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MINISTRY OF HEALTH

Tanzania Mainland

National AIDS Control Programme

HIV/AIDS/STDs Surveillance

Report No. 11, December, 1996

Epidemiology Unit, NACP
Dar es Salaam
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1. Abbreviations and acronyms

AIDS	-	Acquired Immune Deficiency Syndrome
AMREF	-	African Medical and Research Foundation
CBR	-	Crude Birth Rate
CDR	-	Crude Death Rate
GDS	-	Genital Discharge Syndrome
GTZ	-	German Development Agency
GUD	-	Genital Ulcer Disease
HIV	-	Human Immunodeficiency Virus
IDC	-	Infectious Disease Centre
LSHTM	-	London School of Hygiene and Tropical Medicine
M:F	-	Male to female ratio
MOH	-	Ministry of Health
NACP	-	National AIDS Control Programme (referred to as the Programme)
NIMR	-	National Institute for Medical Research
ODA	-	Overseas Development Administration
PID	-	Pelvic Inflammatory Disease
RPR	-	Rapid Plasma Reagin
STDs	-	Sexually Transmitted Diseases
TPHA	-	*Treponema Palladium* Haemogglutination Assay
UK	-	United Kingdom
VDRL	-	Venereal Disease Research Laboratory
WHO	-	World Health Organization
WHO/GPA	-	World Health Organization/Global Programme on AIDS
UNAIDS	-	Joint United Nations Program on HIV/AIDS

2. Acknowledgements

The National AIDS Control Programme (NACP) would like to thank all the health workers, who have participated in collecting the data for this epidemiological report. The Programme recognizes the important role played by various health personnel in obtaining such data which are indispensable in the efforts to control the HIV/AIDS epidemic. In order to facilitate timely production of this report in future, the Programme strongly urges for continued interest and efforts among the peripheral health workers in providing the necessary data. This normally consists of properly filling the appropriate forms, compiling routinely collected data and submitting them promptly for analysis, compilation and subsequent report writing. The Programme is also working on ways to improve the data collection process by further simplifying the reporting forms to include only crucial information that can be used to provide timely feedback.

Preparation of the report

This report was prepared by the Epidemiology Unit of the National AIDS Control Programme (NACP) of the Ministry of Health. The preparation has entirely relied upon the information which has been received from the regions during the period between 1st of January, 1996 and 31st of December, 1996. Despite a number of logistic problems outlined in the report, all data received were processed, analysed and interpreted in full consideration of possible effects of interventions, as well as limitations of data due to incomplete reporting by hospitals.

Distribution of the report

This report is produced and distributed for use by those who helped to provide the information therein so that they can see for themselves the outcome of their efforts. In addition, the report is intended for use by all service providers, social scientists, health professionals, students of the health sciences and other sectors as well as individuals and agencies collaborating in AIDS work. The following are already on the Programme's mailing list for regular distribution.

All Medical Officers in charge of hospitals
All District Medical Officers
All District AIDS Control Co-ordinators
All Regional Medical Officers
All Regional AIDS Control Co-ordinators
All departments, Ministry of Health
All Units, National AIDS Control Program
All donor agencies
All members of the Sectoral Technical AIDS Committees
All members of the NACP committees and sub-committees
All members of the National AIDS Committees
All Medical libraries
All UN agencies
All National Libraries

Important message to readers

In the course of writing this report errors may have arisen as a result of transcription or incorrect recording of information. Although utmost care has been exercised in producing the report, there may still be some errors. Readers are, therefore, strongly urged to inform the programme about any such errors promptly so that they can be rectified before the next report.

3. Executive summary

AIDS Case reports

This report covers the period, January to December, 1996 but takes into account previous reports. In particular, the report includes the well-known first three AIDS cases in Tanzania which were reported in 1983 in the Kagera Region. Since that time, cases have continued to increase, and by 1986 all regions of the country had reported the existence of AIDS cases. Subsequent observations indicate that by the end of 1990 a cumulative total of 25,503 cases had been reported to the NACP with a doubling time of 15 months and by the end of 1996 the cumulative number of cases had reached 88,667. However, this increase in the number of reported AIDS cases simply indicates an increasing trend but does not reflect the real situation in terms of the true number of existing cases. The reported cases are few compared to existing ones because only one out of 4-6 AIDS cases are reported in the country due to problems of AIDS diagnosis and other logistics which exist in many of the health care facilities. Thus, the current total number of estimated cumulative AIDS cases in Tanzania stands at about 450,000 while only 88,667 cumulative AIDS cases had been reported until December, 1996. Late reporting as well as failure to report by some regions to the NACP headquarters in Dar es Salaam also contributes to the figures in this report not reflecting the reality in terms of accuracy.

Most affected regions

As of 1996 Dar es Salaam region had reported the highest absolute cumulative number of AIDS cases in the country, and after taking into account the regional population sizes Dar es Salaam region had the highest case rate. Regions following Dar es Salaam in the rank of case rates were Mbeya and Kilimanjaro in decreasing order.

HIV infection rates

Data on HIV infection rates have been obtained through ante-natal clinics, blood donors and surveys involving selected populations. During 1996 data were received from 8 ante-natal clinics throughout the country and they show that the HIV-1 prevalence ranges from 7.5% to 18.7%. These data can be taken to be fairly representative of the respective catchment populations. However, due to blood donor selection towards those with low HIV infection risk, data from blood donors have increasingly under-estimated the prevalence of HIV infection in the general population. During 1996 blood donor data showed that 6.8% of the adult male population and 8.2% of the adult female population were HIV infected. Thus, based on age-and-sex specific blood donor prevalence as observed in 1996 and an adult population of 15,500,000, the estimated total number of adult HIV infections in mainland Tanzania during 1996 was about 1,350,000. Based on the current HIV prevalence among pregnant women, it is estimated that about 65,000(5.1%) of new born baby are HIV positive.

Orphans

Orphans resulting from the death of one or both parents from AIDS constitute a significant social problem in the Tanzanian society today. NACP defines orphans as those children aged below 18 years who have lost one or both parents due to AIDS. At present accurate national estimate figures are not available. However, majority of the orphans are in the Kagera region where more than 100,000 orphans have been reported.

4. Introduction

This report covers the status of the HIV/AIDS epidemic in mainland Tanzania until December, 31st 1996 and provides an overview of the situation with updated figures since the tenth report of December, 1995. The report, therefore, supersedes all previous reports of the NACP surveillance activities since its first report in 1989.

