



وزارة الصحة والسكان

Ministry of Health and Population
National AIDS Program
Arab Republic of Egypt

National HIV/AIDS and STI Surveillance Plan

June 2004



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ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Ante-Natal Care
BBSS	Behavioral and Biological Surveillance Survey
CDC	Center for Disease Control
CL	Central Laboratories
CSW	Commercial Sex Workers
DHS	Demographic and Health Survey
ESU	Epidemiology and Surveillance Unit
FHI	Family Health International
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug Users
M&E	Monitoring and Evaluation
MOHP	Ministry of Health and Population
MSM	Men who have Sex with Men
NAP	National AIDS Program
NEDSS	National Electronic Diseases Surveillance System
NGO	Non-Governmental Organization
NTB	National Tuberculosis Program
RDS	Respondent-Driven Sampling
STI	Sexually Transmitted Infection
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNGASS	United Nations General Assembly Special Session
USAID	United States Agency for International Development
WHO	World Health Organization

1. Second Generation Surveillance

The development and maintenance of a biological and behavioral surveillance system is a critical element in monitoring the HIV epidemic, as well as in designing and implementing an adequate and appropriate response. Through the development and implementation of this surveillance plan, it is hoped that a system will evolve in Egypt that will respond to current trends in the transmission of HIV/AIDS.

The current HIV/AIDS surveillance system in Egypt is based on the National Electronic Diseases Surveillance System (NEDSS), which is currently active in at least 13 governorates and is designed to include data on 26 priority infectious diseases that are electronically entered by public hospitals possessing confirmatory lab tests, teaching hospitals, the Health Insurance Organization, and the private sector. The uploaded data is sent to the district-level Epidemiology and Surveillance Unit (ESU), then to the governorate-level ESU, and finally to the central-level ESU, where it is analyzed and shared with the concerned vertical departments of the Ministry of Health and Population (MOHP). The ESU consists of graduates of the Field Epidemiology Training Program supported by the United States Center for Disease Control (CDC) and it has been supported by the United States Agency for International Development (USAID) since the year 2000. To this effect, the ESU is institutionalized in the MOHP as a unit that reports directly to the Minister of Health and is responsible for tracking the incidence and prevalence of HIV/AIDS and other infectious diseases, in collaboration with the Central Laboratories (CL).

Although the NEDSS may contribute to biological surveillance among the general population, it does not specifically address high-risk subpopulations nor does it enable any behavioral surveillance. Moreover, diagnosis and reporting of the HIV/AIDS cases at the facility-level are not always adequately adhered to. Since HIV is reportable, many people who fear they may be HIV-positive will not get tested; and due to stigma, the cause of illness is often listed as something other than HIV/AIDS on patient's medical/death records. Therefore, many cases of AIDS go undetected in routine serologic reporting. Furthermore, outside of the government STI clinics, private clinicians have little incentive to report on their case findings. This is problematic in that more STIs are seen in private clinics than in government clinics. One study on STIs showed that while more patients were seen in the government STI clinics, the private clinics had a much higher rate of diagnosed STIs (31% in the private clinics vs. 4% in the government clinics).¹

The work of the Central Laboratories, who also play an important role in current biological surveillance, is very solid and strong and follows all international standards

¹ El Sayed N, et al. Evaluation of Selected Reproductive Health Infections in Various Egyptian Population Groups in Greater Cairo, 2002.

and procedures, producing information of the highest quality. However, the types of people seen in its mandatory testing process do not accurately represent the general population of Egypt, nor vulnerable groups within the population. There is potential for bias in these data in that they tend to be: 1) primarily male (approximately 80%); and 2) are those who are primarily seeking work permits and travel visas to go to neighboring countries that require proof of person's sero-negativity before issuing the necessary legal documents.

