collecting and screening anonymous and unlinked blood samples. In addition, Bangladesh, India, and Pakistan have initiated second-generation surveillance and have conducted at least one round of behavioral surveillance. Nepal also intends to launch second-generation surveillance activities but will require more preparation. The content and quality of surveillance vary by country and time.

India

India began surveillance for HIV infection and identification of AIDS cases through 62 public health centers and 9 reference centers in 1987. After the National AIDS Control Organization (NACO) was established five years later, it assumed responsibility for HIV surveillance. NACO gradually expanded the network to comprise 180 sites, the majority of which involved prenatal clinic patients, but by 1999 also involved 77 sites for patients with sexually transmitted infection (STIs) and 9 sites for injecting drug users (IDUs). One year later, NACO added more sites for STI patients, IDUs, and prenatal clinic patients but also started HIV surveillance at one site in Mumbai among female sex workers (SWs) and at three sites in Mumbai, along
with sites in Goa and Tamil Nadu, among men having sex with men (MSM). Although the numbers of sites for female SWs and MSM have remained about the same since 2000, those for STI patients, prenatal clinic patients, and (to a lesser extent) IDUs have increased in each annual round (NACO 2005). Table 3.1 summarizes NACO’s gradual buildup of its countrywide surveillance system.

As table 3.1 indicates, the scope of surveillance has increased considerably. However, the surveillance coverage in low-prevalence states, especially in northern India, requires urgent improvement, and many more surveillance sites are needed for specific high-risk subgroups, particularly SWs and MSM.

As part of second-generation surveillance and of the national monitoring and evaluation framework, India conducted a baseline behavioral surveillance survey (BSS) among female SWs, their clients, MSM, IDUs, and the general population in 2001 (NACO 2002). As the largest HIV behavioral survey ever undertaken, it comprised 22 sampling units from 34 states and territories and included 84,478 people (almost equally distributed between urban and rural, and between females and males) with 29 and 30 as the mean age for females and males, respectively. NACO also conducted behavioral surveillance among 5,572 female SWs, 5,468 clients of female SWs, 1,355 IDUs, and 1,387 MSM. The monitoring and evaluation framework calls for follow-up BSS in the middle and at the end of the second phase of the National AIDS Control Programme. Although only one national round has been completed, several state-specific BSSs have been conducted.

Table 3.1 HIV Sentinel Surveillance Sites in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Prenatal patient</th>
<th>STI patient</th>
<th>IDU</th>
<th>MSM</th>
<th>Female SW</th>
<th>Total sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>94</td>
<td>77</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>180</td>
</tr>
<tr>
<td>1999</td>
<td>94</td>
<td>77</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>180</td>
</tr>
<tr>
<td>2000</td>
<td>118</td>
<td>104</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>232</td>
</tr>
<tr>
<td>2001</td>
<td>173</td>
<td>131</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>320</td>
</tr>
<tr>
<td>2002</td>
<td>173</td>
<td>166</td>
<td>13</td>
<td>3</td>
<td>2</td>
<td>384</td>
</tr>
<tr>
<td>2003</td>
<td>271</td>
<td>166</td>
<td>13</td>
<td>3</td>
<td>2</td>
<td>450</td>
</tr>
<tr>
<td>2004</td>
<td>272</td>
<td>166</td>
<td>13</td>
<td>3</td>
<td>2</td>
<td>670</td>
</tr>
</tbody>
</table>

All of the behavioral and HIV prevalence data in this report are drawn from available national and state BSSs and from other sources where available. For brevity, most subnational data cited generally include only the high- and moderate-prevalence states. NACO (2005) defines the former as a state in which HIV prevalence exceeds 5 percent among high-risk groups and 1 percent among pregnant women. It defines the latter as a state in which HIV prevalence among high-risk groups also exceeds 5 percent but does not exceed 1 percent among pregnant women.