Since the first reported AIDS cases in Kagera in 1983 the HIV/AIDS epidemic has been on the increase in the country affecting mainly the sexually active populations of both sexes as well as children born of infected mothers. By 1986 all regions of the country had reported the existence of AIDS cases and by the end of 1990 a cumulative total of 25,503 cases had been reported to the NACP from the regions. The cumulative total by the end of 1996 was 88,667. This increase in the number of reported cases since 1983 is an indication of the increasing trend in AIDS cases but does not reflect the real situation in terms of the true number of existing cases in Tanzania.

5. The Tanzanian AIDS situation in a global context

A total of 1,393,649 cumulative AIDS cases in adults and children have been reported to WHO as of 31st June, 1996 since the onset of the pandemic in 1981. This is a 7.9% increase from the 1,291,810 cumulative cases reported until 15th December, 1995. The distribution of the HIV/AIDS pandemic by geographical area is shown in Tables 1a,1b and 1c below:

Table 1a
Global distribution of reported and estimated AIDS cases

Continent	Reported AIDS Cases	Estimated AIDS Cases
Africa	499,037 (36%)	5,929,000 (76%)
Americas	690,042 (50%)	1,001,000 (13%)
Asia	29,707 (2%)	539,000 (7%)
Europe	167,578 (12%)	231,000 (3%)
Oceania	7,285 (<1%)	77, 000 (1%)
TOTAL	**1,393,649 100%)**	**7 ,777,000 (100.0%)**
Tanzania	***88,667***	***450,000***

WHO - July 31 1996

Note: In Table 1a the number of reported AIDS cases for mainland Tanzania cannot be directly compared to those of the continents in the table, as date and completeness of reporting may differ.

From Table 1a we note that so far the Americas have contributed 50% of the reported AIDS cases, while Africa accounts for a little more than one third of the reported cases. This is mainly because reporting of AIDS cases in Africa has generally been delayed or is incomplete. In Tanzania, it has been estimated that only one out of 4-6 AIDS cases are reported to official sources. Thus, taking the 88,667 cumulative AIDS cases reported until the end of 1996 and an average estimate of one reported case out of 5, we have an overall estimate of about 450,000 cumulative AIDS cases for Tanzania until end of 1996.

Table 1b
Estimated Global Cumulative distribution of HIV infected persons and persons living with HIV/AIDS from late 1970s/early 1980s until mid 1996.

Continent	Estimated HIV infection	Estimated person living with HIV/AIDS
Australasia	23,000	13,000
East Asia and Pacific	36,000	35,000
Eastern Europe and Central Asia	31,000	30,000
Latin America and Caribbean	1,900,000	1,600,000
North America	1,200,000	780,000
North Africa and Middle East	220,000	200,000
Sub Saharan Africa	19,000,000	14,000,000
South and East Asia	5,000,000	4,800,000
Western Europe	640,000	470,000
TOTAL	**28,050,000**	**21,928,000**

WHO - July 31 1996

As of mid- 1996, it is estimated that around 25.5 millions adults, and more than 2.4 million children worldwide, have been infected with HIV since the beginning of the pandemic (late 1970s to early 1980s).

Table 1b presents the estimated regional distribution of these HIV infections in adults and children (including AIDS cases still alive) as of mid 1996.

Currently an estimated 21,000,000 adults and 800,000 children are living with HIV/AIDS.

Table 1c

Distribution of Reported AIDS cases in Africa by country and date of reporting.

Country	Number of Cases	Date of Reporting.
Algeria	217	31.12.94
Angola	1,181	19.06.96
Benin	1,280	31.12.95
Botswana	3,451	31.12.95
Burkina Faso	3,966	12.02.96
Burundi	7,024	31.12.94
Cameroon	5,375	31.12.94
Cape Verde	117	31.12.95
Central African republic	4,939	21.03.96
Chad	3,457	31.07.95
Comoro	15	31.12/95
Congo	7,773	22.04.95
Cote d'Ivoire	25,236	31.05.95
Djibouti	880	14.05.96
Egypt	129	12.03.96
Equatorial Guinea	157	09.11.95
Eritrea	2,323	31.07.95
Ethiopia	19,433	30.07.95
Gabon	990	27.10.95
Gambia	410	31.03.96
Ghana	17,564	31.12.96
Guinea	2,356	12.06.96
Guinea- Bissau	786	10.06.96
Kenya	63,875	07.06.96
Lesotho	936	07.06.96
Liberia	191	31.03.94
Libya	17	13.11.95
Madagascar	24	06.06.96
Malawi	42,067	31.03.96
Mali	3,048	31.12.95
Mauritania	130	22.08.95
Mauritius	27	31.12.95
Morocco	306	29.02.96
Mozambique	3,116	31.05.96
Namibia	5,101	31.12.93
Niger	1,729	13.10.95
Nigeria	1,591	31.05.95
Reunion	65	20.03.92
Rwanda	10,706	30.06.93
Sao Tome and Principe	19	19.06.96
Senegal	1,573	27.06.95
Seychelles	16	19.01.96
Sierra Leone	190	15.06.96
Somalia	13	06.07.96
South Africa	10,351	03.08.95
Sudan	1,341	13.03.96
Swaziland	590	26.10.95
Togo	6,466	13.05.96
Tanzania	88,667	31.12.96
Tunisia	270	10.05.96
Uganda	48,312	31.03.96
Zaire	29,434	26.04.96
Zambia	34,000	30.04.96
Zimbabwe	41,298	19.10.95
TOTAL	503,057	

WHO - July 31 1996.

NB. For a valid comparison, these data should be compared relative to the population for each country

6. AIDS case reporting

Time trend and spatial distribution of AIDS cases

Since the last report of December, 1995 (Report No.10), a total of 7169 AIDS cases have been reported to the NACP from the regions, bringing the cumulative total to 88,667 AIDS cases as per December, 31st 1996.

The cumulative number of AIDS cases by region and year, and the cumulative case rate (Number of cases per 100,000 population) are shown in Table 2a and Table 2b.

