

Dominican Republic

EPIDEMIOLOGICAL FACT SHEETS ON HIV/AIDS AND SEXUALLY TRANSMITTED INFECTIONS









HIV/AIDS estimates

In 2003 and during the first quarter of 2004, UNAIDS and WHO worked closely with national governments and research institutions to recalculate current estimates on people living with HIV/AIDS. These calculations are based on the previously published estimates for 1999 and 2001 and recent trends in HIV/AIDS surveillance in various populations. A methodology developed in collaboration with an international group of experts was used to calculate the new estimates on prevalence and incidence of HIV and AIDS deaths, as well as the number of children infected through mother-to-child transmission of HIV. Different approaches were used to estimate HIV prevalence in countries with low-level, concentrated or generalised epidemics. The current estimates do not claim to be an exact count of infections. Rather, they use a methodology that has thus far proved accurate in producing estimates that give a good indication of the magnitude of the epidemic in individual countries. However, these estimates are constantly being revised as countries improve their surveillance systems and collect more information.

Adults in this report are defined as women and men aged 15 to 49. This age range covers people in their most sexually active years. While the risk of HIV infection obviously continues beyond the age of 50, the vast majority of those who engage in substantial risk behaviours are likely to be infected by this age. The 15 to 49 range was used as the denominator in calculating adult HIV prevalence.

Estimated number of adults and children living with HIV/AIDS, end of 2003

These estimates include all people with HIV infection, whether or not they have developed symptoms of AIDS, alive at the end of 2003:

Adult rate (%)

Low estimate High estimate

Adults and children	88,000
Low estimate	48,000
High estimate	160,000
Adults (15-49)	85,000
Low estimate	47,000
High estimate	150,000
Children (0-15)	2,200
Low estimate	1,100
High estimate	-4,400
Women (15-49)	23,000
Low estimate	13,000
High estimate	41 000

Estimated number of deaths due to AIDS

Estimated number of adults and children who died of AIDS during 2003:

Deaths in 2003	7.900
Low estimate	4,700
High estimate	13,000

Estimated number of orphans

Estimated number of children who have lost their mother or father or both parents to AIDS and who were alive and under age 17 at the end of 2003:

Current living orphans

Low estimate High estimate

UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance

Global Surveillance of HIV/AIDS and sexually transmitted infections (STIs) is a joint effort of WHO and UNAIDS. The UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance, initiated in November 1996, guides respective activities. The primary objective of the Working Group is to strengthen national, regional and global structures and networks for improved monitoring and surveillance of HIV/AIDS and STIs. For this purpose, the Working Group collaborates closely with national AIDS programmes and a number of national and international experts and institutions. The goal of this collaboration is to compile the best information available and to improve the quality of data needed for informed decision-making and planning at national, regional, and global levels. The Epidemiological Fact Sheets are one of the products of this close and fruitful collaboration across the globe.

Within this framework, the Fact Sheets collate the most recent country-specific data on HIV/AIDS prevalence and incidence, together with information on behaviours (e.g. casual sex and condom use) which can spur or stem the transmission of HIV.

Not unexpectedly, information on all of the agreed upon indicators was not available for many countries in 2003. However, these updated Fact Sheets do contain a wealth of information which allows identification of strengths in currently existing programmes and comparisons between countries and regions. The Fact Sheets may also be instrumental in identifying potential partners when planning and implementing improved surveillance systems.

The fact sheets can be only as good as information made available to the UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance. Therefore, the Working Group would like to encourage all programme managers as well as national and international experts to communicate additional information to them whenever such information becomes available. The Working Group also welcomes any suggestions for additional indicators or information proven to be useful in national or international decision-making and planning.

Assessment of the epidemiological situation 2004

The cumulative number of people reported living with HIV/AIDS in 2000 was approximately 50,000.

In Santo Domingo, the major urban area, HIV prevalence ranged from 1% to 2% among antenatal women tested between 1991 and 1999. Outside of Santo Domingo, no evidence of infection was found among antenatal women tested in 1991. By 1996, 3% were HIV positive. Prevalence ranged from no evidence of infection in San Juan to 8% in Puerto Plata in 1996. In the three following years, 2% of antenatal women tested positive for HIV.

