

AIDS in Brazil, 1982–1988¹

LAIR GUERRA DE MACEDO RODRIGUES² & PEDRO CHEQUER²



AIDS was first identified in Brazil in 1982, and by mid-1988 a total of 3,952 cases had been detected. The highest concentrations of cases have occurred in the Southeast region of the country (81.8%), which includes the States of Rio de Janeiro and São Paulo, and in the 25-to-40 year-old age group (58.2%). Sexual transmission is responsible for 72.8% of the cases; 18.8% of the cases were transmitted by contact with contaminated blood or blood products; perinatal transmission is responsible for 1.0% of the total recorded cases. On the basis of serologic surveys of certain population groups and projections of the prevalence of infection based on the number of actual cases at the end of 1987, the number of asymptomatic infected individuals would be between 200,000 and 400,000.

Brazil has the fourth highest number of reported AIDS cases in the world, surpassed only by the United States, France, and Uganda. In terms of incidence relative to size of population, however, it ranks below fortieth.

The first cases of AIDS in Brazil were identified in 1982 in the states of Rio de Janeiro and São Paulo, where one and four cases were recorded, respectively. In 1983, 31 more cases were recognized; in 1986, 867 were reported; and in 1988, through 30 July, 914 new cases had been diagnosed (Table 1). As the number of cases has grown, the annual incidence of the disease per one million population has increased from 0.05 in 1982 to 6.5 in 1988.

The following report reviews some aspects of the epidemiologic profile of AIDS in Brazil.

SPATIAL DISTRIBUTION OF CASES

Since the first cases were recognized, southern and central Brazil, and specifically the Southeast region, have had the largest concentration of cases. As of 30 July 1988, this region accounted for 81.1% of the total of notified cases in the country; 96% of the cases in that region had occurred in the states of São Paulo (2,401 cases, 60.8% of the national total) and Rio de Janeiro (661 cases, 16.7% of the national total). The Southeast region also presents the highest cumulative case rate, at 55.1 cases per million population; for São Paulo and Rio de Janeiro states, the rates are 82.9 and 52.7, respectively. The Federal District is the political division with the third highest rate, and next, in descending order, are the states of Rio Grande do Sul, Mato Grosso, and Pernambuco.

CASE DISTRIBUTION BY AGE

The age profile of AIDS cases resembles that observed in the other countries of the Western Hemisphere and in general has not altered much from year to year during the seven years of the epi-

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²National Division for the Control of Sexually Transmitted Diseases and AIDS, Ministry of Health, Brasília, Brazil.

Table 1. Number of AIDS cases, percentages, and case rate per million population by place of residence (region and political unit), Brazil, 1988 (through 30 July) and cumulative 1982-1988.

Region/political unit	1988 (through 30 July)			1982-1988 ^a		
	No.	%	Cases/ million pop.	No.	%	Cases/ million pop.
North	8	0.9	1.0	29	0.7	4.1
Rondônia	1	0.1	1.2	5	0.1	7.2
Acre	—	—	—	3	0.1	8.6
Amazonas	3	0.3	1.6	6	0.2	3.6
Roraima	—	—	—	—	—	—
Pará	3	0.3	0.7	14	0.4	3.4
Amapá	1	0.1	4.4	1	0.0	4.8
Northeast	97	10.6	2.4	326	8.2	8.5
Fernando de Noronha	—	—	—	—	—	—
Maranhão	4	0.4	0.8	13	0.3	2.9
Piauí	2	0.2	0.8	7	0.2	2.9
Ceará	16	1.8	2.6	42	1.1	7.3
Rio Grande do Norte	11	1.2	5.0	29	0.7	13.9
Paraíba	5	0.5	1.6	21	0.5	7.0
Pernambuco	20	2.2	2.9	99	2.5	14.8
Alagoas	9	1.0	3.9	22	0.6	10.0
Sergipe	6	0.7	4.4	13	0.3	10.0
Bahia	24	2.6	2.2	80	2.0	7.6
Southeast	697	76.3	11.2	3,204	81.1	55.1
Minas Gerais	17	1.9	1.1	110	2.8	7.6
Espírito Santo	12	1.3	5.0	32	0.8	14.2
Rio de Janeiro	91	10.0	6.8	661	16.7	52.7
São Paulo	577	63.1	18.4	2,401	60.8	82.9
South	86	9.4	4.0	265	6.7	13.0
Paraná	14	1.5	1.7	58	1.5	7.2
Santa Catarina	8	0.9	1.9	28	0.7	7.0
Rio Grande do Sul	64	7.0	7.3	179	4.5	21.4
Central-West	26	2.8	2.7	128	3.2	14.4
Goiás	6	0.7	1.3	36	0.9	8.3
Mato Grosso	8	0.9	5.0	29	0.7	20.3
Mato Grosso do Sul	2	0.2	1.2	18	0.5	11.5
Distrito Federal	10	1.1	5.8	45	1.1	29.5
Total	914	100.0	6.5	3,952	100.0	29.7

Source: National Division for the Control of Sexually Transmitted Diseases/AIDS, Epidemiology Service.