Table 2 (a) Cumulative AIDS cases by region and year (1983-1990)

	YEAR							
Region	**1983**	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**
Arusha	0	0	0	10	47	217	433	647
Coast	0	0	1	4	79	224	465	938
Dar es Salaam	0	0	51	471	1,470	3,093	5,209	7,246
Dodoma	0	0	0	7	47	105	262	310
Iringa	0	0	1	3	68	305	374	728
Kagera	3	106	322	847	1,666	2,143	2,576	3,472
Kigoma	0	0	0	3	50	109	244	607
Kilimanjaro	0	1	8	36	207	455	571	966
Lindi	0	0	0	1	10	46	113	484
Mara	0	0	0	3	30	99	141	280
Mbeya	0	0	0	16	208	751	1,077	3,890
Morogoro	0	0	0	11	88	254	364	637
Mtwara	0	0	1	5	26	90	199	479
Mwanza	0	0	15	54	171	448	667	1,303
Rukwa	0	0	0	1	5	98	94	140
Ruvuma	0	0	0	20	46	81	210	571
Shinyanga	0	0	0	8	31	144	238	583
Singida	0	0	0	6	74	197	284	456
Tabora	0	2	5	6	59	232	525	927
Tanga	0	0	0	13	80	210	351	838
Unspecified	-	-	-	-	-	-	-	1
TANZANIA	3	109	404	1,525	4,462	9,301	14,397	25,503

The data in Tables 2a and 2b are believed to reflect the real trend of AIDS cases in the country, although in reality the absolute numbers of cases are assumed to be a factor of about 5 times higher due to under-reporting, under-diagnosis and delays in reporting.

AIDS cases reported since last report

A total of 7169 AIDS cases were reported to the NACP between 1st January 1996 and 31st December, 1996. Of these cases, only 5313(74.1%) were freshly reported as AIDS cases diagnosed during the year of this report. The rest of the cases (25.9%) had not previously been reported due to a variety of reasons but were subsequently reported during the year of this report.

Table 2 (b)
Cumulative AIDS cases by region and year (1991-1996)

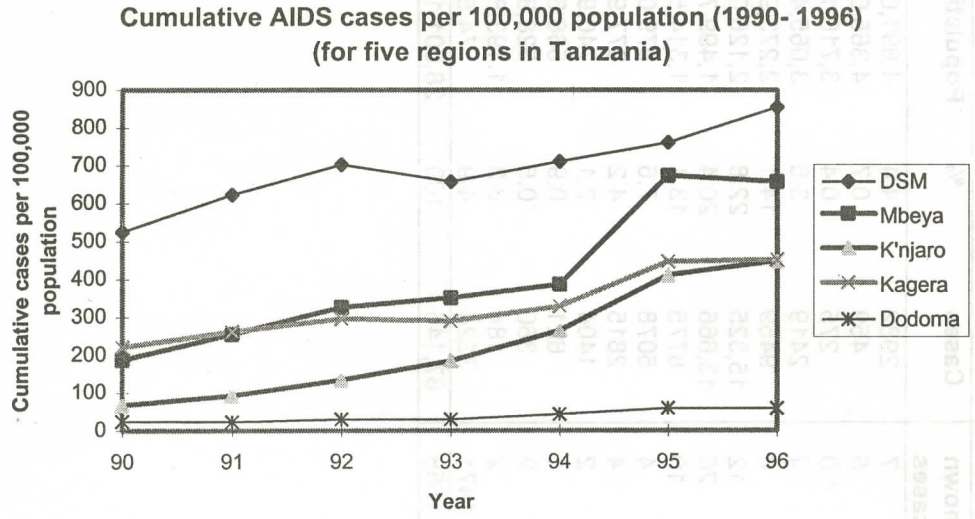
	YEAR								
Region	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**Population**	**Rate**	**Rank**
Arusha	1,117	1,637	2,185	2,368	2,615	2,787	1,779,986	156.6	17
Coast	1,676	2,215	2,740	3,023	3,268	3,373	770,862	437.6	5
Dar es Salaam	8,834	9,295	10,406	11,050	11,302	12,983	1,519,929	854.2	1
Dodoma	536	762	1,028	1,071	1,090	1,096	1,891,431	57.9	20
Iringa	2,281	3,334	4,462	4,674	4,785	4,883	1,505,833	324.3	7
Kagera	4,742	5,813	6,646	7,064	7,223	7,426	1,648,018	450.6	3
Kigoma	930	1,556	1,920	2,070	2,257	2,280	1,070,357	213.0	15
Kilimanjaro	2,060	3,707	4,699	5,119	5,513	5,991	1,335,551	448.6	4
Lindi	842	1,211	1,691	1,966	2,173	2,480	779,243	318.3	8
Mara	639	980	1,304	1,393	1,486	1,486	1,209,722	122.8	18
Mbeya	6,924	9,890	11,439	12,214	12,371	12,371	1,881,853	657.4	2
Morogoro	2,398	3,598	4,328	4,575	4,605	4,605	1,518,629	303.2	9
Mtwara	1,361	1,968	2,090	2,201	2,267	2,444	1,039,099	235.2	13
Mwanza	3,041	4,207	5,349	5,731	5,974	6,365	2,333,420	272.8	11
Rukwa	261	496	715	777	801	882	941,790	93.7	19
Ruvuma	1,197	1,807	2,480	2,847	3,087	3,345	1,006,736	332.3	6
Shinyanga	1,278	1,874	2,624	3,062	3,361	3,824	2,230,178	171.5	16
Singida	763	1,107	1,472	1,688	1,908	2,135	979,982	217.9	14
Tabora	1,400	1,972	2,786	3,075	3,428	3,805	1,270,382	299.5	10
Tanga	1,914	2,636	3,207	3,475	3,793	4,062	1,552,370	261.7	12
Unspecified	1	1	1	2	44	44	-	-	-
TANZANIA	44,195	60,066	73,572	79,445	83,351	88,667	28,265,333	313.7	

NB:

1. The total population for 1996 by regions has been projected from the 1988 population census using a constant exponential growth model with an annual growth rate of 2.8%.
2. The following Regions did not report during the year 1996, hence their rates are likely to differ from those which appear in the table. The regions are Mara, Morogoro, Mbeya Rukwa (which reported for few months and for only one district). Efforts will be made to include all their reports in the next report.
3. Any differences in the figures in Table 2(b) from previous reports may be attributed to previously unreportedcases which became reported in 1996.

As in the previous reports, Dar es Salaam Mbeya and Kagera are still the three leading regions on the basis of case rates. However, Coast and Kilimanjaro regions have swapped positions with Kilimanjaro occupying the fourth berth and Coast coming fifth . Figure 1 shows the cumulative AIDS cases per 100,000 population five selected regions, namely Dar es salaam, Mbeya, Kagera, Kilimanjaro and Dodoma. The first four regions occupy the top four positions, while Dodoma has consistently been ranking last among 20 regions.

Figure 1



As noted also in the preceding report, Mbeya appears to be catching up with Dar es Salaam.

