

# FOIA MARKER

**This is not a textual record. This is used as an  
administrative marker by the William J. Clinton  
Presidential Library Staff.**

---

**Collection/Record Group:** Clinton Presidential Records

**Subgroup/Office of Origin:** National AIDS Policy Office

**Series/Staff Member:**

**Subseries:**

---

**OA/ID Number:** 19410

**FolderID:**

---

**Folder Title:**

South Africa/Africa Briefing Book [Binder] [1]

**Stack:**

**S**

**Row:**

**66**

**Section:**

**7**

**Shelf:**

**2**

**Position:**

**1**

THE WHITE HOUSE  
WASHINGTON

## **Briefing Book**

**SOUTH AFRICA/AFRICA**

**For Sandra L. Thurman  
Director White House Office of National AIDS Policy**

## **CONTENTS**

Letter From Nelson Mandela

---

South Africa

---

African AIDS Statistics

---

Newsletters & Articles

---

USAID

---

Health Issues in South Africa

---

Revised 1993

*Union Buildings*



*Private Box X1000 Pretoria 0001 Tel: (012) 319.1500*

One of the gravest illnesses affecting many of our young ones is HIV/AIDS. The Aids crisis is worsening at an alarming rate. All too often, babies who have been infected or who live in infected families are abandoned and rejected. Many lose their parents at an early age. AIDS turns them into orphans.

Although HIV/AIDS has been with us through the eighties and nineties, a cure continues to elude us; and efforts to find a vaccine have not borne significant results. We have made progress in understanding the epidemic, but we are still unable to contain its spread.

Many people live with HIV and AIDS, and many are at risk of becoming infected. Yet the reality is that the rights which should protect them from the vulnerabilities which AIDS sufferers endure are not adequately respected. We need to confront that reality, and speak out against it.

It is for this reason that I have agreed to be the Honorary President of the Global Business Council on HIV/AIDS, launched in Edinburgh on 23 October 1997.

This Council will act, above all, as a catalyst for the broader response to HIV/AIDS worldwide, particularly through the encouragement of public/private sector partnerships in the fight against HIV/AIDS. The example set by the creation of the Global Business Council is already motivating greater participation of the private sector in the response to HIV/AIDS throughout the world including Africa, Europe, and the Americas through catalysing public/private sector partnerships in these regions.

The challenge of AIDS can be overcome if we work together as a global community. All sectors and all spheres of society have to be involved as equal partners. We have to develop programmes and share information and research that will halt the spread of this disease and help develop support networks for those who are infected.

Together we have the obligation to put sunshine into the hearts of our little ones. They are our precious possessions who deserve what happiness life can offer.

Now is the time to work together to combat AIDS. Let us join hands in a caring partnership for health and prosperity as we enter the new millennium.

A handwritten signature in black ink, which appears to read "N Mandela". The signature is fluid and cursive.

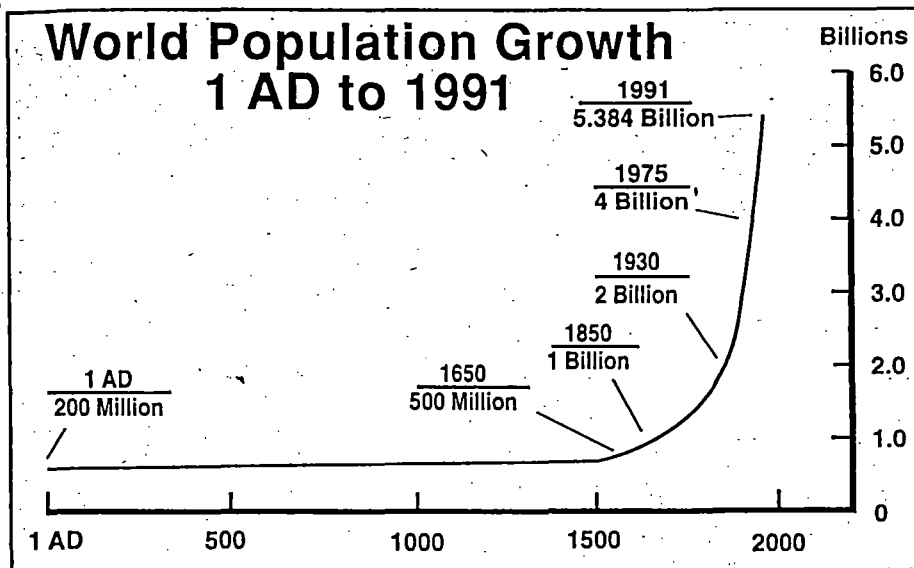
**Nelson Mandela**  
**President**  
**Republic of South Africa**