Nepal

Nepal attempted to establish sentinel HIV surveillance in 1991 (NCASC and FHI 2003). The first round was planned to cover female SWs, IDUs, STI patients, and tuberculosis (TB) patients, as well as ANC attenders, from seven sites across the country. However, follow-up surveillance has not occurred systematically. The National Center for AIDS and Sexually Transmitted Disease Control (NCASC) has managed to continue surveillance among STI patients but has not collected data for the past two years. The unavailability of surveillance data has prompted bilateral donors to conduct a series of cross-sectional studies, contributing to the current knowledge of Nepal's HIV situation. After recently reviewing its strategy, NCASC plans to reestablish surveillance with a second-generation system covering STI and TB patients, military service personnel, pregnant women, and blood donors.

Pakistan

Pakistan launched sentinel HIV surveillance in 1986. The current site network consists of the following:

- voluntary counseling and testing centers in all four provinces (Balochistan, Northwest Frontier Province, Punjab, and Sindh)
- all public sector blood banks in all four provinces
- STI clinics in all tertiary-level hospitals in three provinces (Northwest Frontier Province, Punjab, and Sindh).
More recently, the Canadian International Development Agency has supported Pakistan’s launch of a second-generation surveillance program that includes these objectives:

- enhanced mapping to determine the locations and sizes of key high-risk networks of female and male SWs, IDUs, and bijras (transgendered men)
- integrated biological and behavioral surveillance (IBBS) among high-risk groups to better understand HIV transmission dynamics and epidemic potential.

Pakistan has now completed mapping in several key cities and has initiated IBBS activities; initial successful pilots in Karachi and Rawalpindi were completed in 2004–5. In addition, Pakistan has commissioned additional broader mapping studies, plus biological and behavioral studies with a strong focus on high-risk males.

**Bangladesh**

Bangladesh began surveillance for HIV infection in 1998 through its National AIDS and Sexually Transmitted Disease Programme (NASP). The surveillance covers FSWs, STI patients, truck drivers, IDUs, MSM, and—to a lesser extent—the general population (NASP 2004). However, all sentinel surveillance sites are in urban areas and locations with HIV prevention programs. Bangladesh has completed five rounds of behavioral surveillance and has made major strides in surveillance, such as pioneering the use of respondent-driven sampling among high-risk groups in South Asia.

**Sri Lanka**

In 1993, Sri Lanka started sentinel surveillance for HIV infection among FSWs as well as STI and TB patients. Similar to India’s evolving sentinel surveillance system, the National Sexually Transmitted Disease and AIDS Control Programme (NSACP) in Sri Lanka gradually expanded its coverage, adding blood donors in 1998,
pregnant women in 2000, military service personnel in 2003, and transportation workers and civil service candidates in 2004. Following WHO guidelines to tailor surveillance activities according to the country-specific epidemic, Sri Lanka, with its low-level epidemic, is further expanding its surveillance coverage of high-risk groups and has stopped gathering data on women attending prenatal clinics. To date, most HIV-related behavioral research has been undertaken through cross-sectional studies. However, Sri Lanka is planning to launch baseline BSS among FSWs, military service personnel, police, transportation workers, and internal migrant laborers within two years (NHCPP 2005). Preparation for this task has influenced and enhanced the conduct of sentinel surveillance, shifting sample collection away from clinical facilities and adding new groups to eventually integrate both serological and behavioral surveillance.

Afghanistan, Bhutan, and the Maldives

HIV surveillance is largely limited to incomplete case reporting in each of these three very disparate countries. Afghanistan will undertake behavioral surveillance, perhaps including HIV testing, among IDUs in 2006. In Bhutan, the World Bank–financed HIV/AIDS and STI Prevention and Control Project, which became effective in August 2004, will support improved strategic information systems, including HIV serological and behavioral surveillance and STI surveillance. The 2004 round of sentinel surveillance involved 10 population groups, including the following: prenatal clinic patients, blood donors, STI patients, members of the armed forces, drivers, prisoners, and FSWs.

The royal government of Bhutan has recruited the International Centre for Diarrhoeal Disease Research, Bangladesh (which is implementing serological and behavioral surveillance in Bangladesh), to provide technical assistance in surveillance, monitoring, and evaluation. The government started presurveillance assessment (that is, identification and mapping of high-risk groups) in 2006. It has also revised the design of serological surveys, which had serious limitations in the past because of the small sample sizes of high-risk groups, such as sex workers. The Maldives largely relies on case reporting for surveillance.