Distribution of AIDS Cases by Age and Sex

Of the AIDS cases reported so far, age and sex variables were recorded for 65,583 cases between 1987 and 1996. As shown in Table 3 the overall cumulative case rate was 236.5 per 100,000 population. The rate was 237.3 per 100,000 for men and 225.0 per 100,000 for women. The highest case rates of over 1030 per 100,000 are seen in the age group 30-34 years among men and over 778 per 100,000 in the same age group among women. Table 5 also shows that children aged 10-14 years had the lowest case rates (6.0 per 100,000 for boys and 8.6 per 100,000 for girls). The overall M:F case ratio and case rate ratio were 0.99 and 1.05 respectively.

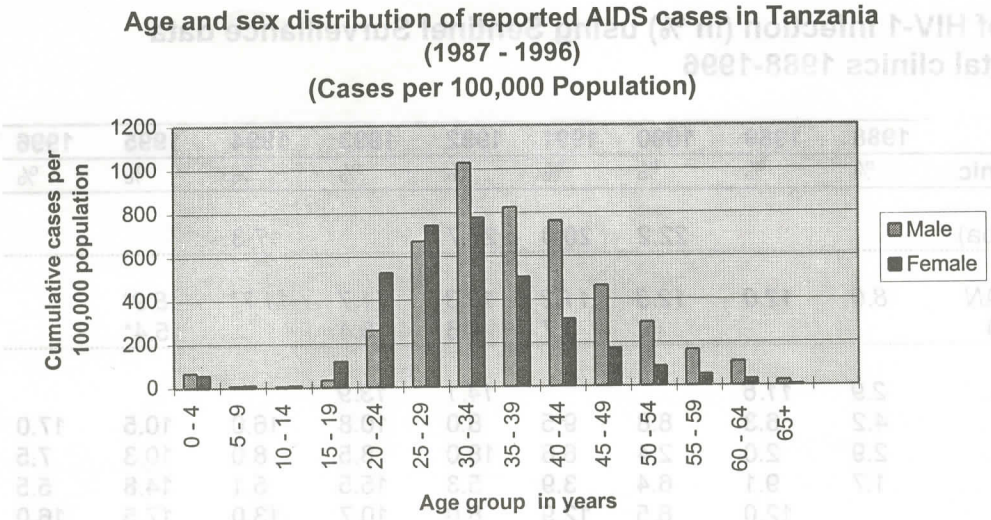
Figure 3 shows the age and sex cumulative AIDS case rate for Tanzania (1987-1996). The figure indicates that a higher proportion of female cases is being reported at earlier ages (15-29 years) than male cases while the reverse is true for male cases at later ages. The figure therefore suggests that the AIDS epidemic is continuing to affect women at an earlier age than males.

Table 3
Distribution of cumulative AIDS cases by age and sex, 1987 - 1996 (Age-specific population is also provided)

Age	Male				Female				Unknown sex cases	Total			
	Case	%	Population	Rate	Cases	%	Population	Rate		Cases	%	Population	Rate
0 -4	1594	4.9	2,328,832	68.4	1381	4.2	2,362,857	58.4	7	2982	4.4	4,691,689	63.6
5-9	201	0.6	2,184,785	9.2	253	0.8	2,180,860	11.6	5	459	0.7	4,365,645	10.5
10-14	113	0.3	1,861,875	6.1	162	0.5	1,854,273	8.7	0	275	0.4	3,716,148	7.4
15-19	516	1.6	1,489,874	34.6	1899	5.8	1,597,897	120.5	4	2419	3.6	3,065,460	7.9
20-24	2656	8.1	1,001,098	265.3	6795	20.6	1,272,854	533.8	8	9459	14.1	2,273,952	416.0
25-29	6603	20.2	970,541	680.3	8710	26.5	1,171,924	753.8	12	15,325	22.8	2,126,085	720.8
30-34	7374	22.6	705,833	1044.7	6266	19.0	793,963	789.2	26	13,666	20.4	1,499,796	911.2
35-39	5269	16.1	630,187	836.1	3496	10.6	684317	510.9	10	8775	13.1	1,314,504	667.6
40-44	3462	10.6	447930	772.9	1612	4.9	511160	315.4	4	5078	7.6	979,090	529.5
45-49	2027	6.2	431726	469.5	784	2.4	446229	175.7	4	2815	4.2	877,955	320.6
50-54	1039	3.2	348036	298.5	363	1.1	398897	91.0	2	1404	2.1	746,933	188.0
55-59	486	1.5	291161	166.9	134	0.4	275513	48.6	1	621	0.9	566,674	109.6
60-64	275	0.8	246716	111.5	83	0.3	282088	29.4	2	360	0.5	528,804	68.1
65+	148	0.5	619463	23.9	34	0.1	574375	5.9	2	184	0.3	1.193,838	15.4
Unknown	918	2.8	27,504		935	2.8	47,058		1471	3324	4.9	74,562	
Total	32,681	100	13,558,057	241.0	32907	100	14,368,516	229.0	1558	67,146	100	28,001,135	239.8

M:F case ratio 32,681/32.901 = 0.99
M:F rate ratio 237.3/225.0 = 1.05

Figure 3



7. HIV Sentinel surveillance using ante-natal clinics

HIV serology in sentinel sites

A total of more than 24 sentinel sites was expected to be operational during 1996. However, reports were received from only 8 sites in two out of the 11 regions in which HIV/STD surveillance sites in antenatal clinics have been established. Efforts are underway to make sure that there is a well functioning Sentinel sites.The prevalence of HIV infection among women attending the various ante-natal clinics by year is shown in Table 4(a). The prevalence of HIV-1 infection ranged between 5.5% and 23.1% during 1996.

Vertical Transmission of HIV infection

Vertical transmission of HIV infection is an important mode of transmission as more and more HIV infected mothers become pregnant and deliver babies who are potentially at a high risk of infection either pre-natally or post-natally. During 1996, 3.6 % of all reported AIDS cases were observed to be due to mother to child transmission. Assuming a 30% HIV transmission rate from pregnant women to their offspring (vertical transmission), the percentage of new-borns expected to be infected can be up to 7% in the various sentinel sites (if the HIV prevalence range of 5.5% to 23.1% among pregnant women applies as shown in Table 4a).