# **SOUTH AFRICAN STATISTICS**

## AIDS, THE NEW BLACK PLAGUE:

I can remember sitting at the dinner table of our family home in San Jose California sometime about 1968 and telling my kids about the overpopulation problem of the future using up limited resources and how some as yet unknown or unnamed person may "Secretly" release a plague disease that would wipe out people by the millions... With no one to blame, there could be no war started... and to protect your own national population from the plague... there would have to be several mass inoculations for various "Other" diseases so that anyone having any two injections would not be infected... This of course would have to take place long before the plague was released...

When you spend time thinking like this, Aids certainly is a superior application of that concept... Reducing the world's resource wasteful population...



South Africa is in for a great struggle with Aids impacting our total population the way that it will IF all the systems of our society are not structured to limit our liability to Aids... Employment, Finance, Insurance, Education and Medical Care, to name a few, must come subject to ongoing aids tests...

If you've got AIDS you will not be allowed to get a job in the food or health industry... You won't get a loan for more than three (3) years... You will have restricted health insurance... and you can forget about life cover. There will be low pay... no promotions... and forced retirements... There must develop a great used surplus of everything... real estate prices will fall in most places... and tragically there will be some orphans and street children... Farming will be a very profitable life style if you are not attacked by armed "Have Nots" with a limited future... Since you know you are going to die soon... Why not rape, rob and pillage?... Certain types of law enforcement may have to take on draconian implementations!...

The morality of Humanity, privilege and privacy will be ravaged by the conflict with economics and fear... or should we not tell a person that he or she has aids?... In England the phenomenon with young people who know they have aids is, they are driven to give it to everyone they possibly can just for spite!...

How will we, as a society, cope and what will be the age of the surviving groups of our population?... Will people have to "Cluster" to maintain essential services and security if there are few people left?... And what will be the educational level, intelligence and religious beliefs of the surviving groups of people?... All trends to think about and watch...

There will be a relatively small group of people who, through technology, will control the wealth of our society by planning NOW to create a limited infrastructure, strategic reserves and automate to support their continued existence... Some organizations and company's will have to develop "Very Limited" objectives for the future...

Never mind talking about a "Winning Nation"... How about thinking about what it is going to take to be a "Surviving Nation"?... a nation with 1/4 the population that we have today... I can't think of a group of people who are better equipped to cope with this "Wild Card" scenario than South Africans... but it is not a "Wild Card"... The facts and figures are showing we are playing with a stacked deck!...

The effects of the "Black Plague" of 1348-1350 wherein it killed off half of the people of Europe may dictate that most of us may have to return to basics for a survival life style... An economy that's 1/4 the size that it is today and flooded with cheap used goods and lots of empty homes and buildings... and the rest of the world will have the same problems...

I am normally not a negative thinking person and am always faced with creating positive systems to cope with negative situations... I am very troubled with the Aids Scenario as the subtlety of it is mind boggling!...

I wrote a simple computer program to play with the projected Infection and then Death rates... Gulp!... The outcome is impressive!... It raises so few possibilities!... I played with the calculations but the results only shifted about a year or two... I then decided to run what I thought would be the population groups and what percentage of those groups of people WHO WOULD NOT GET AIDS!... These total projections yielded the result that the surviving population of South Africa in the year 2010 A.D. will be about 12 million!...

The subtle part of all HIV/AIDS projections is that they are two separate presentations... The HIV Infection Rate... and then the Death Rate... The AIDS Death Rate comes from those HIV Infected... Infection Rates are not the same as Death Rates... So many experts limit their projections to conservative HIV Infection Rates as it may affect their reputation or panic the population...

## HIV TO AIDS:

=====

HIV is not AIDS!... HIV is the virus infection which precedes AIDS... To develop AIDS from HIV takes nine (9) years... Once HIV has developed into AIDS, it takes a maximum of Three (3) years to die... If you are HIV infected, you will die from AIDS within Twelve (12) years or less...