The development of a National HIV/AIDS/STI Biological and Behavioral Surveillance System is important for several reasons. The primary reason would be to assist in clearly defining what data needs to be collected, when it needs to be collected, who should collect it and how it will be used. Another purpose for establishing a surveillance plan for the country is to inform the stakeholders and key participants so that they have a comprehensive and thorough understanding of the strategy of the National AIDS Program (NAP) and the MOHP. With this, the stakeholders will be able to identify how they can contribute (both technically and financially) to the process and data needs rather than duplicating efforts. Furthermore, a national surveillance plan provides the NAP and MOHP with guidance for establishing their operating budget, determining staffing needs, and identifying any additional resources needed to carry out the work as well as informing their response to the epidemic interims of program design and implementation. Finally, by having a national surveillance plan, the process is clear and open while allowing for ongoing monitoring and restructuring of the system as both needs and the epidemic itself change.

This plan should not be considered a final product and should be periodically reviewed to ensure that it remains valid and useful. It is a fluid document that should be updated and revised as needed.

2. HIV/AIDS Situational Analysis

a) Serologic Data

The Joint United Nations Program on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) estimate that there are approximately 8,100 individuals living with HIV in Egypt. However, the *Assessment of the HIV/AIDS Situation and Response in Egypt*, written by the Expanded Theme Group on HIV/AIDS in Egypt, states that there is a lack of solid representative information on risk factors and HIV serology. While the current information leads one to believe that the epidemic in Egypt would be classified as a low level epidemic, it is not clear that this is the case, given the gaps in the surveillance system. On the other hand, it may be experiencing a concentrated epidemic where HIV/AIDS has already established a hold within the more vulnerable groups.

Among the over 5 million people tested by the Egyptian national mandatory HIV testing program between 1990 and 2003, a total of 1,838 cases of HIV/AIDS were detected. The current testing program is set up primarily for individuals donating blood and those requiring certification of their HIV status when applying for work or travel papers from foreign countries. The program also serves individuals who are sent by physicians, such as patients who are suspected to be HIV positive and renal dialysis patients. Furthermore, it sometimes includes STI patients, commercial sex workers (CSW), incarcerated individuals, people who seek voluntary testing, and tourist industry workers. The two primary groups being tested through this program are blood donors (70%) and people seeking to work or travel abroad (22%).

During the year 2002, 101 people tested positive for HIV. This represents about 0.02% of all people tested (595,955) through the program during that year. (October 1, 2002 National AIDS Program, HIV/AIDS Surveillance Report)

The following data on known AIDS cases comes from the *December 2, 2003 National AIDS Program, AIDS/HIV Surveillance Report*²:

- 1,433 Asymptomatic HIV (881 Egyptians and 552 Foreigners)
- 405 cases of AIDS (383 Egyptians and 22 Foreigners)
- 1,838 total HIV/AIDS cases (1,264 Egyptians and 574 Foreigners)

Known AIDS cases by gender

Gender	n	%
Male	363	89.9
Female	42	10.1
Total	405	100

Known AIDS cases by age group

Age group	n	%
5 – 14	8	1.9
15 – 24	28	6.9
24 – 29	50	12.3
30 – 49	273	67.4
> 49	46	11.5
Total	405	100

² Those individuals who are tested through the testing program and found to be HIV positive are reported to the MOHP by name and the majority of the known AIDS cases come from this pool of individuals. Therefore, any bias in the make up of the population being tested for HIV will be reflected in the population to have been diagnosed with AIDS. For example, the population going through the testing program are primarily male and also primarily from those donating blood and those seeking work in other countries.

Known AIDS cases by suspected routes of transmission

Category	n	%
Heterosexual	183	45.2
Homosexual	97	24.0
Blood/blood product	52	12.8
Injecting Drug Use	16	4.0
Mother to child	2	0.5
Multiple	10	2.5
Unknown	45	11.0
Total	405	100

Sexually Transmitted Infections

In a study conducted by the MOHP, USAID and Family Health International (FHI)³, 994 individuals were recruited from the Greater Cairo area to participate in a behavioral and biological study looking at sexual histories, socio-demographic characteristics, knowledge of STI protection, medical histories, and syphilis serology as well as gonococcal, chlamydial and trichomonal infections.