1.7

In Santo Domingo, HIV infection among sex workers tested increased from 1% in 1986 to 8% in 1993. Thereafter, prevalences ranged from 2% to 6% between 1994 and 1999, with a slight decrease (5.33%) in 2000. In 1999, HIV prevalence among sex workers tested in Santo Domingo ranged from 2% to 7% in the three testing sites. Since 1992, outside of Santo Domingo, HIV prevalence has fluctuated between 8% and 11.5%. In 1999, median HIV prevalence was 8.5%. In two studies carried out in Santo Domingo in 1987 and 1994, 15% and 12%, respectively, of men who have sex with men (MSM) were found HIV positive. The distribution of AIDS cases per province of residence showed that 48% are in the National District, followed by Puerto Plata (5.6%), Santiago (5%), San Cristóbal (4.2%) and San Juan de la Maguena (3.5%).

HIV prevalence among STD clinic patients in Santo Domingo ranged from 3% to 8% of patients tested between 1989 and 1999. In 1997, one study done outside Santo Domingo in an unspecified area of the country, found that 17% and 2% of male and female STD patients, respectively, were infected.

Regarding mode of transmission, 74.8% of the cumulative cases are related to heterosexual transmission and 7.6% to homosexual/ bisexual contact, 5.7% did not report a mode of transmission. Perinatal transmission is stable at approximately 2% of cumulative cases. AIDS cases due to blood transfusions are 4% of the cumulative total. HIV transmission related to IDU is around 3.8%.

Young people in the age group 15-24 constitute 18% of the AIDS cases (52% men, 48% women) implying infection in early adolescence. Among adults, the male:female ratio is currently 8:1; this might change because of the steady increase of women infected in the last five years.

Basic indicators

For consistency reasons the data used in the table below are taken from official UN publications.

DEMOGRAPHIC DATA	YEAR	ESTIMATE	SOURCE
Total population (thousands)	2004	8,872	UN population division database
Female population aged 15-24 (thousands)	2004	871	UN population division database
Population aged 15-49 (thousands)	2004	4,792	UN population division database
Annual population growth rate (%)	1992-2002	1.7	UN population division database
% of population in urban areas	2003	59.2	UN population division database
Average annual growth rate of urban population	2000-2005	2.1	UN population division database
Crude birth rate (births per 1,000 pop.)	2004	23	UN population division database
Crude death rate (deaths per 1,000 pop.)	2004	7.2	UN population division database
Maternal mortality rate (per 100,000 live births)	2000	150	WHO (WHR2004)/UNICEF
Life expectancy at birth (years)	2002	68	World Health Report 2004, WHO
Total fertility rate	2002	2.7	World Health Report 2004, WHO
Infant mortality rate (per 1,000 live births)	2000	31	World Health Report 2004, WHO
Under 5 mortality rate (per 1,000 live births)	2000	37	World Health Report 2004, WHO
SOCIO-ECONOMIC DATA	YEAR	ESTIMATE	SOURCE
Gross national income, ppp, per capita (Int.\$)	2002	5,870	World Bank
Gross domestic product, per capita % growth	2001-2002	2.5	World Bank
Per capita total expenditure on health (Int.\$)	2001	353	World Health Report 2004, WHO
General government expenditure on health as % of total expenditure on health	2001	36.1	World Health Report 2004, WHO
Total adult illiteracy rate	2000	16.3	UNESCO
Adult male illiteracy rate	2000	16.3	UNESCO
Adult female illiteracy rate	2000	16.3	UNESCO
Gross primary school enrolment ratio, male	2000/2001	126	UNESCO
Gross primary school enrollnent ratio, male			
Gross primary school enrolment ratio, finale	2000/2001	122	UNESCO
• • •	2000/2001 2000/2001	122 53	UNESCO

Contact address

UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance 20, Avenue Appia

CH - 1211 Geneva 27 Switzerland

Fax: +41-22-791-4834

email: hivstrategicinfo@who.int or

estimates@unaids.org

website: http://www.who.int/hiv

http://www.unaids.org

Extracts of the information contained in these fact sheets may be reviewed, reproduced or translated for research or private study but not for sale or for use in conjunction with commercial purposes. Any use of information in these fact sheets should be accompanied by the following acknowledgment "UNAIDS/WHO epidemiological fact sheets on HIV/AIDS and Sexually Transmitted Infections, 2004 Update".