^aPreliminary data for 1988, through 30 July. Numbers subject to revision.

demic. In the past three years, however, there has been a significant increase in the number of pediatric cases, which now account for 3.1% of total recorded cases. Perinatal transmission and transfusion of contaminated blood or blood products are responsible for these cases.

Since the primary mode of transmission is sexual, it is not surprising that

persons 25 to 40 years old constitute the age group most affected, in terms of both absolute number of cases (with 58.2% of the total) and statistical risk (the highest prevalence rates). Within this larger group, the 30-to-34-year-old age group has experienced 22.6% of total reported cases and has the highest case rate of any age group, at 102.9 per million (Table 2).

Table 2. Number of AIDS cases, percentages, and specific case rates per million population, by age group, Brazil, 1988 (through 30 July) and cumulative 1982-1988.

Age group (years)	1988 (through 30 July)			1982-1988 ^a		
	No.	%	Cases/ million pop.	No.	%	Cases/ million pop.
Under 1	10	1.1	2.4	29	0.7	7.3
1 to 4	14	1.5	0.9	37	0.9	2.6
5 to 9	6	0.7	0.3	32	0.8	1.9
10 to 14	4	0.4	0.2	28	0.7	1.8
15 to 19	26	2.8	1.6	97	2.5	6.4
20 to 24	105	11.5	7.6	398	10.1	30.7
25 to 29	196	21.4	17.3	717	18.1	67.1
30 to 34	196	21.4	21.1	893	22.6	102.9
35 to 39	142	15.5	18.7	692	17.5	97.0
40 to 44	85	9.3	12.5	435	11.0	67.9
45 to 49	61	6.7	11.1	254	6.4	48.9
50 to 54	15	1.6	3.1	113	2.9	24.7
55 to 59	19	2.1	5.1	81	2.0	23.2
60 and over	12	1.3	1.4	66	1.7	8.3
Unknown	23	2.5	—	80	2.0	—
Total	914	100.0	6.5	3,952	100.0	29.7

Source: National Division for the Control of Sexually Transmitted Diseases/AIDS, Epidemiology Service.

^aPreliminary data for 1988, through 30 July. Numbers subject to revision.

CASE DISTRIBUTION BY SEX

In Brazil, only 295 (7.5%) of reported AIDS cases have occurred in women. This pattern is similar to the distribution by sex in most other countries of the

Americas outside the Caribbean, but it differs substantially from the approximately 1:1 sex ratio observed for cases in Central Africa and the ratio of about 4:1 male to female cases observed in Haiti and the Dominican Republic.

Table 3. Numbers and percentages of AIDS cases by transmission category and sex, and male to female case ratios, Brazil, 1982-1988.

Transmission category	Male		Female		M/F ratio	Total ^a	
	No.	%	No.	%		No.	%
Sexual transmission	2,801	76.6	78	26.4	36/1	2,879	72.8
Homosexuals	1,793	49.0	—	—	—		
Bisexuals	828	22.6	—	—	—		
Heterosexuals	180	4.9	78	26.4	2/1		
Transmission via blood	558	15.3	185	62.7	3/1	743	18.8
Hemophiliacs	145	4.0	—	—	—		
I.V. drug users	265	7.2	91	30.8	3/1		
Recipients of blood/ blood products	148	4.0	94	31.9	2/1		
Perinatal transmission	22	0.6	17	5.8	1/1	39	1.0
Undetermined/other ^b	276	7.5	15	5.1	18/1	291	7.4
Total	3,657	92.5	295	7.5	12/1	3,952	100.0

Source: National Division for the Control of Sexually Transmitted Diseases/AIDS, Epidemiology Service.

^aPreliminary data for 1988, through 30 July. Numbers subject to revision.

^bCase/category not investigated, or investigated but undetermined, or category other than those listed.

TRANSMISSION CATEGORIES

Sexual transmission has been responsible for 72.8% (2,879) of recorded cases; of those, 91% (2,621) have occurred in homosexual and bisexual men, and 9% (258) were contracted through heterosexual contact (Table 3).

