

**THE UNITED REPUBLIC OF TANZANIA**

**MINISTRY OF HEALTH**

**NATIONAL AIDS CONTROL PROGRAMME**

**AIDS SURVEILLANCE**

**REPORT NO. 4, March 1991.**

**Epidemiology Unit, NACP**  
**Dar es Salaam**  
**March, 1991.**

CONTENTS

1. Summary	Page 3
2. Introduction	Page 4
3. The Tanzanian AIDS Situation in a Global context	Page 5
4. AIDS Case reporting	Page 6
5. Sentinel Surveillance / Ante-natal clinics	Page 7
6. Sentinel Surveillance / Blood donors	Page 8
7. Estimated seroprevalence in the general population.	Page 10
8. Projection of AIDS cases.	Page 11
9. List of Tables	Page 12
10. Tables, graphs and maps.	Page 13 - 26

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Acknowledgment.

We would like to thank all health workers, who have provided us with data on HIV and AIDS, and thus enabled us to compile this Epidemiological Report.

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## 1. SUMMARY

This report covers the status of the HIV/AIDS epidemic in Tanzania mainland by December 1990, and contains updated figures since the third report of August 1990. Moreover, data were analyzed more in depth, to reveal any trends. Maps on AIDS cases and HIV prevalence have been added as well.

Figures from various sources all indicate that the HIV / AIDS epidemic continues to increase at alarming rates throughout Tanzania.

Two groups are of particular importance : Antenatal clinic attenders and adolescents: Among pregnant women, attending Antenatal clinics in Mbeya, Mwanza and Bukoba region, the percentage HIV-positive women has increased from 10 % to 16 % (Mbeya) and from 8 % to 14 % (Mwanza) in little over a year. In Bukoba the percentage of infected women rose from 20.8 to 23.3. The effect on the infant mortality rate will be considerable : as 30 % of children born to these women will die from AIDS within the first few years of their life, up to 5 % of newborns (50 per 1,000) in Mwanza and Mbeya towns are expected to die from AIDS. Children escaping infection with HIV (up to 11 %) are unlikely to have a mother (or any parent) still alive by the end of the century. Although a similar situation might not prevail throughout the country, data from bloodtransfusion services throughout the country suggest that the problem is virtually nationwide.

As previously reported, a second group of great concern are adolescents (15-19 year old) : data from blood donors show an alarming increase among the 15-19 and 20-24 year agegroups. Among 15-19 year old, the percentage seropositives was 0.0 % in 1987, increased rapidly thereafter, and has reached 7.2 % by 1990. Among the 20-24 year group, prevalence has increased fivefold from 1.6 % to 8.2 % between 1987 and 1990. Further analysis revealed that the situation among adolescents was more serious for girls than boys.

In the light of these facts, there remains an urgent need to review programme strategies, in order to come up with interventions which will bring rising trends to a halt.

Projections of AIDS Cases reported during the 1990's are presented as well. Even if transmission of HIV would cease as from now, from the estimated number of approx. 800,000 HIV infected persons 450,000 will develop AIDS during the remainder of this decade.

If transmission continues up to 1995 at a rate of 1% new HIV infections per year, 750,000 will have developed AIDS by the year 2,000.

## 2. INTRODUCTION

Our last report, which was out in August 1990, covered the period up to June 1990. The current report up-dates the AIDS situation from June 1990 up to December 1990. The surveillance areas addressed have remained the same. The National AIDS Control Programme (NACP) has continued to collect data on Reported AIDS Cases, and HIV seroprevalence among blood donors and pregnant women attending Antenatal clinics.

As it became increasingly obvious that the reporting system was deficient and incomplete, the NACP has continued its efforts to increase the coverage of surveillance activities on AIDS. New forms, individually numbered and in triplicate, have been distributed to all hospitals. The clinical case notification forms have been simplified, and adapted for easy computer data entry. By the end of 1990 all forms were distributed to all regions in the country. The effects are already noticeable; reporting of major and minor criteria for AIDS cases has increased sharply. Reporting from rural hospitals has improved. Reporting from consultant hospitals remains very incomplete, both for AIDS Cases and blood-donors.

The computer system has been streamlined, to speed-up data entry, and to simplify analysis. New computer programmes are now operational to check for double reporting, to report on missing forms and to check if cases meet the clinical case definition.

All hospitals, districts and regions will find attached a detailed report by hospital of reported AIDS cases by age and sex for their own region, as well as HIV seroprevalence among blood donors by age and sex.

Blood donor seroprevalence data are extrapolated to the general population. Estimated seroprevalence figures adjusted for age, sex and degree of reporting, are given for all regions.

3. THE TANZANIAN AIDS SITUATION IN A GLOBAL CONTEXT.

The HIV/AIDS Epidemic has different epidemiologic features which can be divided into the following patterns:-

Pattern I

This is found in North America, Western Europe, Australia and New Zealand. In this pattern most AIDS cases are found among homosexual men and intravenous drug users.

Pattern II

This occurs in Sub-Saharan Africa including Tanzania and parts of the Caribbean. In this pattern, the principal mode of transmission is heterosexual contact, followed by perinatal transmission and transmission through blood transfusion.

Pattern III

Found in Eastern Europe, North Africa Asia and the Pacific. These countries have relatively few cases of AIDS. It is thought infections in these areas resulted from contacts with pattern I and II countries.

Latin America is classified as pattern I/II because the epidemiologic situation is shifting from pattern I to II.

The above mentioned patterns are not absolute and rigid. Many countries are now moving to pattern II and within each pattern there is much heterogeneity.

The distribution of HIV/AIDS epidemic by geographical areas is shown in the following table:

GLOBAL DISTRIBUTION OF HIV INFECTIONS  
REPORTED AIDS AND ESTIMATED/PROJECTED AIDS (WHO)

AREA	MAY 1, 1990		AIDS (Est)	AIDS/1991
	HIV	AIDS (Rep)		
Africa	3,500,000	63,842	375,842	650,000
Americas	2,500,000	153,720	250,000	450,000
Asia	150,000	644	1,200	5,000
Europe	550,000	33,896	45,000	100,000
Oceania	30,000	1,976	2,500	6,000
TOTAL	> 6,500,000	254,078	> 650,000	> 1,100,000
TANZANIA MARCH 1991	> 700,000	21,208	> 80,000	> 30,000

#### 4. AIDS CASE REPORTING

Since last quarterly report, a total of 3,932 new AIDS cases have been recorded by the Ministry of Health from the regions. Not all these cases were diagnosed in 1990. Several regions seem to have a backlog of cases which have been diagnosed but have not been reported to the Ministry of Health. The distribution of the new reported cases by year of diagnosis is as follows:-

1986	-	1
1987	-	4
1988	-	27
1989	-	126
1990	-	3,742
1991	-	33
TOTAL		3,932
		=====

The 7,073 cases which have been diagnosed in 1990 are shown in Table 1 by region and by month of diagnosis. Rukwa region has not reported any case in the first nine months of 1990, and Iringa has reported only 2 cases up to October 1990. Dodoma and Mara reported few cases only. With the current up-date the cumulative number of cases which have been diagnosed by the regions from Tanzania mainland and reported to the Ministry of Health totals 21,175 since 1983 (Table 3). One third of these cases occurred in 1990 alone.

It is difficult to give an interpretation to the observed trends of reported AIDS cases from the different regions. While in some regions such as Dar es Salaam and Mbeya the numbers are on the rise, in other regions such as Kagera, there seems to be a levelling off in the number of reported AIDS cases (figure 1). This would reflect a real decline in the number of cases, if the following assumptions were met :

- a) All AIDS cases report to health facilities.
- b) All AIDS cases are correctly diagnosed.
- c) A functional reporting systems from the regions to the Ministry of Health is in place in all the regions.

As there is reason to believe that this is not the case, and moreover the HIV sero-prevalence in all sentinel groups is on the rise, we assume that this apparent decline is an artefact due to poor reporting, and does not represent a real decline in AIDS cases.