Of these patients, 79 (8%) were found to have one or more STIs. 11.8% of all male participants had an STI and 6.8% of all female participants had an STI. At least 4% of the women attending the Ante-Natal Care (ANC) clinics had at least one STI (2% had gonorrhea, 1.3% had Chlamydia and 0.7% had Trichomoniasis). Among women in family planning clinics, 8.3% were found to have at least one STI (2.8% had gonorrhea, 2.8% had chlamydia, and another 2.8% had trichomoniasis). 5.3% of the injectable drug users (IDU) had at least one STI and 1.3% had multiple STIs (2.7% had gonorrhea, 2.7% had chlamydia, 1.3% had syphilis and 0.7% had trichomoniasis). Among men who have sex with men (MSM), nearly 24% had at least one STI and 2.6% had multiple STIs (8.8% had gonorrhea, another 8.8% had chlamydia, 7.5% had syphilis, and 1.3% had trichomoniasis). Among the sex workers, nearly 37% had at least one STI and 3.8% had multiple STIs (19.2% had trichomoniasis, 7.7% had gonorrhea, 7.7% had chlamydia and 5.8% had syphilis).

In addition, among married participants, 11.1% of women and 12.5% of men reported that their spouse suffered from discharge, burning or ulcers on genitalia. Overall, 5% of all married participants had a current STI.

b) Behavioral Studies

In the same study of STIs conducted by the MOHP, USAID and FHI, self-reported

³ El Sayed N, et al. Evaluation of Selected Reproductive Health Infections in Various Egyptian Population Groups in Greater Cairo, 2002

condom use during the last three months was measured among sex workers, MSM and drug users. In this study, 56% of CSW reported never using condoms, 53% of MSM reported never using condoms and 80% of drug users reported never using condoms. At the same time, only 6% of CSW, 0% of MSM and 9% of drug users reported “always” using a condom.

When asked if they had trouble obtaining and using condoms, 44% of sex workers and 22% of MSM had trouble getting them, while 89% of sex workers and 38% of MSM had trouble using them. Of those having trouble using condoms, 52% of sex workers and 17% of MSM stated that they did not know how to use a condom.

During the three months prior to the survey, 90% of the MSM reported more than one sexual partner and 73% of drug users reported more than one sexual partner. These findings are confirmed by other behavioral studies as described in the report by the Expanded Theme Group on HIV/AIDS, Egypt “*Assessment of the HIV/AIDS Situation and Response in Egypt*”, see the literature review and table summarizing all studies on HIV/AIDS – please see KABP section of table.

3. Main Elements of the National Surveillance Plan

Second Generation Surveillance is a system of data collection established to monitor HIV/STI prevalence and high-risk behavioral trends over time in order to provide essential data needed for the development of interventions and the evaluation of their impact. It includes data from routine case reporting, but it is centered on data collected through Behavioral and Biological Surveillance Surveys (BBSS). Therefore, this second generation surveillance system is not parallel to the currently existing NEDSS, but rather it integrates the data produced by the NEDSS with additional data collected from other sources, at different frequencies, and using diverse methods of data collection. The resulting information will be useful in focusing interventions on target groups and regions of a country that will have the greatest effect on the epidemic while also providing information that can be useful in planning for the care of an increasing number of HIV infected individuals and families.

It is most important that the surveillance system be adapted to match the profile of the epidemic in the country. This adaptation includes: the concentration of data collection in populations most at risk for becoming newly infected with HIV – those with high levels of risk behavior or young people at the start of their sexual lives; the comparison of information on HIV prevalence and on the behaviors that spread the virus, to build up an informative picture of changes in the epidemic over time; and the best use of other

sources of information to increase the understanding of the HIV epidemic and the behaviors that spread it.

The WHO guidelines generally state that in a low-level epidemic (where HIV prevalence is less than 5% in any subpopulation), surveillance systems focus largely on behaviors and HIV infection in groups at high risk, looking for changes in behaviors that may lead to an increase in the rate of infection. However, in a concentrated epidemic (where HIV prevalence is over 5% in any subpopulation at higher risk of infection – sex workers, drug injectors, and MSM), surveillance systems should monitor infections in those groups, paying particular attention to interactions and behavioral connections between members of those groups and the general population. Groups linking subgroups at higher risk of infection with the general population are called “bridge populations”.⁴

a) Objectives of the National Second Generation Surveillance System

The main objective of the national surveillance system is to provide Egypt with an early warning system in the fight against HIV/AIDS and STIs. In order to achieve this, several sub-objectives are important:

- i) Determine the current level of HIV prevalence in the general population;
- ii) Determine the current level of HIV prevalence among high risk groups;
- iii) Determine current levels of risk taking behavior among members of the general population;
- iv) Determine current levels of risk taking behavior among members of high risk groups;
- v) Establish a data collection system that allows the government of Egypt to better understand the changes in the sero-prevalence of HIV in these groups over time;
- vi) Establish a data collection system that allows the government of Egypt to better understand the changes in HIV-related risk behaviors in these groups over time.

b) Surveillance Unit

In order to implement a routine and ongoing surveillance system it is further recommended that a full-time surveillance team be assembled to manage and oversee the development, implementation, coordination, improvement and use of the resulting information and data. This team would then also be responsible for periodic quality assurance and monitoring site visits to ensure that the information is being collected according to the pre-established protocols.

⁴ WHO/UNAIDS, *Initiating second generation HIV surveillance systems: practical guidelines*, 2002.

c) **General Strategy for HIV Surveillance**

Given that the epidemic in Egypt is at best a low-level epidemic and is possibly already a concentrated level epidemic, the main recommendation for the surveillance system is to begin to collect routine (every 1 to 2 years) biologic and behavioral data among the high risk groups, namely commercial sex workers (CSWs), injecting drug users (IDUs), men who have sex with men (MSM), and men working in the tourism industry. Furthermore, it is recommended that data be periodically collected (perhaps every 3-5 years) among specific sites where the general population prevalence levels may be ascertained.

While a nationally representative system will ultimately require that data be routinely collected in each governorate, it is recommended that the initial focus be on collecting serologic and behavioral data in Greater Cairo and then expanding the system during the coming years. In addition, it will eventually be necessary to work out a process to include not only the civil society, but also private clinics and laboratories in the reporting system from the onset. These are two issues that will be taken into consideration each year as this system is revised and improved upon.

d) **Targeted Populations to Include in the System**

The following populations should be considered as key sources of data for the surveillance system. This section focuses on the definition of these populations and the next section identifies the type of data to be collected for each population.

1. **Commercial Sex workers (CSWs)** – These are individuals who earn all or part of their income through the exchange of money for sex.
2. **Injecting drug users (IDUs)** – These are individuals who engage in injection drug use. They tend to not let others know of their activity and as they engage in drug use they will usually be hidden from public view and are not usually found on the streets.
3. **Men who have sex with men (MSM)** – These are men who engage in sexual activity with other men. Some are exclusively engaged in male-to-male sex and others engage in bisexual behavior.
4. **Individuals who work in the tourist industry** – These include hotel workers, sailors, chariot drivers, camel and horse riders in tourist areas, and tour guides.
5. **STI patients** – These are both males and females who present themselves at both public and private clinics for treatment of infections transmitted through sexual contact. The preference is to use only etiologic case reporting with laboratory testing to establish the diagnosis since it provides highly credible assessment of the minimum disease burden and also facilitates efforts to counsel and treat patients and their sex partners.

6. **Tuberculosis (TB) patients** – These individuals are those who have been diagnosed as having TB. TB is often one of the first opportunistic infections in a person living with HIV. The data will help estimate the AIDS cases, provide information on HIV sex ratio, and is useful for the TB programs.
7. **Pregnant (ANC) women** – These women are coming into an ANC clinic for the first time for a new pregnancy. They are one of the best proxy groups for the general female population. The data is relatively easy to collect and it is possible to do unlinked anonymous testing.
8. **Women presenting at gynecology clinics** – Women tend not to go to STI clinics but will go to see their gynecologist. Therefore, gynecological clinics are a likely place to see women representative of both high-risk and general populations, which presents an opportunity to study their STI prevalence rates.
9. **Applicants for work permits and travel papers** – These are men and women who are required by law to have a certificate of a negative HIV status in order to receive work permits and travel papers to work in other countries. It is possible that these men may represent the general population male in Egypt. However, further analysis of the demographic data is needed to determine whether or not these men might serve as a proxy group.
10. **General population/males** – These are household based males who would be recruited to participate in household based behavioral surveys. If applicants for work and travel papers prove to be representative of the general male population, they could serve as the proxy group for this target population.
11. **General population/females** – These are household based females who would be recruited to participate in household based behavioral surveys.
12. **HIV/AIDS cases** – occurring in both public and private hospitals would be reported to MOHP. Care must be taken to avoid reporting on HIV/AIDS cases more than once (double counting).