Table 4 (a)

Prevalence of HIV-1 infection (in %) using Sentinel Surveillance data from ante-natal clinics 1988-1996

	1988	1989	1990	1991	1992	1993	1994	1995	1996
Site of ANC Clinic	%	%	%	%	%	%	%	%	%
KAGERA (Bukoba)			22.2	20.0	27.7		17.3		
MWANZA URBAN	*8.0*	*12.0*	*12.3*	*11.2*	*10.3*	*11.7*	*11.7**	*8.9**	
Mkula (Magu)				3.7	4.6	5.4		5.4*	
MBEYA RURAL	*2.9*	*11.6*			*14.1*	*13.9*			
Chimala	4.2	6.3	8.8	9.5	8.0	10.8	16.0	10.5	17.0
Isoko	2.9	2.0	2.4	6.6	18.0	8.5	8.0	10.3	7.5
Itete	1.7	9.1	6.4	3.9	5.3	15.5	5.1	14.8	5.5
Mwambani		12.0	8.5	12.9	8.0	10.7	13.0	17.5	16.0
Kyela		21.2	14.6	17.5	30.4	27.2	27.5	32.5	23.1
Mbozi							15.0	13.9	17.0
MBEYA URBAN	*9.4*	*13.0*	*12.2*	*15.3*	*17.7*	*19.6*		*20.3*	*18.7*
Kiwanjampaka	7.0	10.6			17.0	22.3	19.5		
Mwanjelwa	11.0	7.3			11.0	23.2	19.6		
Meta	10.3	16.9			25.0	13.7	16.0		
DAR ES SALAAM									
Temeke				*10.3*		*15.3*		7.3	
KILIMANJARO									
Umbwe				2.3	6.4			0.0	9.1
IRINGA (Mafinga)				*21.0*	25.0				
MTWARA									
Nanguruwe				4.4				0.0	
MARA (Nyasho)				*5.9*	*6.5*	*7.7*		*7.2**	
RUKWA					*11.7*	*23.2*			
Namanyere					11.3				
Sumbawanga					12.0	23.2			
RUVUMA									
Madaba					6.6	12.9			
Songea					9.7	16.1			
Namtumbo					3.5	6.7			
SHINYANGA							*10.9*		

NB: Clinics which are currently operating but not listed have not submitted their reports to the NACP. Clinics with blanks during 1996 did not submit reports in time during the year.

Table 4 (b)

Prevalence of Syphilis infection (in %) using Sentinel Surveillance data from ante-natal clinics, 1990-1996

Site of ANC Clinic	1990 %	1991 %	1992 %	1993 %	1994 %	1995 %	1996 %
KAGERA (Bukoba)		2.7	3.6				
MWANZA URBAN		*7.0*	*8.7*	*6.5*		*7.9*	
Mkula (Magu)			10.4	10.5		11.0	
MBEYA RURAL			*13.3*				
Chimala	4.4		10.0		14.0	8.5	2.5
Isoko	7.5	7.3	22.0		5.5	0.7	2.7
Itete			8.0		10.1	7.4	0.0
Mwambani	6.6		8.0		17.5	11.0	10.5
Kyela		4.8	17.9		7.5	1.0	4.1
Mbozi					8.0	6.2	2.5
MBEYA URBAN	*9.1*	*8.6*				*7.3*	*6.8*
Kiwanjampaka		26.6	10.0		13.5		
Mwanjelwa		20.0	14.0		10.6		
Meta		11.9	5.0		13.0		
DAR ES SALAAM		*4.2*	*7.6*				
Temeke			4.1				
*Mwananyamala			1.6				
*Aga Khan Clinic			13.6				
**COAST*			*10.8*				
Bagamoyo			12.0				
Kisarawe			6.8				
Kibaha			11.2				
KILIMANJARO							
Umbwe		1.7	3.6	0.9		1.1	0.7
IRINGA							
Mafinga		19.9	21.7	28.3		1.2	
MTWARA		*4.2*					
Nanguruwe			8.3			0.0	
MARA (Nyasho)		*1.2*	*7.0*	*3.9*		*5.0*	
RUKWA			*16.8*				
Namanye.e			18.0				
Sumbawanga			15.7				
RUVUMA							12.0
Madaba		*51.9*	*3.6*			4.0	2.1
Songea			3.3			1.7	4.9
Namtumbo			7.1				
SHINYANGA				*5.1*			

NB. Clinics which are currently operating but not listed have not submitted their reports to the NACP. Clinics with blanks during 1996 did not submit reports in time during the year.

Syphilis serology in sentinel sites

Together with HIV surveillance among pregnant women in selected sentinel sites, RPR or VDRL testing for syphilis has been going on for all pregnant women during their first attendance to ante-natal clinics in various parts of the country (see Table 4b). During 1996 the prevalence of RPR or VDRL positivity ranged between 0.7% and 12.0% as calculated from data received from 11 sites.

Table 4 (c)

Distribution of RPR +ve women by age group and number of previous pregnancies for 1996

Age Group	Number of Previous Pregnancies					
	0	*1*	*2*	*3*	*4+*	*total*
15 - 19	11	0	0	0	0	11
20 - 24	5	2	1	0	2	10
25 - 29	3	2	1	0	3	9
30 - 34	0	0	0	1	0	1
35 +	0	0	1	4	1	6
Total	19	4	3	5	6	37
% Total	**51.4**	**10.8**	**8.1**	**13.5**	**16.2**	**100.0**

Thus, we see from the table that majority (51.4%) of RPR +ve women attending the clinics primi-gravidae.

HIV and syphilis prevalence among company workers.

Table 4(d)

Prevalence of syphilis and HIV among specific company workers

	No. interviewed	Number tested	Syphilis (old) RPR-TPHA+	HIV +ve
FEMALE	**47**	**46**	**5 (10.9%)**	**2 (4.3 %)**
MALE	**143**	**143**	**10 (7.0%)**	**6 (4.2%)**
TOTAL	**190**	**189**	**15 (7.9%)**	**8 (4.2%)**

In response to HIV prevention a company had a survey to determine the prevalence of HIV and syphilis among its employees. The results show that 4.2% and 4,3% of male and female workers, respectively were HIV positive while 7.0 % and 10.9 % among the male and female workers, respectively were TPHA positive.

8. HIV Sentinel surveillance using blood donors

Reporting on HIV serostatus of potential blood donors in the country has been taking place since 1987. Initially, screening for HIV infection took place in regional hospitals only. However, since 1990 all the 182 hospitals in the country have been screening blood from donors to ensure safe transfusion. Table 6 shows the proportion of hospitals reporting during each year since 1987.