##### 4.1 DISTRIBUTION OF AIDS CASES BY AGE AND SEX.

Of cases reported so far, (1983 - 1991) age and sex are known for 5,435 cases. It is now a well established fact that AIDS is a disease that affects mainly the sexually active members of the community : the 15 - 44 years age group constitute 86.9 % of all cases (table 4), while they make up only 39.4 % of the total population. Children in the 0 - 4 years age group comprise 4.0% of all the patients, while they constitute 19.9 % of the population. Most probably a greater portion of these children get the disease through the perinatal route.

The AIDS epidemic affects women at an earlier age than males. In the older ages, the epidemic clears off in females earlier than in males (figure 2). The male/female ratio is 1.09. Taking in account that the general population has an excess of males, the M / F rate ratio is 1.13. (For further discussion see paragraph 5.)

#### 4.2 COMPLETENESS OF REPORTING

According to National guidelines an AIDS case should have at least two major symptoms and two minor symptoms. (Contrary to the Bangui criteria of at least two major and one minor criteria). HIV positivity is not necessary to diagnose an AIDS case clinically. It has however been observed that many hospitals do not follow these criteria: Of the newly reported cases 68% fulfilled the above mentioned criteria. The distribution of adherence to the criteria for these cases by region is shown in Table 5.

This is a marked improvement over cases reported early in 1990, before the new reporting forms were introduced.

Although cases would not strictly qualify to be called AIDS cases we have taken them as cases assuming that those who reported them just made an omission at the stage of compiling the forms. We would request all health workers to be more careful in filling the forms in the future in order to make sure that all cases that are reported to the Ministry of Health really qualify to be recorded as AIDS cases. This will enable us to draw more meaningful conclusions from the data submitted by the regions.

#### 5. SENTINEL SURVEILLANCE / ANTENATAL CLINICS

As part of our sentinel surveillance for HIV infection among pregnant women attending ante-natal clinics (ANC), we have continued to collect data from clinics situated in Mwanza, Mbeya and Kagera regions.

The prevalence of HIV infection among the women attending the various clinics by year is shown in Table 6a.

##### 5.1 MBEYA

For Mbeya region, urban sites show higher prevalences than rural sites. Rural sites show a marked increase between 1989 and 1990 (figure 3a).

In most of the clinics there is a definite upward trend over time : e.g. Chimala, prevalence rose from 4.8 % in 1988 to 6.3 % in 1989/90. In Mwambani the prevalence rose from 0 % in 1988 to 12 % in 1989/90.

##### 5.2 MWANZA - MAKONGORO SITE

Data for Makongoro clinic (Mwanza urban) are summarized by quarter in table 6b.

Since surveillance started in 1988, prevalence has increased from 8.0 % to around 14 % (figure 3b) by the end of 1989 and seems to have stabilized between 12 -14% since then.

##### 5.3 KAGERA - BUKOBA CLINIC:

Prevalence seems to have stabilized at around 23% (figure 3b, table 6c).

##### 5.4 VERTICAL TRANSMISSION

Assuming 30 % transmission from pregnant women to their offspring, the percentage of newborns expected to be infected ranges from 0.6 % to 7.0 % in the various sentinel sites.

## 6. SENTINEL SURVEILLANCE / Blood donors.

### 6.1 INTRODUCTION:

Reporting on serostatus of potential blood donors takes place since 1987, but is far from complete:

Year	Reported	Age & sex known
1987	4,256	480
1988	13,541	3,295
1989	33,268	11,850
1990	20,172	16,571
1991	<u>190</u>	<u>186</u>
Total	<u>71,427</u>	<u>32,382</u>
	=====	=====

The number of blood transfusions taking place is estimated at 6 per 1,000 per year, i.e. approx. 144,000. Although it has been reported from other countries, that sero-prevalence among blood donors is decreasing, due to selection, while prevalence in the general population is rising, this seems unlikely to be the case in Tanzania, as most donors are relatives of the transfused patients. (see table on page 11)

As all regions and most hospitals do report on the sero status of donors, these data give the most reliable estimates available for seroprevalence in the population at large.

Sero prevalence and their trends over time differ markedly between both sexes, and various regions and between age groups.

### 6.2 REGIONAL DIFFERENCES (see table 7a-b, map 2 a-b)

Overall time trends by region before 1989 are difficult to assess, as few regions reported data.

Time trends vary considerably by region and by sex:

Some regions show a consistent decrease (e.g. Morogoro: 10 - 9% in 1988, 6.8% in 1989, and 2.4% in 1990) for males; Mtwara (4.9% - 2.0% for males) and Mwanza (15.3 - 4.8 % females).

Some regions show a marked increase between 1984 and 1990, e.g. Kilimanjaro (13% - 5.2 for males, 3.8% - 7.1 for females) and also Kigoma, Lindi and Dodoma show an increase for males only.

Other regions remained at approximately equal levels (Kagera at 10.0 - 10.5%, Iringa at 10.5 - 11.1%, Tabora 2.4 - 2.5%, Tanga 6.5 - 6.5%).

### 6.3 SEX DIFFERENCES.

Overall female seroprevalence is higher than male seroprevalence up to age 45 (figure 6 table 8a-b) and shows a marked increase up to 1989. Since then it seems that prevalence rates are declining slowly. The increase has been particularly alarming in the 15 - 19 and 20 -24 year age group for women, and the 15 - 19 year age group for men.



Even taking in account that female donors are differing from males in average age (being younger), prevalence among female donors is considerably higher than in men (M/F ratio : 0.62). This is at odds with findings among AIDS cases, where the M/F ratio is 1.13. It is not clear whether this reflects selection bias in blood donors, or whether women are at higher risk for infection now than was the case when present-day cases were infected, or whether this reflects differences in the natural history of infection between males and females.

By region, however the picture is more complicated: (table 7a - b).

Regions where male seroprevalence exceeds female seroprevalence are:

	<u>Male</u> (%)	<u>Female</u> (%)
Arusha	1.25	0.00
Dodoma	2.83	0.00
Kigoma	0.85	0.00
Morogoro	7.21	3.50
Mwanza	6.97	4.76
Mtwara	2.44	1.61
Tabora	2.41	2.24

Regions where female seroprevalence exceeds male seroprevalence are:

	<u>Male</u> (%)	<u>Female</u> (%)
Dar es Salaam	6.23	7.74
Iringa	10.70	14.71
Kagera	10.08	12.34
Kigoma	4.10	5.00
Lindi	4.03	12.07
Mara	4.73	9.68
Mbeya	6.11	10.41
Rukwa	6.97	24.00
Ruvuma	11.59	13.80
Shinyanga	4.10	8.97
Singida	2.86	7.41
Tanga	6.56	8.47

(It should be noted that the number of female blood donors is low, and percentage therefore have wide confidence limits).

#### 6.4 AGE DIFFERENCES

Prevalence by age for both sexes (table 8a - b, figure 4a - b) differ to some extent from the AIDS case rates by age and sex (table 4, figure 2) : women peak at age 20 -24 and maintain higher prevalences over age 30.

The graph for men is rather flat compared to the AIDS case rates, which peak at age 25 - 40.

Several explanations are possible, of which the more likely are:

- a) Older people are less likely to progress to AIDS
- b) In future we will see more AIDS in older people.

When these figures are broken down by age groups, it becomes apparent that this increase is largely due to a very rapid increase in prevalence among teenagers (15-19 years) and 20-24 year olds. (table 8a-b and figure 4a-b). Among male 15-19 year olds, prevalence was 0.0 in 1987, and has now reached 3.44 %. Among females 15 - 19 year olds, prevalence rose from 0.0 in 1988 to 6.9 % in 1989, levelling off to 6.6% in 1990.

Prevalence among 20-24 year old females has increased from 0.0 % to 13.75% in 1989, levelling to 11.6 in 1990. It should be noted that these two age groups make up 37 % of the adult population.