## HOW HIV/AIDS KILLS:

=====

All the cells in your body have a built in genetic code or ability to resist most germ virus infections of a lot of diseases... The virus name HIV stands for Human Immunodeficiency Virus...

An HIV virus infection takes Nine (9) Years to saturate and spread to all the cells in your body and rob them and you of the ability to resist and build added immunity from various other disease viruses with which you may come into contact and get sick...

Once this saturation of all your cells has taken place... You have developed AIDS... Acquired Immune Deficiency Syndrome = AIDS, which means that when you catch some kind of virus infection, flu, disease or even a cold, it will overwhelm your body and you will die...

## THE PROJECTIONS:

=====

What you are about to see on the following pages are two (2) separate pages of projections...

The first one is the HIV Infection Rate Projection that applies to 80% of South Africa's total population who are prone to get the HIV Infection...

TAKE NOTE: that 20% of the total population will not get an HIV Infection which, for various reasons, relates to a limited or safe sexual life style...

The second page is The AIDS Death Rate Projection for those that will become HIV Infected... Remember that the AIDS Death Rate lags behind The HIV Infection Rate by Nine (9) to Twelve (12) Years...

The last pages are copies of various newspaper articles over the years in support of these projections...

When you read in the newspaper the AIDS Death Rate for 1994 is 642 or more and it keeps doubling each year, then you will know I am not talking WOK!...

HERE ARE THE HIV PRONE INFECTION RATE PROJECTIONS:

FACT: 500 000 PEOPLE ARE KNOWN TO BE HIV INFECTED IN SOUTH AFRICA IN 1994...

The HIV to AIDS incubation period is Nine (9) Years...

The HIV Infection Rate (Rx2) would appear to be 2 TIMES the amount known... which will apply to 80% of South Africa's HIV Prone Population...

Starting Year                      1982  
 Starting HIV Infected            240  
 80% HIV Prone Population       32400000  
 Propagating Factor               2

| Year | Population<br>HIV Prone | Infected<br>HIV People | Balance of<br>HIV Prone |
|------|-------------------------|------------------------|-------------------------|
| 1982 | 32400000                | 240                    | 32399760                |
| 1983 | 33080400                | 480                    | 33079920                |
| 1984 | 33775090                | 960                    | 33774130                |
| 1985 | 34484368                | 1920                   | 34482448                |
| 1986 | 35208540                | 3840                   | 35204700                |
| 1987 | 35947921                | 7680                   | 35940241                |
| 1988 | 36702828                | 15360                  | 36687468                |
| 1989 | 37473588                | 30720                  | 37442868                |
| 1990 | 38260535                | 61440                  | 38199095                |
| 1991 | 39064007                | 122880                 | 38941127                |
| 1992 | 39884352                | 245760                 | 39638592                |
| 1993 | 40721925                | 491520                 | 40230405                |
| 94   | 41577086                | 983040                 | 40594046                |
| 95   | 42450206                | 1966080                | 40484126                |
| 1996 | 43341662                | 3932160                | 39409502                |
| 1997 | 44251838                | 7864320                | 36387518                |
| 1998 | 45181128                | 15728640               | 29452488                |
| 1999 | 46129933                | 31457280               | 14672653                |
| 2000 | 47098663                | 47098663               | 0                       |
| 2001 | 48087736                | 48087736               | 0                       |
| 2002 | 49097580                | 49097580               | 0                       |

You can argue if 2 or 240 people brought HIV/AIDS to South Africa before 1982 or that the infection rate doubles or triples... The present trend is relentless... The propagation at the beginning started much sooner and was much bigger than we can have imagined!...

The Saturation of HIV Infections of the South African HIV Prone Population will take place in the years 1997 A.D. to 2000 A.D.

HERE ARE THE AIDS DEATH RATE PROJECTIONS:

FACT: 321 PEOPLE DIED OF AIDS IN SOUTH AFRICA IN 1993...

The AIDS to Death period is a maximum of three (3) Years...

RULE: No matter how many or how long people are HIV Infected, the Aids Death Rate doubles each year!...

20% of the South African Population will NOT GET HIV/AIDS...

| Starting S.A.<br>Population Groups | People<br>Immune | Will Not<br>Get HIV |
|------------------------------------|------------------|---------------------|
| Blacks 34 400 000                  | 15%              | 5 140 000           |
| Whites 4 000 000                   | 50%              | 2 000 000           |
| Coloureds 1 200 000                | 20%              | 240 000             |
| Indians 900 000                    | 80%              | 720 000             |

=====

40 500 000 20% Won't Get it = 8 100 000

Aids Death Rate Projection for South Africa...