HIV prevalence in different populations

This section contains information about HIV prevalence in different populations. The data reported in the tables below are mainly based on the HIV database maintained by the United States Bureau of the Census where data from different sources, including national reports, scientific publications and international conferences are compiled. To provide a simple overview of the current situation and trends over time, summary data are given by population group, geographical area (Major Urban Areas versus Outside Major Urban Areas), and year of survey. Studies conducted in the same year are aggregated and the median prevalence rates (in percentages) are given for each of the categories. The maximum and minimum prevalence rates observed, as well as the total number of surveys/sentinel sites, are provided with the median, to give an overview of the diversity of HIV-prevalence results in a given population within the country. Data by sentinel site or specific study from which the medians were calculated are printed at the end of this fact sheet.

The differentiation between the two geographical areas Major Urban Areas and Outside Major Urban Areas is not based on strict criteria, such as the number of inhabitants. For most countries, Major Urban Areas were considered to be the capital city and - where applicable - other metropolitan areas with similar socio-economic patterns. The term Outside Major Urban Areas considers that most sentinel sites are not located in strictly rural areas, even if they are located in somewhat rural districts.

HIV sentinel surveillance*

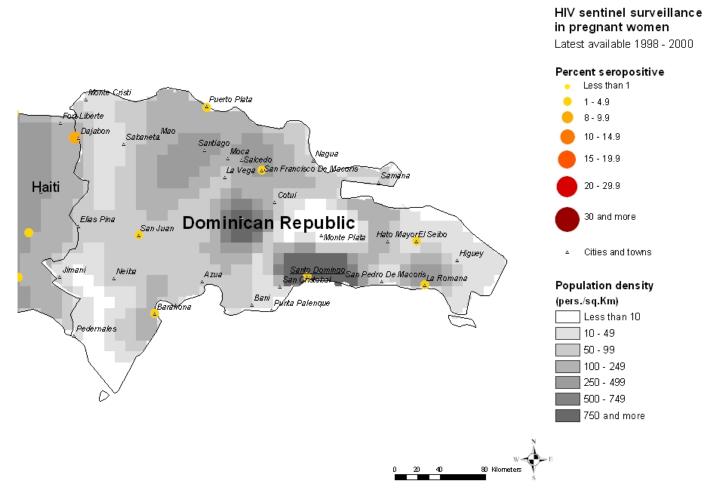
Group	Area		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Pregnant	Major urban	N-Sites					2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
women	areas	Minimum					0.75	0.80	1.20	1.70	2.00	1.30	1.88	1.44	1.20				
		Median					0.86	0.80	1.20	1.70	2.00	1.30	1.88	1.44	1.20				
		Maximum					0.97	0.80	1.20	1.70	2.00	1.30	1.88	1.44	1.20				
	Outside major	N-Sites					2.00	2.00	2.00	3.00	3.00	4.00	6.00	5.00	6.00				
	urban areas	Minimum					0	0	0.33	0.81	1.19	0	0	0.33	1.05				
		Median					0	0.34	0.50	0.82	2.33	2.69	1.94	2.05	2.15				
		Maximum					0	0.67	0.67	1.00	4.09	7.88	5.50	2.20	4.46				
Sex workers	Major urban areas	N-Sites		1.00	1.00	1.00	3.00	6.00	5.00	4.00	4.00	3.00	3.00	3.00	3.00				
	areas	Minimum		47.50	3.60	1.80	2.90	1.90	2.99	0.63	0	3.52	2.50	1.10	2.38				
		Median		47.50	3.60	1.80	3.17	5.01	8.00	4.76	5.23	6.00	6.21	2.35	3.49				
		Maximum		47.50	3.60	1.80	3.46	7.54	11.43	8.00	7.50	8.00	6.35	6.53	6.60				
	Outside major urban areas	N-Sites						1.00			1.00	2.00	2.00	2.00	2.00				
	uibaii aleas	Minimum						10.60			10.00	5.88	9.84	4.46	7.49				
		Median						10.60			10.00	9.51	11.49	7.56	8.47				
		Maximum						10.60			10.00	13.13	13.14	10.66	9.46				
Injecting drug users																			
STI patients	Major urban	N-Sites			3.00	2.00	2.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00					
	areas	Minimum			1.63	2.40	4.70	6.07	7.76	8.13	6.67	4.35	5.70	3.30					
		Median			3.26	2.90	7.38	6.07	7.76	8.13	6.67	5.73	5.70	3.30					
		Maximum			3.97	3.40	10.06	6.07	7.76	8.13	6.67	7.11	5.70	3.30					
	Outside major urban areas	N-Sites											2.00						
	uibaii aleas	Minimum											1.87						
		Median											9.27						
		Maximum											16.67						
Men having sex with men	Major urban areas	N-Sites	1.00							1.00									
with men	areas	Minimum	15.00							11.69									
		Median	15.00							11.69									
		Maximum	15.00							11.69									
Tuberculosis patients	Major urban areas	N-Sites						1.00			1.00								
patients	areas	Minimum						6.40			9.14								
		Median						6.40			9.14								
		Maximum						6.40			9.14								
	Outside major urban areas	N-Sites				1.00													
	uiDali aleaS	Minimum				5.00													
		Median				5.00													
		Maximum				5.00													