#### 7. ESTIMATED SEROPREVALENCE IN THE GENERAL POPULATION

As blood donors are predominantly relatives of blood recipients, (see table below), we believe that seroprevalence in blood donors is reasonably representative of seroprevalence in the population at large.

		<u>Seroprevalence</u>	
Relatives	97.6%	4.3%	n = 10,966
Institutional donors*	1.6%	1.1%	n = 181
Paid donors	<u>0.8%</u>	6.5%	n = 92
	100.0%	4.3%	n = 11,239

\* Institutional donors (mainly secondary school students) have a significantly lower prevalence. (P = 0.016).

As blood donors are predominantly male and most are young adults, these figures have to be adjusted for age and sex.

When age - and sex- specific prevalences found in blood donors are extrapolated to the general population, one arrives at an estimated number of 273,000 infected adult males and 499,000 adult females (see table 9, figure 5), totaling 772,000 seropositives adults for Tanzania mainland in 1990.

Based on age specific fertility rates for Tanzanian woman, these women are estimated to bear 93,000 children in 1990, of whom approximately, 30% or 27,900 are born with HIV infection. The remaining 65,000 children are not infected, but have at least one parent who is likely to develop AIDS in the near future.

Including perinatally infected children, the total estimate of HIV seropositives is approximately 800,000.

8. PROJECTION OF AIDS CASES

If the (estimated) number of seropositives is known, it is straight forward to calculate future AIDS cases, as the natural history of HIV infection is quite well known.

From cohort studies in the USA, it is well established that 50% of HIV infected individual will have converted to AIDS 10 years after infection.

In the absence of better data from Africa, the same rate of progression is assumed for Tanzania.

Based on the estimated number of 800,000 seropositives in 1990, AIDS cases are expected to develop as shown in figure 7. : a cumulative number of 80,000 by 1990, raising to 450,000 by the year 2,000. This is in the absence of any further HIV infections.

If HIV infections continue to occur at a rate of 1% per year up to 1995, the cumulative number of AIDS cases will be 750,000 by the year 2000.

Expressed in the number of new AIDS cases per year:

35,000 cases per year from 1990 - 2000 if no more HIV infections occur.

70,000 cases per year from 1995 - 2000 if transmission continues at 1% per year up to 1995.

CONCLUSION:

The epidemic of AIDS cases has just started, and will become strikingly predominant during the 1990's reaching a cumulative number of 450,000 cases by the turn of the century, if HIV transmission is halted completely as from today.

If transmission continues at a rate of 1% per year up to 1995, this will result in 600,000 more infected adults, and 300,000 more AIDS cases up to the turn of the century.

List of Tables

Table 1	Reported AIDS Cases by region and month, 1990
Table 2	Reported AIDS cases by region, 1983 - 1990
Table 3	Cumulative number of reported AIDS Cases by region 1983 - 1990
Figure 1	Cumulative AIDS case rates in 4 regions, 1983 - 1990.
Map 1	AIDS Cumulative case rates by region, 1990
Table 4	Distribution of new AIDS cases by age and sex, 1983 - 1990
Figure 2	AIDS case rates by age and sex
Table 5	Classification of AIDS cases by fulfillment of clinical criteria (1990)
Table 6a	Prevalence of HIV in ante-natal clinic attenders 1988 -1990.
Table 6b	Prevalence of HIV in ante-natal clinic attenders 1988 -1990 Makongoro Clinic
Table 6c	Prevalence of HIV in ante-natal clinic attenders Bukoba Clinic
Figure 3a	ANC Surveillance 1999 - 1990
Figure 3b	ANC Surveillance 1999 - 1990 (by quarter)
Table 7a	Seroprevalence in blood donors by region for males, 1987 - 1990
Table 7b	Seroprevalence in blood donors by region for females, 1987 - 1990
Map 2	Seroprevalence in blood donors by region for males, 1990
Map 3	Seroprevalence in blood donors by region for females, 1990
Table 8a	Prevalence of HIV for male blood donors by age, 1987 - 1990.
Table 8b	Prevalence of HIV for female blood donors by age, 1987 - 1990.
Figure 4a	HIV prevalence 1987/1990 male blood donors, selected age groups
Figure 4b	HIV prevalence 1987/1990 female blood donors, selected age groups
Table 9	Summary of estimated number of infected, 1986 - 1990.
Figure 5	Estimated number of HIV seropositives for Tanzania mainland
Figure 6	HIV prevalence in blood donors by age and sex
Figure 7	projected AIDS cases

REPORTED AIDS CASES BY REGION AND MONTH, 1990

Table 1.

Region\Mo	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total	Population	*Rate	Rank
Arusha	15	16	4	0	9	12	10	21	5	18	22	1	133	1,351,675	9.8	17
Coast	15	24	12	13	24	38	15	65	14	20	5	5	250	638,015	39.2	4
DSM	173	224	270	210	259	230	102	0	0	74	207	192	1,941	1,360,850	142.6	1
Dodoma	8	13	7	0	0	1	1	0	1	1	19	6	57	1,237,819	4.6	19
Iringa	0	0	1	0	0	0	0	0	1	53	103	49	207	1,208,914	17.1	10
Kagera	86	60	58	34	84	33	22	17	0	0	0	0	394	1,326,183	29.7	5
Kigoma	13	21	15	16	18	16	11	24	23	13	0	0	170	854,817	19.9	9
Kili'jaro	15	12	8	24	21	26	15	5	4	34	8	3	175	1,108,695	15.8	11
Lindi	26	7	35	14	30	38	22	25	20	34	11	13	275	646,550	42.5	3
Mara	4	1	5	7	6	8	11	0	7	11	0	0	60	970,942	6.2	18
Mbeva	89	161	101	247	198	166	161	96	141	76	180	107	1,723	1,476,199	116.7	2
Morogoro	4	3	7	8	3	0	0	0	5	43	57	3	133	1,222,737	10.9	16
Mtwara	19	8	22	34	4	18	6	11	1	35	8	27	193	889,494	21.7	8
Mwanza	18	10	6	20	22	30	26	22	68	63	8	0	293	1,878,271	15.6	12
Rukwa	0	0	0	0	0	0	0	0	0	13	8	6	27	694,974	3.9	20
Ruvuma	24	22	15	18	8	16	10	1	0	0	1	0	115	783,327	14.7	13
Shinyanga	24	9	10	20	23	0	1	0	16	45	57	26	231	1,772,549	13.0	15
Singida	2	0	8	4	3	30	16	27	10	5	3	0	108	791,814	13.6	14
Tabora	19	22	36	24	24	14	23	26	17	31	30	26	292	1,036,293	28.2	6
Tanga	46	22	26	11	25	29	14	46	4	20	34	19	296	1,283,636	23.1	7
TANZANIA	600	635	646	704	761	705	466	386	337	589	761	483	7,073	22,533,754	31.4	

131

REPORTED AIDS CASES BY REGION, 1983 - 1990

Table 2.