Starting Year... 1993  
 Starting Population... 40500000  
 Starting Aids Death Rate 321  
 Present Birth Rate is... 2,1%

80% OF THE POPULATION  
 IS GOING TO DIE OF AIDS

| Year | 20% Immune<br>People.... | 80% Prone<br>HIV People | The AIDS<br>Death Rate | Surviving<br>Population |
|------|--------------------------|-------------------------|------------------------|-------------------------|
| 1993 | 8100000                  | 32400000                | 321                    | 40499679                |
| 1994 | 8270100                  | 33080073                | 642                    | 41349531                |
| 1995 | 8443772                  | 33774100                | 1284                   | 42216589                |
| 1996 | 8621092                  | 34482046                | 2568                   | 43100570                |
| 1997 | 8802135                  | 35203548                | 5136                   | 44000548                |
| 1998 | 8986980                  | 35937580                | 10272                  | 44914288                |
| 1999 | 9175707                  | 36681782                | 20544                  | 45836946                |
| 2000 | 9368397                  | 37431125                | 41088                  | 46758435                |
| 2001 | 9565133                  | 38175229                | 82176                  | 47658187                |
| 2002 | 9766002                  | 38893008                | 164352                 | 48494658                |
| 2003 | 9971088                  | 39541959                | 328704                 | 49184344                |
| 2004 | 10180481                 | 40036735                | 657408                 | 49559808                |
| 2005 | 10394271                 | 40206294                | 1314816                | 49285750                |
| 2006 | 10612551                 | 39708200                | 2629632                | 47691120                |
| 2007 | 10835415                 | 37857219                | 5259264                | 43433370                |
| 2008 | 11062959                 | 33282513                | 10518528               | 33826944                |
| 2009 | 11295282                 | 23242029                | 21037056               | 13500255                |
| 2010 | 11532483                 | 2251278                 | 1125639                | 12658122                |
| 2011 | 11774665                 | 1149277                 | 574638                 | 12349304                |
| 2012 | 12021934                 | 586706                  | 293353                 | 12315287                |
| 2013 | 12274395                 | 299513                  | 149756                 | 12424151                |

The surviving population of South Africa in the year 2013 A.D. will be less than 12424151 million people...

# Co is tal : Aids sweeping across Central Africa

LONDON — Aids is not know what percent age of virus carriers will ultimately go down with the disease.

"We know it will be at least one third, but it may be 50 per cent or more. Some experts believe the ultimate mortality will be 100 per cent."

● A Daily Dispatch correspondent reports that the Japanese are being told to avoid sexual intercourse with foreigners.

In particular, they should have no intimate contact with those from the United States, Britain, France and West Germany.

This is one of the health tips in a campaign to educate the Japanese about a disease already luridly publicised by their mass media.

Until recently most Japanese were happy to consider Aids as "the white man's curse", from which they were shielded by their racial purity.

But as the number of cases increases in Japan, confidence is diminishing. — Sapa

Aids is sweeping across Africa and could wipe out half the populations of several Central African states, an expert on the disease has warned here.

"We are witnessing the death of a continent. It really is too terrifying to contemplate," said Dr John Galloway, a British consultant who treats and counsels Aids patients.

He was speaking at a conference on the spread of Aids in the Third World. He said an international research study had indicated that in Zambia, 15 per cent of the population was affected — or 975 000 people in a population of 6 500 000.

In towns in Uganda, half of the blood donors were affected.

"It is very clear that there is a major epidemic in some central African states," he said.

"At the moment we do not know what percentage of virus carriers will ultimately go down with the disease."

"At the moment we do

# HIV virus may affect 20 pc of SA population by year 2 005

CAPE TOWN — Aids will cost South African industry R16,7 billion by the year 2 000 and by 2 005 twenty per cent of the workforce will be HIV positive, the Wola Nani/Embrace programme director, Mr Gary Lamont, contends.

In a statement heralding International Aids Week starting on December 1, he says two per cent of the Western Cape population has the virus, and the number of people infected doubles every 12 months.