e) Type of Data to be Collected for Each Target Group

For all of these groups basic demographic characteristics should be routinely collected. Among these demographic characteristics are: geographic area, gender, age, education, marital status, occupation (if any), provider type, and reporting site. Collection of provider type data applies only to numbers 5 through 8 listed below. Data on reporting site should be collected when available.

HIV Serologic Data Collection

Serologic data collection should take place among the following groups:

1. Sex Workers
2. Injecting Drug Users (IDUs)
3. Men who have Sex with Men (MSM)

4. Individuals in the Tourism Industry (sailors, chariot men, camel/horse riders in tourist areas, hotel workers)
5. STI patients
6. Tuberculosis patients presenting at the main TB clinics in the governorates
7. Pregnant women presenting at ANC clinics in the governorates
8. Women presenting at gynecology clinics
9. Those applying for work permits and travel papers

The sample sizes for each of these groups will vary as a result of several variables. The first variable of interest is the expected current level of HIV in each group. This combined with the percent of expected change, the desired p-value and predictive power. Since very little is known of the exact prevalence of HIV in these populations and because the level is currently assumed to be very low, these sample sizes will be quite large. This will be determined in collaboration with the partners, MOHP, NAP and ESU. The sampling approach for each will also be worked out with the research partners, MOHP, NAP and ESU. Care will be taken to reduce bias as much as possible and also ensuring the privacy and protection of the participants.

Data collection will be organized with the Central Laboratories, the NAP, and the MOHP/ESU. Data analysis will be carried out at the central level, with rapid feedback to the Governorate level MOHP representatives, sentinel sites and local health authorities.

Behavioral Data Collection

Behavioral data would be collected in close coordination with the design and implementation of the sentinel sero-surveillance systems in order to maximize the potential of data gathering through these two complementary approaches. In accordance with second-generation surveillance guidelines, sub-populations at risk, geographic sites of concentration and the timing of the surveys would be defined based on the current epidemiological, socio-cultural and economic profile of Egypt. Based on current knowledge, it is suggested that the behavioral component of the surveillance system focus on:

1. **Sex workers** – Conduct special studies using respondent-driven sampling (RDS) methods to collect a sample of these women to assess their sexual and drug taking risk factors.
2. **IDU** – Conduct special studies using RDS methods to collect a sample of these men and women to assess their injection use and sexual risk factors.
3. **MSM** – Conduct special studies using RDS methods to collect a sample of these men to assess their sexual and drug taking risk factors.

4. **Individuals who work in the tourist industry** – Conduct special studies using RDS methods to collect a sample of these men to assess their sexual and drug taking risk factors.
5. **General population / male and female (with an over-sampling of youth ages 15 – 24)** – Conduct a risk assessment among those living in catchment areas of ANC clinics and gynecology clinics.

Sample sizes are determined according to: 1) the level of change desired to measure; 2) desired confidence and power levels; 3) baseline proportion for key indicators; 4) the percent of respondents who fit the criteria for key indicators; and 5) feasibility. For truly high-risk groups the typical sample size is around 300 to 400 individuals. For general population adults it is usually higher and even higher for youth populations.

For the hard to reach and hidden populations it is recommended that the sampling be carried out using respondent driven sampling as described by Doug Heckathorn in his article *Respondent-Driven Sampling: A New Approach to the Study of Hidden Populations*⁵. For the general population male and female participants the MACRO Demographic and Health Survey (DHS) or AIDS Indicator Survey would provide the needed approach to capture the necessary data. This is a household-based approach and could be carried out in the catchment areas of the sentinel surveillance sites, ANC clinics and Gynecology clinics. Furthermore, it would be useful to attempt to over sample the youth aged 15 to 24 years in order to identify youth who are beginning to be sexually active and discover the issues facing those youth and the risks that they are taking.