^{*}Detailed data by site can be found in the Annex.

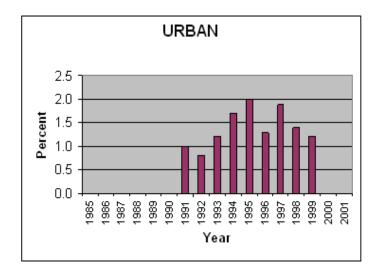
Maps & charts

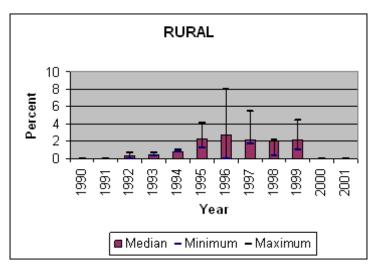
Mapping the geographical distribution of HIV prevalence among different population groups may assist in interpreting both the national coverage of the HIV surveillance system as well in explaining differences in levels of prevalence. The UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance, in collaboration with the WHO Public Health Mapping Team, Communicable Diseases, is producing maps showing the location and HIV prevalence in relation to population density, major urban areas and communication routes. For generalized epidemics, these maps show the location of prevalence of antenatal surveillance sites.

Trends in antenatal sentinel surveillance for higher prevalence countries, or in prevalence among selected populations for countries with concentrated epidemics, are a new addition. These are presented for those countries where sufficient data exist.



Trends in HIV prevalence among antenatal clinic attendees





Median prevalence and ranges are shown in areas with more than one sentinel site.

The boundaries and names shown and the designations used on the map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

WHO 2004, all rights reserved.

Reported AIDS cases

Following WHO and UNAIDS recommendations, AIDS case reporting is carried out in most countries. Data from individual AIDS cases are aggregated at the national level and sent to WHO. However, case reports come from surveillance systems of varying quality. Reporting rates vary substantially from country to country and low reporting rates are common in developing countries due to weaknesses in the health care and epidemiological systems. In addition, countries use different AIDS case definitions. A main disadvantage of AIDS case reporting is that it only provides information on transmission patterns and levels of infection approximately 5-10 years in the past, limiting its usefulness for monitoring recent HIV infections.