The organisation estimates 15 000 babies were born HIV-infected last year, and in some areas 15 per cent of women aged between 20 and 24 are infected, followed closely by teenage girls and women in the 25 to 30 age group.

Men in the 35 and older age groups tended to be more infected than younger males. At present a South African is being infected every 2,8 minutes.

The organisation wants to generate a realistic awareness of the damage the virus can do to the economy.

"If businesses don't get effective behaviour modification training schemes in place now, they can expect to face a serious drain on their skill bases and that will result in devastating economic problems," Mr Lamont asserts.

The Western Cape has the lowest HIV infection

per capita in Africa, but the tide is sweeping south. He says the pattern in the rest of Africa gives a fairly accurate long-term picture for South Africa if serious action isn't taken immediately.

Some Ugandan cities have a 60 per cent infection rate and 85 per cent of all hospital beds in Zimbabwe are occupied by people who have Aids-related conditions.

In KwaZulu/Natal 10 per cent of the population have the virus and more than four per cent of the inhabitants of the PWV are HIV-positive.

Among the behaviour patterns that need modification are:

- Some sections of society that frown on women carrying condoms;
- Men who resist a woman's right to insist that he wear a condom; and,
- All schools should have sex education classes in which safe sex practices are taught.

"Statistics on pregnancies and sexually transmitted diseases prove that a significant percentage of South Africa's teenage population is sexually active. The decision here is whether you talk to your teenagers about sex and condoms or whether you ignore the threat and hope it doesn't happen."

— Sapa

# 321 SA fatalities last year

PRETORIA — Aids figures released to mark World Aids Day tomorrow showed there were at least 127 cases in the Orange Free State with 222 diagnosed cases.

Last year, 305 HIV-related deaths were recorded compared to 152 in 1992.

The department said it would in the coming months focus on the role of families in the fight against the disease.

Most HIV infections were from heterosexual contact.

In KwaZulu/Natal 990 cases of Aids were diagnosed in 1994, more than the 940 cases in all the

# AIDS overtaking first predictions

By CAS St LEGER

THERE are now 500 000 South Africans infected with the HIV virus that leads to AIDS, according to new Department of Health and Population Development surveys.

"There is no indication of the trend abating," said Dr Horst Kustner, director of epidemiology.

The highest rate occurred in Natal/Kwazulu at 9,62 percent of the population, while in the Cape it was 1,33 percent. By the end of 1993, over 3 000 AIDS cases had been reported. This was a "dismal result", Dr Kustner said.

Director-General of Health Dr Coen Slabber said the rate of increase was "faster than we originally predicted".

# President backs Aids day

JOHANNESBURG — President Nelson Mandela is backing the National Aids Programme's (Nap) biggest-ever awareness campaign by allowing his photograph to appear on a special Aids poster.

In a statement issued jointly with the National Progressive Primary Health Care Network yesterday, the Nap said the message on the poster would read: "Don't let the fear of Aids cut you off from those you love."

The World Aids Day campaign this week would include handing out more than 500 000 condoms.

The condoms, along with 60 000 of the Mandela posters and 600 000 pamphlets would be handed out at 54 community events and through media distribution in major centres.

At least 400 to 600 people in South Africa were contracting the HIV virus daily, which gives rise to Aids.

# Aids deaths

PORT ELIZABETH — Significantly more people died of Aids in the Eastern Cape last year than in 1993, according to statistics released by the Port Elizabeth city health department.

130 people died of the disease last year compared with 74 in

# Gencor loses 30 workers a month to Aids deaths

4/9/95

Daily Dispatch Correspondent

**JOHANNESBURG** — Thirty workers at Gencor were dying of Aids each month, the chairman, Mr Brian Gilbertson, said at the weekend.

"We are very concerned about the trend," he said. "It actually hits home when people working for us are dying at this rate."

Gencor's medical personnel estimated that about 20 per cent of the workforce of about 100 000 on its gold, platinum and coal mines were infected with the HIV virus. The figure was probably higher in Richard's Bay where the company had significant investments.

There was also a marked increase in tuberculosis. A rising number of those infected were HIV positive. This increased the need for treatment and would have a significant effect on health services, he said.

"The loss of these skilled people will eventually impact on companies and on the national economy... the losses are growing."

Mr Gilbertson said Gencor ran awareness programmes, but these seemed to have been no more successful than they had been elsewhere.