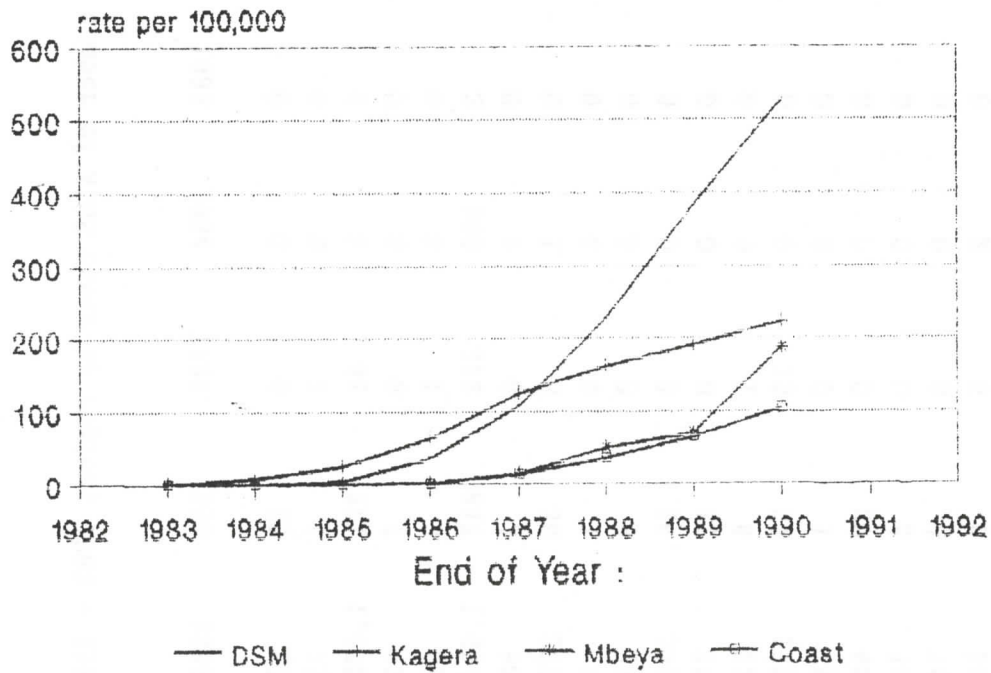
Region\Yr	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total
Arusha	0	0	0	10	37	170	212	133	0	562
Coast	0	0	1	3	75	145	189	250	0	663
DSM	0	0	51	420	999	1,623	2,110	1,941	1	7,145
Dodoma	0	0	0	7	40	58	142	57	1	305
Iringa	0	0	1	2	65	237	69	207	2	583
Kagera	3	103	216	525	818	477	401	394	0	2,937
Kigoma	0	0	0	3	47	59	134	170	0	413
Kili'jaro	0	1	7	28	171	248	115	175	0	745
Lindi	0	0	0	1	8	36	66	275	0	386
Mara	0	0	0	3	27	69	40	60	0	199
Mbeya	0	0	0	16	192	539	295	1,723	3	2,768
Morogoro	0	0	0	11	77	159	87	133	0	467
Mtwara	0	0	1	4	18	72	78	193	0	366
Mwanza	0	0	15	39	117	277	196	293	0	937
Rukwa	0	0	0	1	4	85	4	27	8	129
Ruvuma	0	0	0	20	25	31	111	115	0	302
Shinyanga	0	0	0	8	23	113	83	231	0	458
Singida	0	0	0	6	68	123	87	108	0	392
Tabora	0	2	3	1	53	173	278	292	0	802
Tanga	0	0	0	13	67	130	125	296	18	649
TANZANIA	3	106	295	1,121	2,931	4,824	4,822	7,073	33	21,208

Table 3.

Cumulative number of AIDS cases by region, 1983 - 1990.

Region\Yr	1983	1984	1985	1986	1987	1988	1989	1990	1991	Population	* Rate	Rank
Arusha	0	0	0	10	47	217	429	562	562	1,351,675	41.6	13
Coast	0	0	1	4	79	224	413	663	663	638,015	103.9	4
DSM	0	0	51	471	1,470	3,093	5,203	7,144	7,145	1,360,850	525.0	1
Dodoma	0	0	0	7	47	105	247	304	305	1,237,819	24.6	18
Iringa	0	0	1	3	68	305	374	581	583	1,208,914	48.2	12
Kagera	3	106	322	847	1,665	2,142	2,543	2,937	2,937	1,326,183	221.5	2
Kigoma	0	0	0	3	50	109	243	413	413	854,817	48.3	11
Kili'jaro	0	1	8	36	207	455	570	745	745	1,108,695	67.2	6
Lindi	0	0	0	1	9	45	111	386	386	646,550	59.7	7
Mara	0	0	0	3	30	99	139	199	199	970,942	20.5	19
Mbeya	0	0	0	16	208	747	1,042	2,765	2,768	1,476,199	187.5	3
Morogoro	0	0	0	11	88	247	334	467	467	1,222,737	38.2	16
Mtwara	0	0	1	3	23	95	173	366	366	889,494	41.1	14
Mwanza	0	0	15	54	171	448	644	937	937	1,878,271	49.9	9
Rukwa	0	0	0	1	3	90	94	121	129	694,974	18.6	20
Ruvuma	0	0	0	20	43	76	187	302	302	783,327	38.6	15
Shinyanga	0	0	0	8	31	144	227	458	458	1,772,549	25.8	17
Singida	0	0	0	6	74	197	284	392	392	791,814	49.5	10
Tabora	0	2	5	6	59	232	510	802	802	1,036,293	77.4	5
Tanga	0	0	0	13	80	210	335	631	649	1,283,636	50.6	8
TANZANIA	3	109	404	1,525	4,456	9,280	14,104	21,175	21,208	22,533,754	94.0	

## Cumulative AIDS case rates in 4 regions



Epidemiology Unit / NACP, March 1991

## NACP - TANZANIA

cumulative AIDS case rates by region, December 1990.