Despite these caveats, AIDS case reporting remains an important advocacy tool and is useful in estimating the burden of HIV-related morbidity as well as for short-term planning of health care services. AIDS case reports also provide information on the demographic and geographic characteristics of the affected population and on the relative importance of the various exposure risks. In some situations, AIDS reports can be used to estimate earlier HIV infection patterns using back-calculation. AIDS case reports and AIDS deaths have been dramatically reduced in industrialized countries with the introduction of Anti-Retroviral Therapy (ART).



Curable sexually transmitted infections (STIs)

The predominant mode of transmission of both HIV and other STIs is sexual intercourse. Measures for preventing sexual transmission of HIV and STIs are the same, as are the target audiences for interventions. In addition, strong evidence supports several biological mechanisms through which STIs facilitate HIV transmission by increasing both HIV infectiousness and HIV susceptibility. Thus, detection and treatment of individuals with STIs is an important part of an HIV control strategy. In summary, if the incidence/prevalence of STIs is high in a country, then there is the possibility of high rates of sexual transmission of HIV. Monitoring trends in STIs provides valuable insight into the likelihood of the importance of sexual transmission of HIV within a country, and is part of second generation surveillance. These trends also assist in assessing the impact of behavioural interventions, such as delaying sexual debut, reducing the number of sex partners and promoting condom use.

Clinical services offering STI care are an important access point for people at high risk for both STIs and HIV. Identifying people with STIs allows for not only the benefit of treating the STI, but for prevention education, HIV testing, identifying HIV-infected persons in need of care, and partner notification for STIs or HIV infection. Consequently, monitoring different components of STI prevention and control can also provide information on HIV prevention and control activities within a country.

STI syndromes	_									
•		1996	1997	1000	1000	2000	2001	2002	2003	Incidence 2003
Reported cas Urethral discha		1990	1997	1998	1999 4014	2000 2281	2001 5490	2002	2003	incidence 2003
Genital Ulcer	iige				3861	1560	4638			
Comments:										
Source:										
Syphilis prevale	nce, women									
	lood samples takene screening at se				5-49 that te	est positive	e for syphi	lis - positi	ve reaginic	and treponemal test-
_	Year		Area	ı		Rate			Range	
-										
Comments:										
Source:										
Estimated preva	llence of curable	e STIs amo	ong femal	e sex wo	orkers	_				
- Chlamydia										
_	Year		Area			Rate		F	Range	
Comments:										
Source:										
	ı									
- Gonorrhoea						Rate			Range	

Source:

Estimated prevalence of curable STIs among female sex workers (continued)

Health service and care indicators

HIV prevention strategies depend on the twin efforts of care and support for those living with HIV or AIDS, and targeted prevention for all people at risk or vulnerable to the infection. It is difficult to capture such a large range of activities with one or just a few indicators. However, a set of well-established health care indicators may help to identify general strengths and weaknesses of health systems. Specific indicators, such as access to testing and blood screening for HIV, help to measure the capacity of health services to respond to HIV/AIDS - related issues.

Access to health care

Indicators	Year	Estimate	Source
% of population with access to health services - total	1998	89.5	SESPAS
% of population with access to health services - urban	1998	95.6	SESPAS
% of population with access to health services - rural	1998	78.9	SESPAS
Contraceptive prevalence rate (%)	1996	63.7	UNICEF/UNPOP
Percentage of contraceptive users using condoms			
% of births attended by skilled health personnel	2000	95.5	WHO
% of 1-yr-old children fully immunized - DPT	2002	72	WHO/UNICEF
% of 1-yr-old children fully immunized - Measles	2001	98	WHO/UNICEF
% of ANC clinics where HIV testing is available			

Number of adults (15-49) with advanced HIV infection receiving ARV therapy as of June 2004

Adults on treatment

Number: 420

Source: WHO

Estimated number of adults (15-49) in need of treatment in 2003

Adults needing treatment

Number: 17,000

Source: WHO/UNAIDS

Coverage of HIV testing and counselling

Number of public and NGO services providing testing and counselling services.