"The question now is how to deal compassionately with the numbers that will become sick and with their dependents," he said. "We don't have any perfect solutions, but we are trying to develop an integrated and comprehensive approach."

Aids was emerging as a far more life threatening situation than mine accidents. Pre-employment screening had not been proposed, he said. In any case it did not address the basic problem and the existing infection in the workforce.

Mrs Abdool Karim, director of the Health Department's HIV/Aids programme, said that with the introduction of HIV infection into South Africa in about 1987, and with about two million people infected, it was not surprising that the country was now starting to see people dying of Aids-related diseases.

Migrant workers and their spouses were three

to five times more at risk of HIV infection.

Cosatu assistant general secretary, Mr Zwelinzima Vavi, said on Friday that companies responsible for housing labourers in hostels should pay for their medical treatment when they became infected with Aids and should compensate their families for lost income.

He was addressing a Chemical Workers' Industrial Union conference on health, safety and the environment.

The time had come for Cosatu to make a "decisive intervention" on the Aids issue.

"The cruel and inhuman bosses who enjoyed the benefits of apartheid's migrant labour system, single sex hostels and influx control are now turning their backs on the consequences of the life they imposed on workers," he said.

He condemned demands that workers be tested for Aids before being employed and criticised insurance companies for reducing workers' benefits and increasing premiums.

are affected. In the Eastern Cape area, the majority of identified HIV-positive people are black but in Johannesburg, for example, infected people come from all walks of life, from corporate directors to teachers.

One of the reasons for the large proportion of black carriers in this area is that the East London Atic gets statistics from its satellite clinics in outlying rural areas which have predominantly black populations.

East London is also relatively small (unlike the metropole of Johannesburg) and conservative: the attitude that Aids doesn't affect the businessman or personal assistant leads to a reluctance to have tests, or to acknowledge the threat of Aids in any way. As such, the statistics available to Atic are probably slanted to a degree.

East London also does not have a large intravenous drug industry like the larger cities and Atic has encountered very few HIV-positive drug users. This is not to say, however, that the Aids problem is confined to the black population of East London or that the area does not have an Aids problem.

To illustrate, Mrs Hegner uses the example of pregnant

women, of whom 8 to 10 per cent are HIV positive. 4 400 pregnant women were recently tested at clinics in this region. Working on a conservative estimate of 8%, that means that of these women, 352 are HIV-positive and a possible 352 babies will be born with the virus (although not all babies will contract the virus). Considering that each woman had at least one sexual partner, another 352 people may be added to the list. From then on, even one additional sexual partner (per man or woman) can swell the numbers by any number of infected persons per mother. The implications are frightening.

The numbers of people being tested positive through Atic alone have swelled from 3% between January 1992 to January 1993 to 14% in April this year. Furthermore, an estimated 15% of TB sufferers are HIV positive. As a result, says Mrs Hegner, "we are never going to see the full picture". Compulsory state testing will never be implemented because of the discrimination factor and the cost involved, and it seems that blatant apathy is the public's own number one enemy.

DAILY DISPATCH, TUESDAY, MAY 30, 1995

## Aids policy action urged

Cameron said pressure should be put on the government to force it to take appropriate action and to make the right choices in policy and action.

The conference resolved to fight against pre-employment HIV testing, for a stop to involuntary testing of people, and to force government-supported hospitals and clinics to observe this right. — Sapa 14-7-95

sufferers' human rights was widespread, simply because they carried the virus. They were tested against their will, dismissed from jobs and denied employment, equal and dignified treatment, health care, insurance cover and employment benefits.

**JOHANNESBURG** — People with HIV, the virus which causes Aids, continued to be abused and their human rights violated at a time when about 700 new cases were reported every day in South Africa, Mr Justice Edwin Cameron said yesterday.

The denial of housing finance to HIV-positive people was barbaric and unacceptable.

Cameron was speaking at the fourth national conference on legal rights and Aids. The abuse of HIV

## Agenda for Natal Aids spread

**DURBAN** — KwaZulu-Natal had the would grow from 7 855 000 in 1991 to 10 376 000 in 2016. Without Aids it would have risen to 14 391 000, a difference of 28 per cent.

"If we project the number of cases, we find that by 1996 these are projected to reach 50 000, and by 2000 will exceed 100 000 per annum. The peak will be about 180 000 cases in about 2007."