Table 6. Distribution of reported blood donations by year of donation

	Total reported blood donations		Reported blood donations with known age and sex		Reporting hospitals	
Year	Number	% of total transfusions	Number	%(c4/c2)	Number	% (in C6)
C1	C2	C3	C4	C5	C6	C7
1987	4,285	3	555	13	6/182	3
1988	13,807	10	3,680	27	14/182	8
1989	35,049	24	12,251	35	103/182	57
1990	28,399	20	24,885	88	123/182	68
1991	81,325	56	78,549	97	158/182	87
1992	64,294	45	62,489	97	140/182	77
1993	59,743	41	58,594	98	100/182	55
1994	37,156	26	35,638	96	42/182	23
1995	22,570	16	22029	98	61/182	34
1996	88,696	64	88,696	100	135/182+	74

C1 = 1st column; C2 = 2nd column etc.

Table 6 also shows the time trend in the number of reported blood donations and the respective number of reporting hospitals.

Regional Differences in HIV infection using blood donor data

Overall time trends in HIV infection by region before 1989 are difficult to assess using blood donor data, as data were available from only a few regions . However, as the number of reporting regions increased, blood donor data became more reliable as a surveillance tool. Data from the different regions are assumed to be equally biased as problems related to donor selection are probably uniform in all the regions. Hence regional differences in HIV prevalence are likely to be real. Tables 7a and 7b show the prevalence of HIV-1 infection among blood donors by region and by sex between 1987 and 1996. The tables show that the prevalence across the regions ranges from 3.0% to 17.2% among males and 3.2% to 14.9% among females.

Table 7 (a)
Prevalence of HIV-1 infection (in %) among blood donors by region for males, 1987-1996

Region	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Rank for 1996
Arusha			0.0	1.9	2.3	2.6	2.6	2.7	6.1	3.0	20
Coast	0.0	5.0	4.6	4.5	4.4	4.1	5.9	6.6	5.5	9.4	5
Dodoma			1.9	5.6	3.5	2.8	1.7	0.0	0.0	4.9	15
DSM	1.5	7.5	2.5	7.7	6.9	8.5	-	-	4.9	17.2	1
Iringa			11.1	11.4	10.6	11.1	13.2	7.7	13.0	14.2	2
Kagera			10.5	10.2	10.3	10.9	5.8	7.9	10.8	8.0	8
Kigoma		7.5	1.2	1.2	2.5	1.9	7.0	3.4	4.9	5.6	12
Kili'jaro			1.3	5.2	2.7	2.4	3.4	1.5	10.7	4.1	16
Lindi			0.6	5.6	4.8	3.7	2.5	-	3.0	3.7	18
Mara			4.6	4.5	4.5	6.9	5.0	3.7	5.8	7.6	10
Mbeya	4.8	5.0	5.2	7.8	11.6	15.1	0.0	-	9.0	11.1	3
Morogoro		10.9	6.8	3.1	5.4	4.6	5.7	-	-	4.1	16
Mtwara			4.9	2.1	4.2	5.2	9.5	15.2	10.1	9.7	4
Mwanza			15.3	5.5	6.2	5.1	4.0	2.9	12.5	7.6	10
Rukwa			11.6		8.1	6.7	-	-	-	8.0	8
Ruvuma		3.5	4.9	4.4	7.1	6.2	7.3	2.0	3.3	8.1	7
Shinyanga			13.0	4.4	6.0	6.1	6.4	14.7	11.7	8.5	6
Singida			3.1	2.3	2.2	2.7	2.8	0.0	-	5.6	12
Tabora			2.4	2.5	2.9	2.8	4.4	2.5	6.2	3.2	19
Tanga			6.6	6.2	6.9	7.1	4.4	-	10.4	5.5	14
TANZANIA	3.3	7.4	5.0	5.0	5.8	5.3	5.9	6.9	7.8	6.8	

Table 7 (b)
Prevalence of HIV-1 infection (in %) among blood donors by region for females, 1987 - 1996

Region	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Rank for 1996
Arusha		0.0	0.0	0.9	5.5	2.2	3.9	-	15.6	4.4	15
Coast			6.9	6.1	6.1	5.0	10.2	11.8	9.2	-	NR
Dodoma			0.0	5.9	3.3	4.8	-	-	0.0	-	NR
DSM	0.0	14.3		0.0	14.1	7.7		-	6.7	-	NR
Iringa			16.7	15.8	8.7	8.1	17.6	20.0	7.8	12.4	3
Kagera			9.7	12.6	12.9	11.0	8.6	8.3	14.3	7.4	9
Kigoma		29.6	9.47	1.8	4.7	4.1	5.8	5.1	0.0	6.1	11
Kili'jaro			3.8	6.7	3.2	2.2	1.8	2.9	0.0	5.9	13
Lindi			11.8	10.9	4.4	2.3	1.9	-	1.6	3.6	16
Mara			13.8	7.6	5.4	8.2	2.9	10.0	9.4	10.1	6
Mbeya	9.5	2.0	10.2	11.8	11.8	20.3	-	-	11.4	13.8	2
Morogoro		12.5	1.8	4.6	5.1	5.7	10.8	-	-	6.0	12
Mtwara			0.0	1.6	3.5	10.5	5.7	0.0	5.6	10.5	4
Mwanza			7.5	5.3	6.2	5.7	8.0	5.0	0.0	8.5	8
Rukwa			24.0	-	21.4	0.0	-	-	-	8.8	7
Ruvuma		6.3	14.0	8.7	7.0	6.4	6.7	2.1	6.1	10.5	4
Shinyanga			33.3	17.4	18.1	10.0	21.6	33.3	0.0	14.9	1
Singida			10.5	2.1	2.2	4.5	4.6	0.0	-	5.8	14
Tabora			2.5	2.0	2.8	2.7	5.8	0.0	12.9	3.2	17
Tanga			23.5	2.1	7.9	7.0	5.9	-	20.8	7.0	10
Tanzania	7.1	8.0	11.2	7.9	7.2	5.9	6.2	4.8	9.4	8.2	

Note: NR = not ranked since no blood donors were reported during the year.

Age and sex differences in HIV infection (Blood donors)

Tables 8a and 8b show that the overall female HIV prevalence among blood donors is higher than that of males in almost all age groups. Since 1989 prevalence rates seem to be declining slowly among women, and increasing in men. It also seems improbable that increased donor selection would lead to opposite trends among the sexes. Even taking into account that female donors differ from male donors in their average age (females being younger), the prevalence among female donors is considerably higher than that in male donors.