The data collection would be conducted under the guidance of the NAP and through designated research partners. Appropriately trained staff at the NAP and the collaborating research partners would carry out the data analysis.

While the key indicators to be collected may vary slightly from one target group to the next, certain core variables have been widely accepted by the international community as necessary for a functioning surveillance system. These include:

- Number of sexual partners in the past 12 months, by type of sex partner
- Proportion of respondents reporting condom use during most recent sex act with non-regular and commercial partners in the last 12 months.
- Frequency of condom use in the past 12 months by type of sex partner
- Number of people not engaging in sexual activity
- Median age at first sex for youth (“sex” to be defined by Egypt stakeholders)

⁵ Doug Heckathorn, *Respondent-Driven Sampling: a New Approach to the Study of Hidden Populations*, Social Problems, Vol. 44, No. 2, May 1997.

- Number of injection drug users sharing needles, syringes, cookers, cotton, etc.
- Number of IDUs in rehabilitation
- Proportion of respondents who correctly identify 3 effective means of protecting themselves from HIV infection (prompted)

The following table shows the indicators that Egypt must track for the United Nations General Assembly Special Session on HIV/AIDS (UNGASS) ⁶, along with the mandated reporting schedule and suggested data collection method.

INDICATORS	REPORTING SCHEDULE	DATA COLLECTION METHOD
<i>National Commitment and Action:</i>		
Amount of national funds spent by governments on HIV/AIDS	biennial	Survey on financial resource flows
National Composite Policy Index	biennial	Country assessment questionnaire
<i>National Program and Behavior:</i>		
Percentage of schools with teachers who have been trained in life skills-based HIV/AIDS education and who taught it during the last academic year	biennial	School-based survey and education program review
Percentage of large enterprises/companies that have HIV/AIDS workplace policies and programs	biennial	Workplace survey
Percentage of patients with STIs at health-care facilities who are appropriately diagnosed, treated and counseled	biennial	Health facility survey
Percentage of HIV-infected pregnant women receiving a complete course of antiretroviral prophylaxis to reduce the risk of MTCT	biennial	Program monitoring and estimates
Percentage of people with advanced HIV infection receiving antiretroviral combination therapy	biennial	Special study
Percentage of IDUs who have adopted behaviors that reduce transmission of HIV	biennial	Population-based study
Percentage of young people aged 15 to 24 who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission	Every 4 to 5 years	Population-based study
Percentage of young people aged 15 to 24 reporting the use of a condom during sexual intercourse with a non-regular sexual partner.	Every 4 to 5 years	Population-based study
Ratio of current school attendance among orphans to that among non-orphans, aged 10 – 14	Every 4 to 5 years	Population-based study
<i>Impact:</i>		
Percentage of young people aged 15 to 24 who are HIV-infected	biennial	HIV sentinel surveillance
Percentage of HIV-infected infants born to HIV-infected mothers	biennial	Estimate based on program coverage

⁶ UNGASS, Monitoring the Declaration of Commitment on HIV/AIDS – Guidelines on Construction of Core Indicators, 2003. pg 11. (http://www.unaids.org/html/pub/publications/irc-pub02/jc894-coreindicators_en_pdf.htm)

f) STI Surveillance

The identification of and treatment of STIs is a key component of any HIV prevention program because of the well-documented role that STIs play in the transmission of HIV. Therefore, establishing a strong system to monitor the trends in STIs is an important component of the HIV/AIDS surveillance system and contributes greatly to achieving the goals of Second Generation Surveillance. The STI surveillance system should be made up of the following activities:

1. **Case reporting of STIs** -- In addition, reporting would include age groups (based on current practice in the existing public health surveillance system), and gender distribution.
2. **Periodic prevalence assessments and monitoring** – Periodic or ongoing prevalence assessments in vulnerable groups (e.g., sex workers and MSM) and general population (e.g., women attending ANC clinics and gynecology clinics) that includes syphilis serologic testing, diagnosis of cervicitis (gonorrhoea/Chlamydia) and trichomoniasis and examination for genital ulcer diseases in some populations.