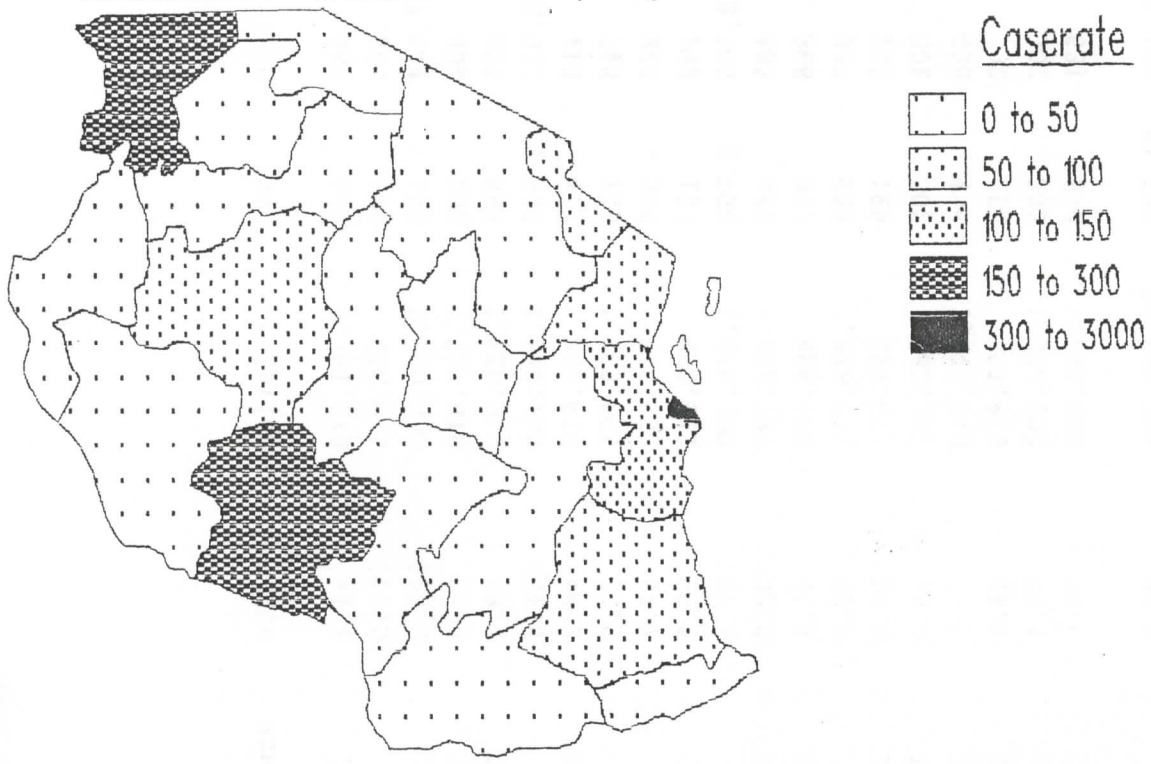




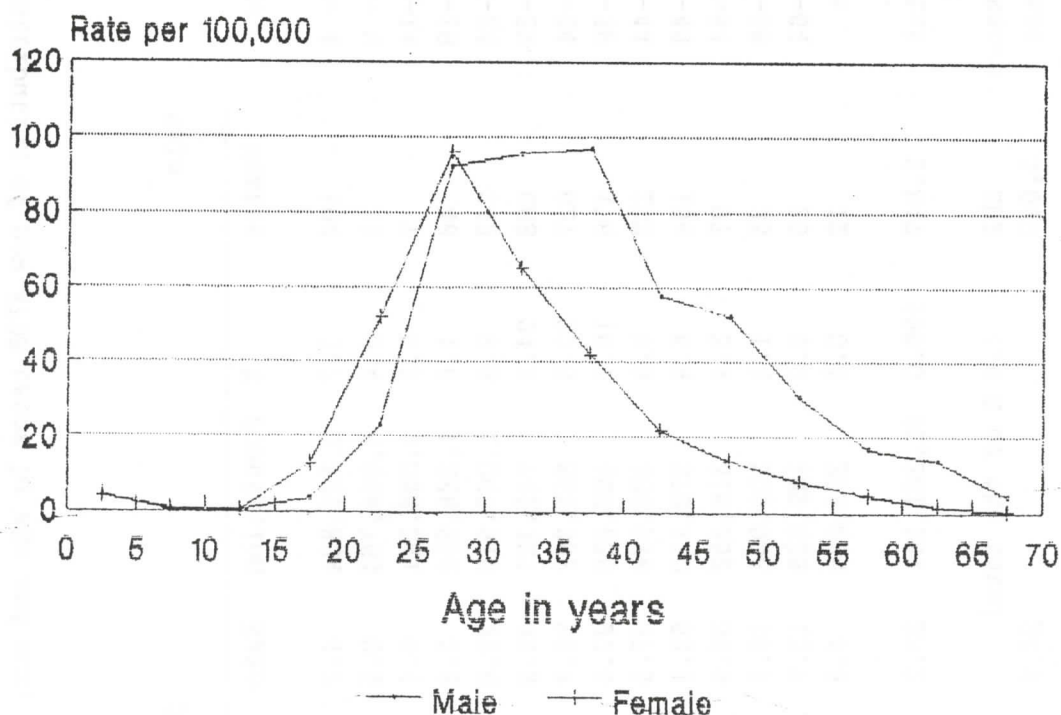
Table 4.

Distribution of new AIDS cases by age and sex, 1983 - 1990

Age	Male			Female			Total			
	Number	%	Population	Number	%	Population	Number	%	Population	Rate
0-4	104	3.7	2,501,834	111	4.3	2,474,728	215	4.0	4,976,562	4.3
5-9	11	0.4	2,066,764	17	0.7	2,055,045	28	0.5	4,121,809	0.7
10-14	7	0.2	1,588,241	7	0.3	1,593,470	14	0.3	3,181,711	0.4
15-19	46	1.6	1,288,892	165	6.4	1,285,902	211	3.9	2,574,794	8.2
20-24	243	8.5	1,067,910	579	22.4	1,119,240	822	15.1	2,187,150	37.6
25-29	688	24.2	745,321	755	29.2	785,896	1,443	26.6	1,531,217	94.2
30-34	627	22.0	655,392	485	18.7	742,984	1,112	20.5	1,398,376	79.5
35-39	476	16.7	490,636	248	9.6	590,806	724	13.3	1,081,442	66.9
40-44	282	9.9	486,976	123	4.8	567,344	405	7.5	1,054,320	38.4
45-49	194	6.8	372,713	56	2.2	404,581	250	4.6	777,294	32.2
50-54	97	3.4	316,552	28	1.1	338,841	125	2.3	655,393	19.1
55-59	35	1.2	209,008	10	0.4	217,725	45	0.8	426,733	10.5
60-64	25	0.9	182,928	3	0.1	190,796	28	0.5	373,724	7.5
65+	12	0.4	278,020	1	0.0	353,710	13	0.2	631,730	2.1
Total	2,847	100.0	12,251,187	2,588	100.0	12,721,068	5,435	100.0	24,972,255	21.8
unknown	202	6.6 % of the total		204	7.3 % of the total		406	7.0 % of the total		23.4
total	3,049			2,792			5,841			

M/F ratio : 3,049 / 2,792 = 1.09  
M/F rate ratio 24.9 / 21.9 = 1.13

## AIDS case rates by Age and Sex 1983 - 1990



Epidemiology Unit, March 1991.

Classification of AIDS Cases  
by fulfilment of clinical criteria.  
(cases reported during 1990)

Region	Total	Case	%
Arusha	151	111	73.5
Coast	330	280	84.8
DSM	76	51	67.1
Dodoma	59	35	59.3
Tringa	209	38	18.2
Kagera	458	373	81.4
Kigoma	171	142	83.0
Kilimanjaro	177	135	76.3
Lindi	279	167	59.9
Mara	68	59	86.8
Mbeya	1918	1240	64.7
Morogoro	159	72	45.3
Mlwara	232	138	59.5
Mwanza	357	286	80.1
Rukwa	35	24	68.6
Ruvuma	178	151	84.8
Singida	266	152	57.1
Shinyanga	108	66	61.1
Tabora	330	248	75.2
Tanga	358	257	71.8
<b>Total:</b>	<b>5919</b>	<b>4025</b>	<b>68.0</b>

Table 6a  
Prevalence of HIV in ante-natal clinic attenders, 1988 - 19

Clinic	1988			1989			1990		
	N	Pos	Prevalence	N	Pos	Prevalence	N	Pos	Prevalence
BUKOBA							1277	284	22.2
MWANZA urban	339	27	8.0	1295	151	11.7	1438	177	12.3
MBEYA	170	4	2.4	481	34	7.1	709	88	12.4
Mbeya rural	170	4	2.4	174	5	2.9	219	16	7.3
Chimala	63	3	4.8	48	2	4.2	64	4	6.3
Isoko				68	2	2.9	50	1	2.0
Itete	51	1	2.0	58	1	1.7	55	5	9.1
Mwambani	56	0	0.0				50	6	12.0
Mbeya urban	0	0		307	29	9.4	490	72	14.7
Kiwanjampaka				100	7	7.0	94	10	10.6
Mwanjelwa				100	11	11.0	96	7	7.3
Meta				107	11	10.3	201	34	16.9
Kyela							99	21	21.2

Table 6b.

Makongoro Clinic

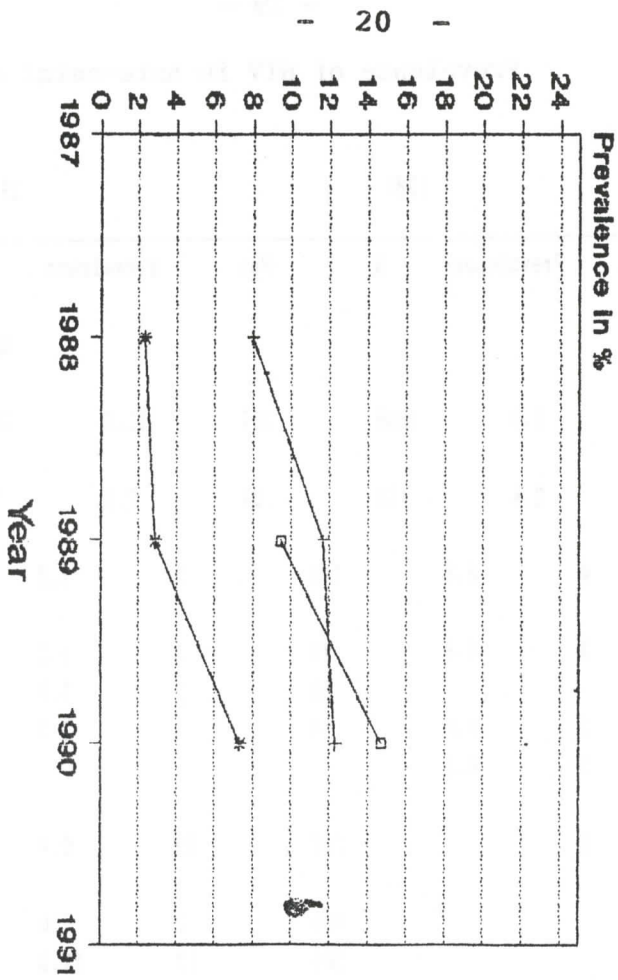
	N	Pos	Prevalence
1988	339	27	8.0
Quarter 4	339	27	8.0
1989	1295	151	11.7
Quarter 1	400	43	10.8
Quarter 2	469	52	11.1
Quarter 3	216	26	12.0
Quarter 4	210	30	14.3
1990	1438	177	12.3
Quarter 1	519	63	12.1
Quarter 2	328	46	14.0
Quarter 3	291	28	9.6
Quarter 4	300	40	13.3