Table 8(a)
Age-specific prevalence of HIV-1 infection (in %) among Male blood donors (1987-1996)

Age	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
15-19	0.0	1.6	1.8	3.3	3.2	3.7	3.9	2.4	5.3	4.4
20-24	3.4	6.8	4.5	4.7	5.0	4.9	5.8	2.4	5.8	5.9
25-29	1.8	8.3	6.0	5.0	6.7	6.0	6.1	5.8	7.2	7.4
30-34	2.1	9.3	5.3	5.5	6.4	5.8	6.2	5.4	7.7	7.9
35-39	7.8	8.7	5.5	4.3	6.1	5.6	6.5	9.8	7.8	7.7
40-44	7.1	10.1	3.8	3.8	4.8	3.9	5.1	0.0	5.9	6.3
45-49	10.0	5.6	2.2	5.0	4.5	4.2	4.9	7.4	5.8	5.7
50-54	0.0	4.2	3.0	3.8	4.4	2.6	4.3	0.0	3.5	5.6
55+	0.0	15.4	3.6	5.0	4.0	2.3	5.2	12.5	2.5	4.4
Unknown			5.1	9.8	8.5	3.9	12.3	14.3	7.4	
Total	3.3	7.7	5.0	5.0	5.8	5.3	5.9	4.8	6.7	6.9

Table 8(b)
Age-specific prevalence of HIV-1 infection (in %) among Female blood donors (1987-1996)

Age	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
15-19	0.0	0.0	7.9	7.5	4.9	4.2	2.9	5.6	5.3	6.3
20-24	0.0	4.6	13.5	9.5	7.7	7.2	7.5	5.4	9.4	9.8
25-29	14.3	11.8	8.2	9.0	8.7	6.6	7.2	7.1	11.6	10.1
30-34	16.7	14.3	8.9	6.2	6.5	5.7	6.6	6.9	10.0	9.3
35-39	0.0	21.1	8.0	6.2	4.8	5.7	6.7	10.1	8.8	9.3
40-44	0.0	16.7	9.6	2.9	6.3	3.6	1.7	5.4	7.6	6.0
45-49	0.0	0.0	7.7	1.2	3.4	4.4	3.7	7.5	4.8	5.5
50-54	0.0	0.0	0.0	0.0	5.6	5.4	5.9	6.2	*6.3	5.6
55+	0.0	0.0	0.0	10.0	6.7	4.2	5.3	3.3	*16.7	7.1
Unknown			13.6	11.4	13.0	2.8	7.7	12.5	7.9	
Total	7.1	7.5	11.7	7.9	7.2	5.9	6.3	6.9	9.2	8.7
M:F ratio	0.5	1.0	0.4	0.6	0.8	0.9	0.9	0.7	0.7	

* Based on very few subjects, hence the data should be interpreted with caution

HIV Infection in Adolescents

When blood donor data are broken down by age groups, it becomes apparent (as seen in Tables 8a and 8b) that HIV prevalence is highest among the young adults (20-24, 25-29 and 30-34 year olds) . This suggests considerable rates of HIV transmission at earlier ages.

9. STD Episodes

The distribution of STD episodes by syndromic pattern according to regions and centres is shown in Table 9a. Table 9b shows the distribution of STD episodes by age group and sex. During 1996 a total of 55,704 STD cases were reported to STD clinics. However if we consider the degree of reporting it is assumed that about 66600 STD cases had been attended in the STD Clinics. Of the 55,704 cases females accounted for 61.5% and thus only 38.5% were males. About one third (32.4%) of the STD cases seen at the clinics were in the age group of 20-24 years. The largest diagnostic category was genital discharge syndrome (GDS) which constituted 42.3% of the syndromically diagnosed STD cases.

Table 9a STD Episodes by Centres / District (Mbeya & Mwanza) January - December 1996

REGION	CENTRE	NO. OF MONTHS	GUD		GDS		PID	OTHERS		TOTAL		GRAND TOTAL	PROJECTED TOTAL
			M	F	M	F	F	M	F	M	F		
DAR ES SALAAM	IDC	11	645	537	984	782	304	173	34	1802	1657	3459	3773
	Muhimbili	11	12	10	0	34	0	7	4	19	48	67	73
IRINGA	Mafinga	9	148	107	153	151	241	0	32	301	531	832	1109
	Iringa	7	65	76	45	203	101	0	0	110	380	490	840
KAGERA	Biharamulo	7	5	9	35	118	82	13	24	53	233	286	490
	Rubya	10	22	10	97	81	87	7	84	126	262	388	465
	Bukoba	6	7	5	23	69	34	15	6	45	114	159	381
	Nyakahanga	3	0	32	0	76	27	0	8	0	143	143	572
KIGOMA	Maweni												
	Kasulu	3	2	2	30	61	0	0	0	32	63	95	380
KILIMANJARO	Majengo	5	32	36	6	414	245	11	12	49	707	756	1817
MBEYA	Chunya	12	271	577	602	417	306	139	238	1012	1538	2550	2550
	Ileje	10	42	40	29	43	27	0	0	71	110	181	217
	Kyela	11	487	565	364	649	428	103	255	954	1897	2851	3110
	Mbarali	12	286	501	438	304	178	37	153	761	1136	1897	1897
	Mbeya®	11	463	812	636	660	524	202	468	1301	2464	3765	4107
	Mbeya(U)	11	968	707	1304	1591	714	750	1019	3022	4031	7053	7694
	Mbozi	11	405	393	386	587	249	195	380	986	1609	2595	2830
	Rungwe	11	884	1436	1134	1076	1084	1025	1267	3043	4863	7906	8624
TABORA	Kitete	11	161	186	205	208	335	228	309	594	1038	1632	1780
	Nzega	11	65	30	163	401	452	22	34	250	917	1167	1273
	Urambo	11	248	242	140	236	343	76	38	464	859	1323	1443
	Igunga	6	339	381	640	754	536	320	116	1299	1787	3086	6172
	Isevya	1	4	10	15	0	0	0	0	19	10	29	348
	Ndala	5	5	4	36	12	11	3	0	44	27	71	170
SHINYANGA	Shinyanga	11	47	39	79	59	19	57	4	180	121	301	328
TANGA	Bombo	10	33	37	104	123	208	14	10	151	378	529	634
	Korogwe	8	119	108	176	227	204	35	27	330	566	896	1344
	Upendo	3	0	0	10	6	4	0	0	10	10	20	80
MWANZA	Geita	8	127	43	247	312	121	10	0	384	476	860	1290
	Kwimba	12	538	473	1147	1655	655	180	24	1865	2807	4672	4672
	Magu	12	328	125	375	441	379	80	18	783	960	1743	1243
	Misungwi	9	69	43	125	154	51	21	3	215	251	466	621
	Mwanza	12	234	133	474	941	569	72	21	780	1664	2444	2444
	Sengerema	1	1	0	11	23	2	2	0	14	25	39	468
	Ukerewe	12	178	55	208	277	219	12	4	398	555	953	753
Total			7240	7764	10418	13145	8736	3809	4592	21467	34237	55704	66633

*Projected Total is the number of STD episodes if the monthly average was to be reported for all the 12 months of the year.