It is recommended that for the vulnerable groups, a system be developed to collect periodic biological data through non-governmental organizations (NGOs) working with the high-risk groups. Otherwise, the system would rely on periodic biologic data collection through routine special studies. For the general populations, during one specific and short time period every 3 years, the serology collected in ANC clinics and gynecology clinics will be analyzed for the existence of STIs.

3. **Antimicrobial resistance monitoring** – Annual antimicrobial susceptibility surveillance of *N. gonorrhoea* would also be undertaken with patients presenting urethritis at STI clinics or in primary health care settings, and in gynecology clinics. A minimum of 100 samples will be needed but collecting as many as 200 will allow for more detailed analysis of risks factors for resistance and the local epidemiology of gonococcal infection.
4. **Assessment of syndrome etiologies** – About every three years it is recommended that there be an assessment of etiologies of STI syndromes (urethral discharge, vaginal discharge, genital ulcer disease, lower abdominal pain). This will provide data for guiding STI syndromic management and assist in the interpretation of syndromic case reports and the assessment of disease burden due to specific pathogens. These data can also be used to

evaluate syndromic management algorithms for urethral discharge and genital ulcers. Depending on the specific etiology and expected prevalence of pathogens, approximately 50 to 100 specimens will be needed. These can be collected from the STI center in Cairo and several of the gynecology clinics in the greater Cairo area.

5. **Special Studies** – some of the special studies might be: Evaluation of STI syndromic management algorithms, incidence and prevalence of STI-related complications (pelvic inflammatory disease, ectopic pregnancy, cervical cancer, infertility), Assessment of health care-seeking behavior and its relationship to under-detection and under-reporting of STIs, public and private sector STI screening and reporting practices, and estimation of economic costs of STIs.

g) Timing of Activities

TARGET GROUP	ANNUAL	EVERY 2 YEARS	EVERY 3-5 YEARS
HIV Serology:			
Sex Workers		X	
IDUs		X	
MSM		X	
Individuals who work in the tourist industry		X	
STI Patients	X		
TB patients			X
ANC clinic attendees			X
Gynecology attendees			X
Applicants for work and travel documents	X		
Behavioral Surveillance:			
Sex Workers		X	
IDU		X	
MSM		X	
Individuals who work in the tourist industry		X	
General Population			X
STI:			
STI Case Reporting	X		
Prevalence assessment among high-risk groups		X	
Prevalence assessment among ANC and Gynecology clinic attendees			X
Antimicrobial resistance etiologies			X
Assessment of syndrome etiologies			X
Special Studies		X	

h) Data Collection Responsibilities

The Second Generation Sentinel Surveillance will be jointly managed by the NAP, MOHP/ESU, and the Central Laboratories in Cairo. The NAP should be the umbrella organization who coordinates and delegates the tasks, with the

ESU/MOHP and the CL playing key roles in the collection and analysis of data. Data collection, which will be a collaborative effort, shall consist of three general aspects:

1. On-going reporting of NEDSS-generated biological data on HIV/AIDS cases and STI prevalence from the CL and nation-wide health facilities, as well as cases of HIV documented among TB patients by the National Tuberculosis Program (NTB);
2. Periodic Sentinel Surveillance Surveys;
3. Periodic Behavioral Surveillance Surveys.

Effective use and management of the data gathered through the NEDSS will be particularly crucial for ongoing STI case reporting and HIV serology among STI patients. The coordination of the NEDSS and the on-going case reporting will be the responsibility of the ESU, as it current is and always has been. The CL will play an important role in reporting upon HIV prevalence rates among applicants for work and travel documents and, possibly, blood donors. The Central Lab will also be needed for Quality Assurance purposes. In addition, the NAP and ESU/MOHP should collaborate with the NTB in the reporting of HIV prevalence rates among TB patients.

In terms of the periodic Biological Surveillance Studies, as mentioned earlier, data collection will be organized with the CL, the NAP, and the MOHP/ESU. Data analysis will be carried out at the central level, with rapid feedback to the Governorate level MOHP representatives, sentinel sites and local health authorities.