Year Area N=

Comments:

Source:

Knowledge and behaviour

In most countries the HIV epidemic is driven by behaviours (e.g.: multiple sexual partners, injecting drug use) that expose individuals to the risk of infection. Information on knowledge and on the level and intensity of risk behaviour related to HIV/AIDS is essential in identifying populations most at risk for HIV infection and in better understanding the dynamics of the epidemic. It is also critical information in asssessing changes over time as a result of prevention efforts. One of the main goals of the 2nd generation HIV serveillance systems is the promotion of a standard set of indicators defined in the National Guide (Source: National AIDS Programmes, A Guide to Monitoring and Evaluation, UNAIDS/00.17) and regular behavioural surveys in order to monitor trends in behaviours and to target interventions.

The indicators on knowledge and misconceptions are an important prerequisite for prevention programmes to focus on increasing people's knowledge about sexual transmission, and, to overcome the misconceptions that act as a disincentive to behaviour change. Indicators on sexual behaviour and the promotion of safer sexual behaviour are at the core of AIDS programmes, particularly with youg people who are not yet sexually active or are embarking on their sexual lives, and who are more amenable to behavioural change than adults. Finally, higher risk male-male sex reports on unprotected anal intercourse, the highest risk behaviour for HIV among men who have sex with men.

Knowledge of HIV prevention methods

Prevention indicator: Percentage of young people 15-24 who both correctly identify two ways of preventing the sexual transmission of HIV and who reject three misconceptions about HIV transmission.

	Year	Male	Female
	2002		
<u> </u>			
ents:			

Comments:

Source: DHS

Reported condom use at last higher risk sex (young people 15-24)

Prevention indicator: Proportion of young people reporting the use of a condom during sex with a non-regular partner.

Year	Male	Female
2002	49	<u>.</u>

Comments:

Source: DHS

Age-mixing in sexual partnerships among youg women

The proportion of young women who have had sex in the last 12 months with a partner who is 10 or more years older than themselves.

Year	Area	Age group	Male	Female	All

Comments:

Source:

Reported non-regular sexual partnerships

Prevention indicator: Proportion of young people 15-24 having at least one sex partner other than a regular partner in the last 12 months.

Year	Male	Female
2002	49	16

Comments:

Source: DHS

Knowledge and behaviour (continued)

Ever used a condom

Percentage of people who ever used a condom.

Year Area Age group Male Female All

Comments:

Source:

Adolescent pregnancy

Percentage of teenagers 15-19 who are mothers or pregnant with their first child.

Year Percentage

Comments:

Source:

Age at first sexual experience

Proportion of 15-19 year olds who have had sex before age 15.

Year	Male	Female
2002	18	13

Comments:

Source: DHS

Prevention indicators

Male and female condoms are the only technology available that can prevent sexual transmission of HIV and other STIs. Persons exposing themselves to the risk of sexual transmission of HIV should have consistent access to high quality condoms. AIDS Programs implement activities to increase both availability of and access to condoms. Thes activities should be monitored and have resources directed to problem aresas. The indicator below highlights the availability of condoms. However, even if condoms are widely available, this does not mean that individuals can or do acess them.

Condom ava	lability nationwide						
Total number of condoms available for distribution nationwide during the preceding 12 months, divided by the total population aged 15-49.							
	Year	N	Rate				
Comments:							
Source:							
Prevention of mother-to-child transmission (MTCT) nationwide Percentage of women who were counselled during antenatal care for their most recent pregnancy, accepted an offer of testing and received their test results, of all women who were pregnant at any time in the preceding two years.							
	Year	N	Rate				
Comments:							
Source:							
Blood safety programs aim to ensure that the majority of blood units are screened for HIV and other infectious agents. This indicator gives an idea of the overall percentage of blood units that have been screened to high enough standards that they can confidently be declared free of HIV.							
Screening of blood transfusions nationwide							
Percentage of	Percentage of blood units transfused in the last 12 months that have been adequately screened for HIV according to national or WHO guidelines.						
	Year	N I	Rate				
Comments:							
Source:							

Sources

Data presented in this Epidemiological Fact Sheet come from several sources, including global, regional and country reports, published documents and articles, posters and presentations at international conferences, and estimates produced by UNAIDS, WHO and other United Nations agencies. This section contains a list of the more relevant sources used for the preparation of the Fact Sheet. Where available, it also lists selected national Web sites where additional information on HIV/AIDS and STI are presented and regularly updated. However, UNAIDS and WHO do not warrant that the information in these sites is complete and correct and shall not be liable whatsoever for any damages incurred as a result of their use.