Table 6c

Bukoba Clinic

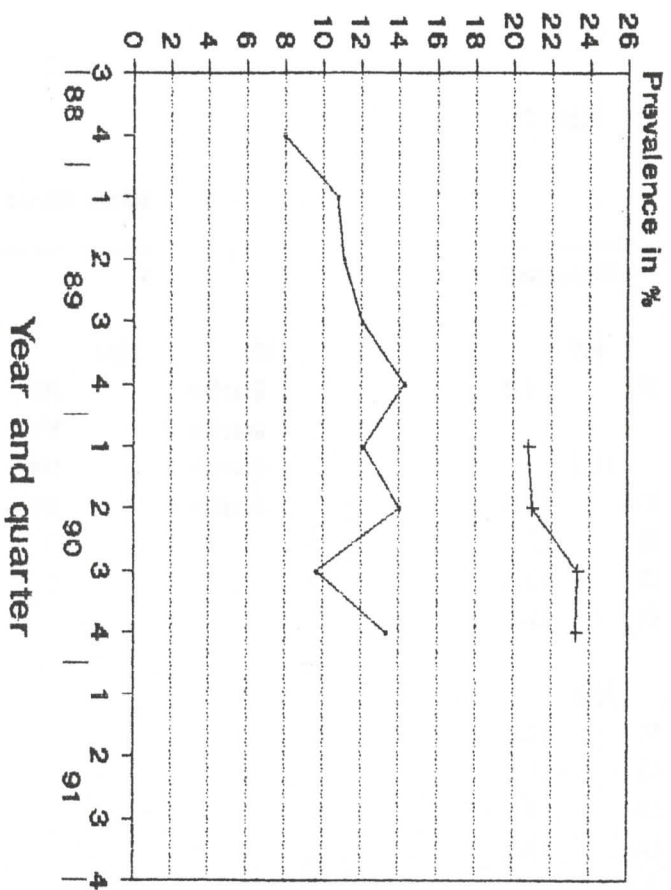
	N	Pos	Prevalence
1990	1277	284	22.2
Quarter 1	202	42	20.8
Quarter 2	376	79	21.0
Quarter 3	364	85	23.4
Quarter 4	335	78	23.3

# ANC Surveillance, 1988-1990



Epidemiology Unit, March 1991

# ANC Surveillance, 1988-1991



Epidemiology Unit, March 1991.

## Seroprevalence in blood donors by region for males, 1987 - 1990

Region	1987	1988	1989	1990	1991	Total
Arusha			0.00	1.63	0.00	1.25
Coast	0.00	5.00	4.64	3.18		4.37
DSM	1.49	7.50	2.51	7.69		6.23
Dodoma			1.90	4.46	0.00	2.83
Iringa			11.11	10.53		10.70
Kagera			10.48	10.01		10.08
Kigoma			0.85			0.85
Kili'jaro			1.27	5.21		4.10
Lindi			0.63	5.34		4.03
Mara			4.81	4.66		4.73
Mbeya	4.82	4.98	5.17	7.93		6.11
Morogoro		10.91	6.76	2.35		7.21
Mtwara			4.92	1.96	0.00	2.44
Mwanza			15.33	4.81		6.97
Rukwa			11.59			11.59
Ruvuma		3.50	4.91	4.83		4.78
Shinyanga			12.96	3.36	0.00	4.10
Singida			3.13			2.86
Tabora			2.45	2.39		2.41
Tanga			6.59	6.52		6.56
TANZANIA	3.30	7.41	5.30	5.25	0.00	5.49

Table b.  
Table 7a.  
Table 7b.

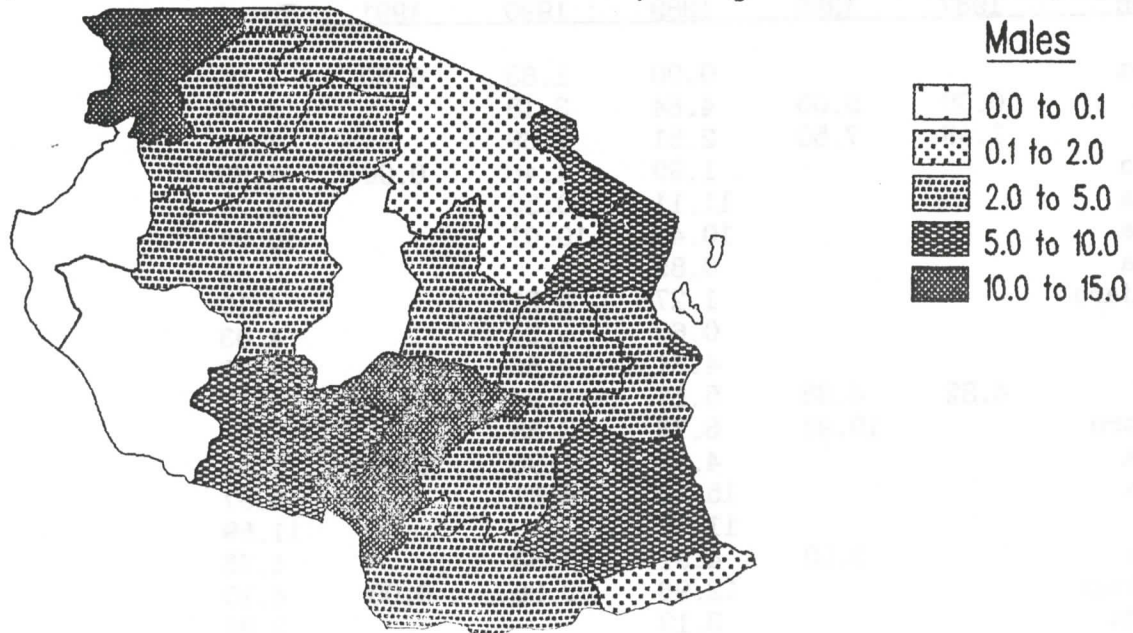
## Seroprevalence in blood donors by region for females, 1986 - 1990

Region	1987	1988	1989	1990	1991	Total
Arusha			0.00	0.00	0.00	0.00
Coast		0.00	6.90	0.00		4.35
DSM	0.00	14.29				7.14
Dodoma			0.00	0.00	0.00	0.00
Iringa			16.67	14.00		14.71
Kagera			9.68	12.63		12.34
Kigoma			0.00			0.00
Kili'jaro			3.85	7.14		5.00
Lindi			11.76	12.20		12.07
Mara			13.68	7.04		9.68
Mbeya	9.52	2.04	10.16	12.30		10.41
Morogoro		12.50	1.82	2.78		3.50
Mtwara			0.00	1.89	0.00	1.61
Mwanza			7.50	3.74		4.76
Rukwa			24.00			24.00
Ruvuma		6.25	14.03	14.63		13.80
Shinyanga			33.33	6.94		8.97
Singida			10.53		0.00	7.41
Tabora			2.52	2.10		2.24
Tanga			23.53	2.38		8.47
TANZANIA	7.14	4.35	11.29	8.39	0.00	9.45

Map 2.

# NACP - TANZANIA

Seroprevalence in blood donors by region for males, 1990.



Map 3.