Next in order of importance is transmission by contact with contaminated blood or blood products, which has been responsible for 743 cases. Most prevalent in this category have been cases among intravenous drug users, followed by cases in transfusion recipients and hemophiliacs. This mode of transmission is highly susceptible to control, and safe, sensitive, and very effective techniques exist that can practically eliminate the risk of infection for hemophiliacs and transfusion recipients. The Federal Government is making a concerted effort to universally control the quality of blood and blood products by screening of donors with the ELISA method. In the public sector, advances have been made in this regard, although unevenly, following the decision of the Ministries of Health and of Social Security and Welfare to institute a new blood quality control policy. Regrettably, even though a highly effective strategy has been defined, cases of AIDS are still occurring among hemophiliacs and recipients of multiple transfusions, because the prevalence of HIV infection was already significant before the existence of appropriate technology for screening blood. Health promotion activities are being developed for users of intravenous drugs in order to reduce their risk of infection.

Perinatal transmission is third in order of importance, and is responsible for 1.0% of total recorded cases. No cases in this category have been linked to breastfeeding, infection having taken place in utero or during birth.

In 291 (7.4%) of the AIDS cases in Bra-

zil, the mode of transmission was undetermined (either investigated but not characterized, or not investigated).

TEMPORAL DISTRIBUTION

As described above, the number of new cases has been increasing substantially from year to year. The average of notified cases rose from 10 per month in 1984 to 89 per month—or three new cases per day—in 1987. The variety of modes of transmission and the variable incubation period do not allow any classification of cases with respect to this statistic.

INFECTION PREVALENCE AND TRENDS

Two bases for estimating the prevalence of HIV infection should be taken into account. The first is serologic surveys carried out in certain population groups by means of diverse methodologies; and the second is projection of the prevalence of infection based on the number of actual cases, using as a parameter the ratio of 50–100 HIV-infected persons for every AIDS case. The percentages of HIV-positive results found in some serologic surveys are listed below.

- Rio de Janeiro, January–May 1987, 17,224 blood donors: 0.34%¹
- Recife, 3,085 blood donors: 0.16%²
- Rio de Janeiro, sample survey of 611 convicts: 1.8%³
- Rio de Janeiro, 1987, 100 prostitutes: 6%⁴
- Rio de Janeiro, 1987, 100 transvestites: 37%⁴
- Rio de Janeiro, hemophiliacs (300 tested, 228 positive): 76.0%⁵

¹National Cancer Institute blood bank, Rio de Janeiro.

²Hemocentro de Pernambuco, Recife.

³Department of Health, Rio de Janeiro.

⁴Fundação Instituto Oswaldo Cruz, Rio de Janeiro.

⁵Instituto Santa Catarina, Rio de Janeiro.

It can be seen that the circulation of the virus varies greatly in different groups, which makes it possible to delineate major risk groups based on behaviors or pre-existing conditions.

Using the above-mentioned 1:50 to 1:100 case to infection ratio as the basis for projections, and assuming an under-reporting of 1,500 cases through the end of 1987 (which would bring the case total to about 4,000 at that time), the number of asymptomatic infected persons would

be between 200,000 and 400,000. These are the epidemiologically significant numbers with regard to circulation of the virus and the appearance of new cases.

The situation calls for the public health entities and society as a whole to unite in intensified prevention and control efforts in order to reduce the risk of infection. Moreover, only a united effort will assure that persons afflicted by this disease are treated humanely, with dignity, and without discrimination.



Sources of Information on AIDS

As part of their efforts to stop AIDS, a number of organizations in the United States, both public and private, offer AIDS information to the general public. At the federal government level, the U.S. Public Health Service has announced formation of a distribution center for AIDS information, the National AIDS Information Clearinghouse, under the authority of the Centers for Disease Control. Through this center, managers of state and local AIDS programs, other public health professionals, and members of the public can receive free information about the services and educational materials provided by AIDS programs. The clearinghouse also distributes U.S. Public Health Service publications on AIDS. Requests can be made by calling (301) 762-5111.

Since its creation in 1982, the San Francisco AIDS Foundation has been dedicated to serving persons affected by the epidemic and to educating the public. It has produced a broad range of educational materials, from simple pamphlets to books and video tapes, that touch on all aspects of the epidemic and are directed toward diverse audiences. Many of the materials are available in both English and Spanish. To obtain a catalog of these publications, write to San Francisco AIDS Foundation, 333 Valencia St., P.O. Box 6182, San Francisco, CA 94101-6182, USA.