With regards to the periodic Behavioral Surveillance Studies, as mentioned previously, data collection would be conducted under the guidance of the NAP and through designated research partners. Appropriately trained staff at the NAP and the collaborating research partners would carry out the data analysis.

i) Resources Needed

Several main resources are needed so that this set of activities function properly. Most importantly is the human capacity to monitor the entire process. This means that it will be important to reinforce the capacities of the NAP and the ESU/MOHP, as well as any collaborating partners. The designated Surveillance Team will have the responsibility of monitoring the biological surveillance activities and overseeing data collection, management, analysis, interpretation and use.

Other crucial resources are the biological and the behavioral research teams. In order to carry out the biological and the behavioral data collection, teams of researchers and experienced interviewers must be trained in surveillance methodologies and supported to carry out the required data collection. It is important that the team members be technically very strong so that they can manage the complicated data collection methodologies and interpret the data appropriately; and they should be culturally sensitive to the issues and needs of the high-risk populations so that they do not negatively influence the participation of these groups in the process.

A third important resource is a strong central laboratory that has the capacity to carry out all of the various tests necessary to conduct HIV testing, as well as the laboratory diagnosis of STIs. This means that syphilis serologic testing and testing for genital chlamydia and gonococcal infection must be performed at the CL Lab.

j) Monitoring and Evaluation of the Surveillance System

Monitoring and Evaluation (M&E) of this system should be performed every two years. The key components of the M&E are:

1. Identify all surveillance activities categorized by component and syndrome or disease (HIV case reporting, AIDS case reporting, HIV prevalence study, behavioral risk study, STI case reporting, STI prevalence assessments, assessment of syndromes etiologies, antimicrobial resistance monitoring, and special studies)
2. Initially, each component should be evaluated separately, and within each component, separate attention should be given to each reported syndrome or disease.
3. After evaluating each component, an overall assessment should be performed that identifies components needing to be strengthened, gaps or areas of duplication, and activities that can be eliminated.

Following the M&E of the surveillance system, a plan for strengthening the system should be developed that identifies priorities within the context of the country's comprehensive STI/HIV prevention plan.

k) Use of the Data

Specific actions will be undertaken to ensure that the findings of the surveillance system (both biologic and behavioral) will be disseminated to the appropriate key stakeholders (health centers, clinicians, and laboratories who have reported the data) and applied at the appropriate levels (local, regional and national). This can help to increase timely, valid and complete reporting. The National AIDS Program staff should use the surveillance data to guide, target, evaluate and demonstrate the need for programs of STI and HIV prevention.

It is also important that NAP actively disseminate the resulting information to the appropriate stakeholders.

Dissemination will take place through annual dissemination meetings at the national and regional levels and technical assistance will be provided to the local level health leaders through workshops designed to aid in the interpretation and application of the findings. At these annual meetings, the Annual Report (which includes case numbers, rates and trends by geographic area and demographic variables, and prevalence by population) can be disseminated.

Other materials that can be developed to facilitate the use of the data are fact sheets with tables and graphs that can be posted at health department offices and clinics, newsletters for clinicians, laboratory personnel and others, and Press Releases which highlight disease burden and trends.

Resource Documents

Assessment of the HIV/AIDS Situation and Response in Egypt. Report by the Expanded Theme Group on HIV/AIDS, Egypt, 2003.

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Guidelines for Sexually Transmitted Infections Surveillance. UNAIDS/WHO working group on Global HIV/AIDS/STI Surveillance, 1999.

Initiating Second Generation HIV Surveillance Systems: Practical Guidelines. UNAIDS/WHO working group on Global HIV/AIDS/STI Surveillance, 2002.

Meeting the Behavioral Data Collection Needs of National HIV/AIDS and STI Programmes: A joint IMPACT/FHI/UNAIDS Workshop: Report and Conclusion. Family Health International/IMPACT, US Agency for International Development, UNAIDS. 1998.

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United Nations General Assembly Special Session (UNGASS), *Monitoring the Declaration of Commitment on HIV/AIDS – Guidelines on Construction of Core Indicators*, 2003. (http://www.unaids.org/html/pub/publications/irc-pub02/jc894-coreindicators_en_pdf.htm)