Aybar, L. E. 1990 PAHO/WHO HIV Surveillance H. Moscoso Puello, Pan American Health Organization/World Health Organization.

Ducos, J., M. Espinal, S. Rosario, et al. 1993 Trends in Syphilis, Gonorrhea and HIV Infection among Female Prostitutes Attending an STD Clinic in Santo Domingo IX International Conference on AIDS, Berlin, 6/6-11, Abstract PO-C20-3093.

Dominican Republic 1990 PAHO/WHO HIV Surveillance Pan American Health Organization/World Health Organization.

Dominican Republic 2000 Sistema de Vigilancia Centineccion VIH Segun Poblaciones, Puestos y Ciudades, 1955-1998 UNAIDS, tables.

Dominican Republic National AIDS Control Program 2000 Sentinel Surveillance Results Unpublished tables, UNAIDS.

Espinal, M., A. Reingold, S. Sanchez, et al. 1993 Impact of HIV on Tuberculosis in Women of Reproductive Age of the Dominican Republic IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C06-2733.

Espinal, M. A., E. N. Perez, J. Baez, et al. 2000 Infectiousness of Mycobacterium Tuberculosis in HIV-1-Infected Patients with Tuberculosis: A Prospective Study Lancet, vol. 355, no. 9200, pp. 275-280.

Guerrero, E., E. M. Rodriguez, E. A. De Moya, et al. 1990 Seroprevalence of HIV-1 and HTLV-I in STD Clinics in the Dominican Republic VI International Conference on AIDS, San Francisco, 6/20-24, Poster F.C.587.

Gomez, E., A. Ramirez, C. Pena, et al. 1992 Sentinel Seroprevalence Surveys for HIV-1 Infection in the Dominican Republic VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4066.

Gomez, E. 1991 PAHO/WHO HIV Surveillance SESPAS-PROCETS, Pan American Health Organization/World Health Organization.

Gomez, E., M. Sweat, M. Arbaje, et al. 1994 HIV and AIDS in the Dominican Republic: Current Status and Projected Impact SESPAS/ PROCETS, Dominican Ministry of Health, report.

Gomez, E., Vigilancia Epidemiologica PROCETS 1995 PAHO/WHO HIV Surveillance April 24, PAHO/WHO.

Gomez, E. PROCETS 1993 PAHO/WHO HIV Surveillance July 27, PAHO/WHO.

Koenig, R. E., L.De Castro, J. Acra, et al. 1987 Prevalence of Antibodies to HIV in Prostitutes and Dominican and Hatian Cane Cutters in Dominican Republic III International Conference on AIDS, Washington, D.C., 6/1-5, Abstract TP.187.

Koenig, R. E., J. Pittaluga, M. Bogart, et al. 1987 Prevalence of Antibodies to the Human Immunodeficiency Virus in Dominicans and Haitians in the Dominican Republic JAMA, vol. 257, no. 5, pp. 631-634.

Koenig, E. R. 1989 International Prostitutes and Transmission of HIV Lancet, Apr. 8, vol. 1, no. 8641, pp. 782-783.

PROCETS 1990 PAHO/WHO HIV Surveillance Pan American Health Organization/World Health Organization.

PROCETS/NIAID 1990 PAHO/WHO HIV Surveillance Pan American Health Organization/World Health Organization.

PROCETS 1998 PAHO/WHO HIV Surveillance August 6, PAHO/WHO.

PROCETS, SESPAS 1995 PAHO/WHO HIV Surveillance April 15, PAHO/WHO.

PROCETS, SESPAS 1996 PAHO/WHO HIV Surveillance April 15, PAHO/WHO.