# NACP - TANZANIA

Seroprevalence in blood donors by region for females, 1990.

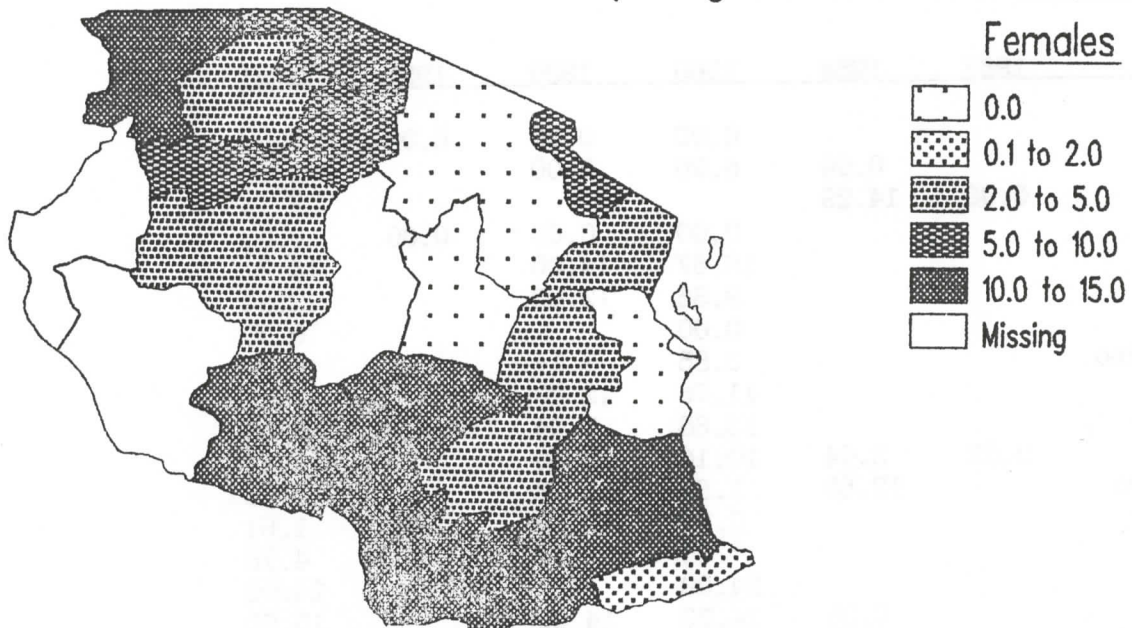


Table 8a.

Prevalence of HIV for MALE blooddonors by age, 1987 - 1990.

Age	1987	1988	1989	1990	1987-'90
	Preval.	Preval.	Preval.	Preval.	Preval.
15-19	0.00	1.57	1.83	3.44	2.51
20-24	3.36	6.70	4.65	4.85	4.92
25-29	1.80	8.21	6.17	5.29	5.85
30-34	2.13	8.96	5.44	5.97	6.02
35-39	7.81	8.89	5.50	4.26	5.22
40-44	7.14	10.15	3.92	3.78	4.42
45-49	10.00	5.81	2.22	5.08	4.22
50-54	0.00	4.35	3.16	4.28	3.79
55+	0.00	0.00	2.88	4.03	3.38
Total	3.32	7.59	4.96	4.93	5.18

Table 8b.

Prevalence of HIV for FEMALE blooddonors by age, 1987 - 1990.

Age	1987	1988	1989	1990	1987-'90
	Preval.	Preval.	Preval.	Preval.	Preval.
15-19	0.00	0.00	6.92	6.57	5.76
20-24	0.00	2.38	13.75	11.59	11.69
25-29	14.29	9.68	8.43	8.69	8.60
30-34	16.67	15.38	9.26	5.94	7.37
35-39	0.00	0.00	8.33	8.64	7.84
40-44	0.00	0.00	10.00	3.41	6.29
45-49	0.00	0.00	8.11	1.75	4.17
50-54	0.00	0.00	0.00	0.00	0.00
55+	0.00	0.00	0.00	12.50	7.14
Total :	7.14	3.75	9.68	8.16	8.37
Male/Female ratio:	0.46	2.02	0.51	0.60	0.62

Figure 4a.

# NACP - TANZANIA

## HIV Prevalence, 1987-1990

### Male blooddonors, selected agegroups

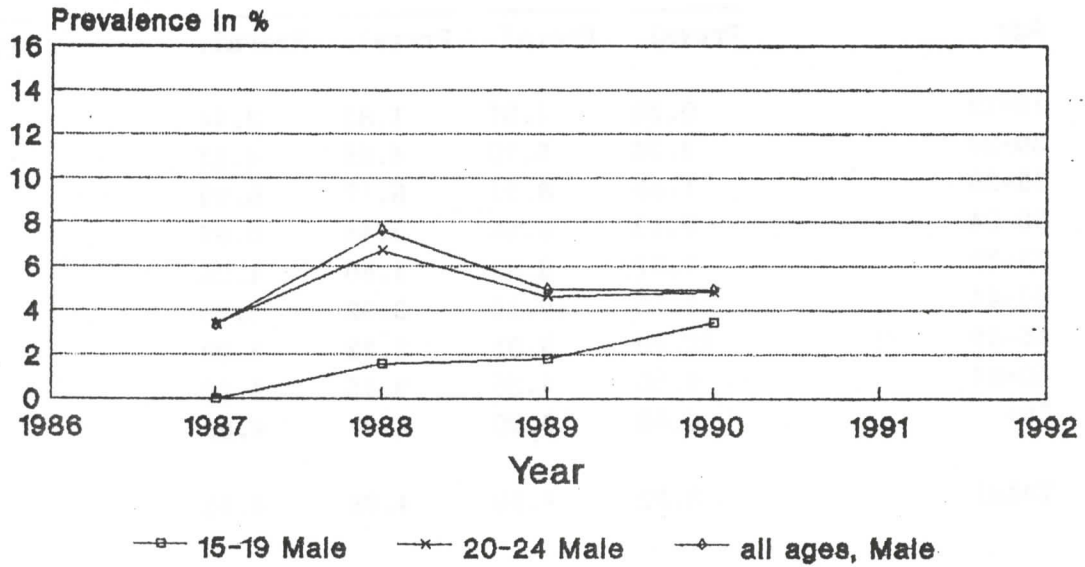


Figure 4b.

# NACP - TANZANIA

## HIV Prevalence, 1987 - 1990

### Female blooddonors, selected agegroups

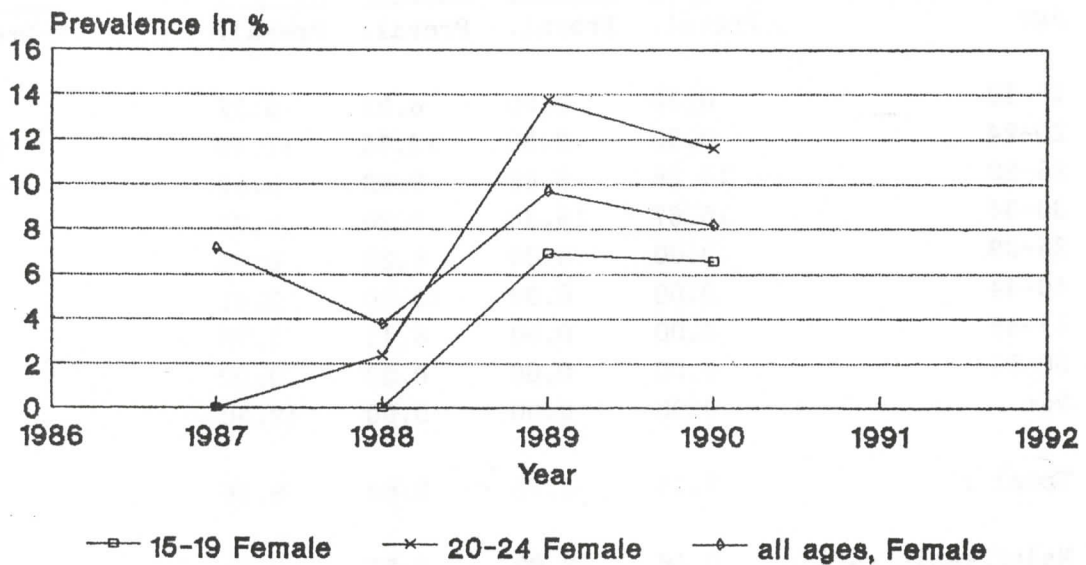




Table 9.