Table 9b Distribution of STD Episode by Age group & Sex

Age Group	GUD		GDS		PID	OTHERS		TOTAL	
	Male	*Female*	*Male*	*Female*	*Female*	*Male*	*Female*	*Male*	*Female*
Under 15	62	32	39	61	13	84	76	185	182
15 - 19	1050	1423	886	2038	993	657	994	2593	5448
20 - 24	2116	2813	2736	4673	2920	1241	1537	6093	11943
25 - 34	1768	1726	2831	3983	2733	747	950	5346	9392
35 - 44	1947	1617	2985	2154	1882	1007	984	5939	6637
Above 45	297	153	941	236	195	73	51	1311	635
Total	**7240**	**7764**	**10418**	**13145**	**8736**	**3809**	**4592**	**21467**	**34237**

N.B Others: Genital warts, pubic lice, buboes, scrotal swellings etc.

10. HIV/AIDS/STDs and Circumcision

A study on whether circumcision could affect HIV infection was done in Mwanza region in Tanzania. The effect of circumcision on HIV infection is examined in Table 10a and that on syphilis in Table 10b.

It is only study for that shows some evidence that circumcision has a protective effect on HIV infection. Otherwise results from the other studies suggest circumcision as being a risk factor to HIV infection. However, combined evidence from the five studies shows that there is no association between circumcision and HIV infection.

Likewise, the studies do not show any evidence of an association between circumcision and past syphilis infection in the rural areas.

Table 10a. Risk of HIV infection by circumcision status among men.

	STUDY 1		STUDY 2		STUDY 3		STUDY4		STUDY 5	
Circumcised	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
N. of Men	1356	642	2145	458	347	177	828	746	4764	1088
HIV(%)	4.1	6.5	4.9	7.0	11.0	10.7	13.5	7.2	3.3	5.6

Table 10b. Risk of syphilis infection(TPHA positive) by circumcision status among men.

	STUDY 1		STUDY 2		STUDY 3		STUDY4		STUDY 5	
Circumcised	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
N. of Men	1356	642	2145	458	347	177	828	746	4764	1088
TPHA pos.(%)	21.4	16.5	15.5	18.3	27.7	32.2	17.8	13.7	14.7	14.1

11. HIV/AIDS and Tuberculosis

A total number of 211 (116 males and 95 females) pulmonary tuberculosis patients (PTB) were enrolled and categorized into the following groups.

1. HIV - sero-negatives
2. HIV - sero-positives
3. AIDS cases

Of the 211 PTB patients examined, 75 were HIV sero-negative (49 males and 26 females), 72 (38 males and 34 females) were HIV sero-positive but did not have features of AIDS. The remaining 64 patients (29 males and 35 females) were sero-positive and had features of AIDS. Thus, nearly two thirds of the PTB patients were sero-positive.

12. Estimated HIV Sero-prevalence in the General Population

Table 11 shows the distribution of blood donors by category of donor and relationship to blood recipient for 1995 and 1996. Since the majority of blood donors are relatives of blood transfusion recipients (89.5), the HIV sero-prevalence among blood donors can reasonably be said to be representative of the sero-prevalence in the general population.

Table 11
Distribution of blood donors by category of donor and relationship to recipient and their HIV status for 1995 and1996

	1995			1996		
Category	No	% of Total	% HIV positive	No	No HIV positive	% HIV positive
Relatives	21,728	96.0	7.0	79,354	5504	6.9
Institutional donors	409	1.8	2.7	2053	169	8.2
Paid donors	235	1.0	12.3	1132	184	16.3
Unknown relation	252	1.1	13.1	6157	513	8.3
Total	**22,624**	**99.9**	**7.1**	**88,696**	**6370**	**7.2**

*Institutional donors are mainly secondary school students.

When the age- and sex-specific prevalence found in blood donors are applied to the general adult population as projected for 1996 (15,500,000), one arrives at an estimated number of 480,000 infected adult males and 870,000 adult females, totalling 1,350,000 sero-positive adults in mainland Tanzania during 1996.

13. Orphans

Orphans resulting from the death of one or both parents from AIDS constitute a significant social problem in the Tanzanian society today. The NACP defines orphans as those children aged below 18 years who have lost one or both parents. At present accurate national estimate figures for orphans are not available, but the figure of 210,000 quoted in previous reports is likely to be an under estimate. Therefore, there is still much to be done as far regional data on estimates of orphans are concerned, except where specific community-based programmes on orphanage have been initiated. Kagera is such a region where the number of orphans is currently estimated to be over 100,000.

14. Projections

Estimated number of HIV infections

Table 13 summarises the estimated number of HIV infections from 1987 to 1996. These estimates are based on age adjusted HIV prevalence among blood donors. It can be seen that the estimated number of HIV infections has increased relative to that of 1993.

Table 13
Summary of estimated number of HIV infections 1987 - 1996.
(based on age adjusted blood donor prevalence)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Males	173,656	443,054	238,683	269,713	296,782	268,177	324,108	374,468	395,241	476,586
Females	236,102	468,411	517,274	452,853	412,858	319,394	303,830	459,595	730,508	803,583
Total	409,758	911,465	755,957	722,566	709,640	587,571	627,938	834,065	1,125,749	1,280,169

15. Recent Publications

The following are references to recent publications on HIV infection and AIDS in Tanzania. Literature search has shown that during 1996 there were 46 articles about the problem of AIDS/HIV and STDs in Tanzania. Most of these articles were published in international journals and copies of most of them have been submitted to the MOH for information and action. Authors who have not submitted reprints or copies of their articles are asked to do so as soon as possible in order to enable the Ministry to disseminate the information and to take appropriate action towards the control of the epidemic. Copies of these publications may then be made available to others on request from the NACP. Information leading to acquisition of certain rare or bulky publications may also be available.

Publications during 1996

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