Rodriguez, E. M., E. A. De Moya, E. Guerrero, et al. 1993 HIV-1 and HTLV-1 in Sexually Transmitted Disease Clinics in the Dominican Republic Journal of Acquired Immune Deficiency Syndromes, vol. 6, no. 3, pp. 313-318.

Ramirez, E. A. D. 1997 PAHO/WHO HIV Surveillance April 17, PAHO/WHO.

Ramirez, A. 1999 PAHO/WHO HIV Surveillance 16 July, PAHO/WHO.

Tabet, S. R., E. A. de Moya, K. K. Holmes, et al. 1996 Sexual Behaviors and Risk Factors for HIV Infection among Men Who Have Sex with Men in the Dominican Republic AIDS, vol. 10, no. 2, pp. 201-206.

Volquez, C., J. Sanches, C. Ryan, et al. 1997 Manejo de las Enfermedades de Transmision Sexual en la Republica Dominicana: Prevalenica de Infecciones y Validacion del . .. V Pan-American Conference on AIDS and XI Latin American Congress on STD, Lima, Peru, 12/3-6, Abstract P030.

Websites:

Annex: HIV surveillance by site

Group	Area		1097	1000	1989	1000	1001	1002	1002	1994	1005	1006	1007	1009	1000	2000	2004	2002	2002
Group Pregnant women	Area Major urban areas	Maternidad Nuestra Sra. de	1987	1988	1989	1990	1991 0.75	0.80	1993	1.70	1995 2.00	1.30	1997 1.88	1998 1.44	1.20	2000	2001	2002	2003
		la Altag Santo Domingo					0.97												
	Outside major urban areas	Hospital Alejandro Cabral y Baez,							0.67										
		S Hospital Alejandro Cabral, San						0.67		1.00	2.33	0	1.67	1.00	1.67				
		Juan Hospital Francisco A.										5.06	5.50	2.05	4.46				
		Gonzalvo, La Hospital Jaime Mota, Barahona											2.56	2.08	1.05				
		Hospital Ricardo Limardo, Puerto Pl								0.82	4.09	7.88	2.20	2.20	2.62				
		Hospital San Vincente de Paul, San						0	0.33	0.81	1.19	0.33	1.67	0.33	1.67				
		Hospital Teofilo Hernandez, El Seyb											0		3.10				
		San Francisco de Macoris					0												
Sex workers	Major urban	San Juan Centro					0	3.23	2.99		0								
Sex workers	Major urban areas	Sanitario, Santo Domingo					0.40			5.00		0.50	0.05	0.50	0.00				
		Hospital Francisco Moscoso Puello,					3.46	7.35	11.11	5.39	5.78	3.52	6.35	6.53	6.60				
		Hospital Luis Eduardo Aybar, Santo						5.10	8.00	4.14									
		Santo Domingo		47.50	3.60	1.80	2.90	1.90											
		Subcentro Boca Chica, Santo Domingo					3.17												
		Subcentro Las Caobas, Santo Domingo						4.92	7.79	8.00	4.68	8.00	2.50	2.35	3.49				
		Subcentro Los Mina, Santo Domingo						7.54	11.43	0.63	7.50	6.00	6.21	1.10	2.38				
	Outside major urban areas	Complejo Micaeliano, La Romana										13.13		4.46	7.49				
		Hosp. Nuestra Senora de Regia, Bani									10.00	5.88	13.14	10.66	9.46				
		Hospital Francisco A. Gonzalvo, La											9.84						
Injecting drug		La Romana						10.60											
users STI patients	Major urban areas	CENSA & CETS, Santo			2.80														
		Domingo Centro Sanitario, Santo Domingo					10.06	6.07	7.76	8.13	6.67		5.70	3.30					
		Santo Domingo Venerologia			3.26	2.90	4.70					5.73							
	Outside major	Centro, Santo Domingo Not specified											9.27						
Men having sex	urban areas		15.00							11.69									
with men	areas	Santo Domingo	15.00					6.40		11.09	0.44								
Tuberculosis patients	Major urban areas	Santo Domingo				5.00		6.40			9.14								
	Outside major urban areas	Urban area				5.00													