Summary of estimated number of infected, 1986 - 1991  
(based on age adjusted blood donor prevalence)

	1987	1988	1989	1990
Males	173,656	340,232	238,433	273,289
Females	236,102	217,008	516,656	499,377
<b>Total</b>	<b>409,758</b>	<b>557,240</b>	<b>755,089</b>	<b>772,666</b>
Infected pregnant women	62,715	57,883	110,493	93,070
Infected newborns	18,815	17,365	33,148	27,921
Uninf. newb./pos. mother	43,901	40,518	77,345	65,149

Figure 5.

### Estimated number of HIV seropositives for Tanzania mainland

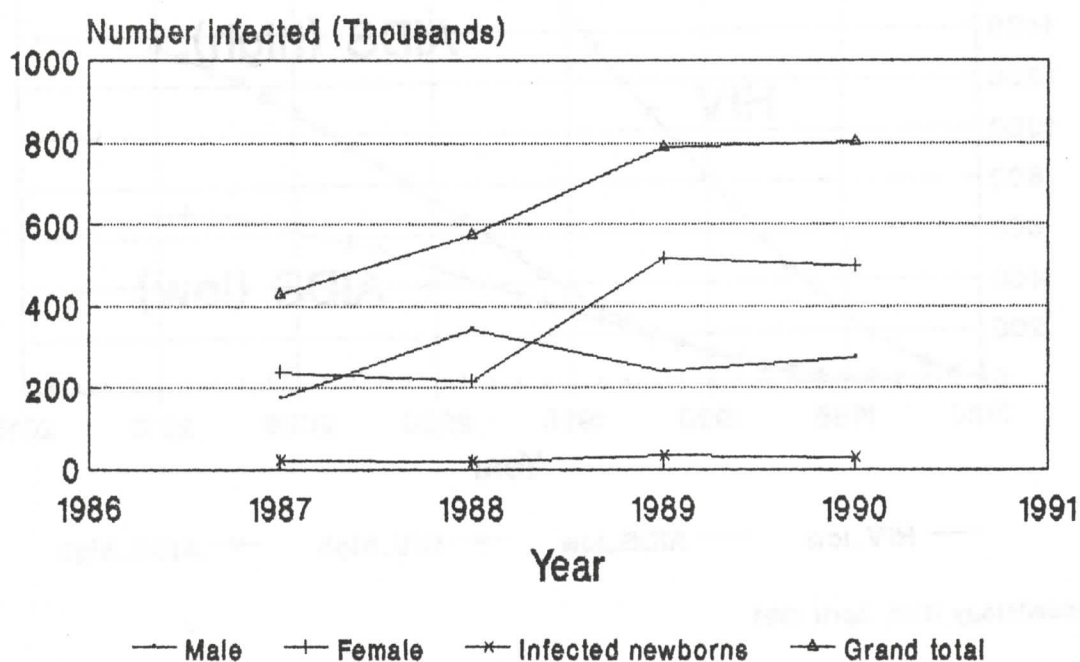
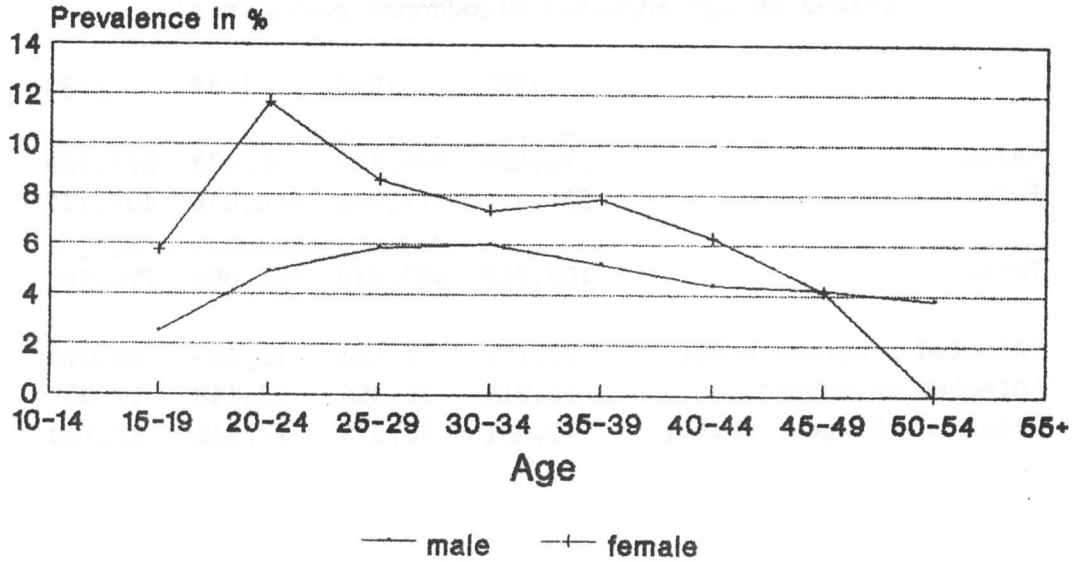


Figure 6.

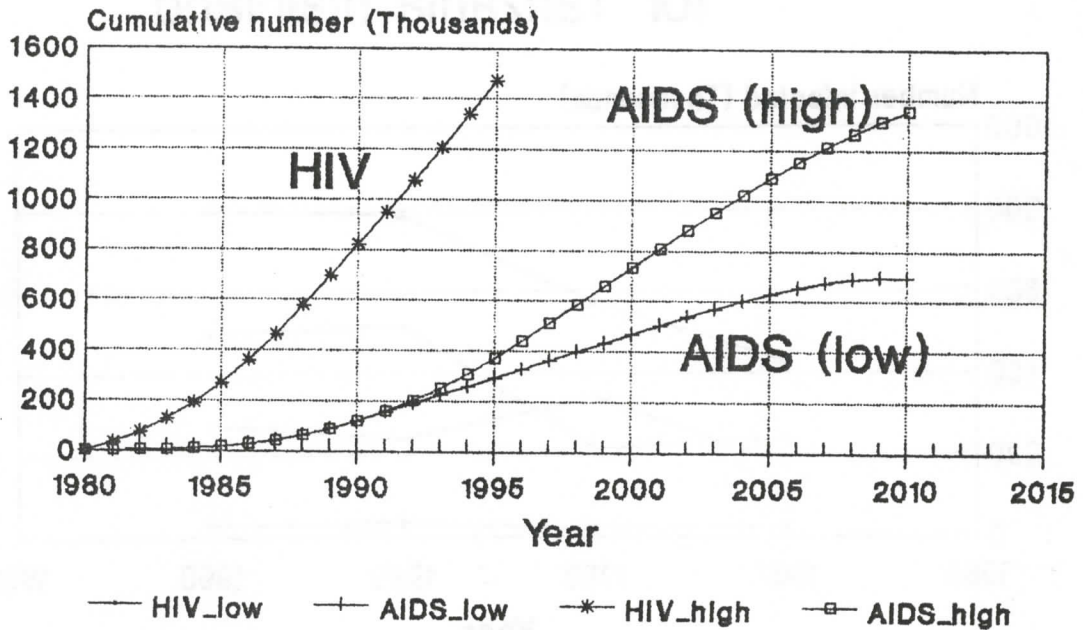
### HIV Prevalence in blood donors by age and sex, 1987 - 1990



Epidemiology Unit, March 1991

Figure 7.

### Projected AIDS cases



Epidemiology Unit, April 1991