He said 625 new cases of acquired immune deficiency syndrome had been reported in KwaZulu-Natal by July 17 this year.

The mortality rate was expected to rise from about four per thousand per annum to more than 16 per thousand per annum for the period 1991 to 2011. Prof Whiteside said. — Sapa 5/9/95

10-2-95

RNS

## Zim Aids threat — study

**HARARE** — About one million of Zimbabwe's 10.4 million people are infected with HIV which leads to Aids, the Zimbabwe Aids Council said yesterday.

It said Aids had orphaned 60 000 children since 1986 and unless the disease was taken seriously it would cut the population to 7.5 million by 2017.

Twenty-five of every 1 000 Zimbabwean children die of Aids-related illnesses. The average age of children whose parents had died from Aids was seven. — Sapa

## HIV threat

12/94

**BANGKOK** — At least 1 000 Thais are infected each month by the HIV virus, and half of them are among the country's primary workforce, aged 25 to 35, a public health ministry official said. — Sapa-AFP

# Worst Aids sce a io

26-8-95

by Kathryn Strachan  
in Johannesburg

THE progression of the HIV/Aids epidemic in South Africa was following the worst scenario predicted, according to Baragwanath Hospital maternity head James McIntyre.

When actuary Peter Doyle first plotted the course of the epidemic about a decade ago, he worked out three progressions — a best, middle, and worst case scenario. The course the disease would take depended on the level of intervention.

"What we are seeing in South Africa is the worst of Doyle's three models," said McIntyre. "There has been no behaviour change, very little education ... and we are heading for a Uganda-type scenario."

McIntyre's statement was based on a study of HIV prevalence in Soweto, which was close to the national average, but below areas such as Kwa-Zulu-Natal.

The national level of HIV infection had increased from 4,25 per cent in

1993 to 7,57 per cent in 1994, representing a doubling time of 15 months during this period.

A study of women coming to Baragwanath Hospital's maternity unit found that 10 per cent thought there was a cure for Aids in Western medicine, and five per cent thought traditional healers could cure the disease.

At the centre of the spread of HIV was the oppression of women and their reliance on men for their livelihood, said McIntyre. In the Baragwanath study only two per cent of women said they used condoms regularly, but 75 per cent said they wanted to use condoms, if they could persuade their partners.

There were more women infected than men and the bulk of infection was shifting to girls in their teens and early 20s.

McIntyre said this was fuelled by the growing trend of older men who chose young girls for sex because they thought they were less likely to be infected, and the increasing rate of child abuse. — DDC

## Warning about birth rate

JOHANNESBURG — The reconstruction and development programme would be hindered if the population continued to grow at its present rate, the Minister of Welfare and Population Development, Mr Abe Williams, said yesterday.

He was addressing a national workshop on population training and research at the University of the Witwatersrand.

If the growth rate of 2,1 per cent a year continued, the population would double in 34 years. By the year 2028, South Africa's population would reach 81 million.

Mr Williams said the issue of population growth should be treated with "caution and great understanding".

Another aspect which needed the country's attention was illegal immigrants who added pressure to over-burdened resources.

"It is therefore of paramount importance there should be stability as well as sustainable socio-economic development in the region," he said.

The influence of fertility, mortality and urbanisation on population growth also warranted special attention in the drafting of a population policy. — Sapa

## EC Aids, HIV rate high

EAST LONDON — The Eastern Cape has the third highest HIV/Aids infection rate in the country, with an estimated 10 per cent of its population being infected.

An Aids conference held in Mdantsane yesterday was also told that 90 per cent of maternity cases entering some hospitals were HIV positive.

Delegates were told the majority of people infected in the Eastern Cape were women between the ages of 16 and 25.

Full report page 5

# SA population hits 41 million mark 26-8-95

## 2,1 per cent growth

PRETORIA — South Africa's population was about 40,9 million, representing an average annual growth of 2,1 per cent since the 1991 state census, the University of South Africa's Bureau of Market Research said in a statement yesterday.

The bureau said KwaZulu-Natal was the most populous province, with 8,7 million people. The Northern Cape, at the other extreme, has 0,8 million.

The bureau said most Asians in South Africa lived in KwaZulu-Natal (77,4 per cent). The Durban-Pietermaritzburg complex hosted 64,6 per cent of the Asian population. Gauteng had the second largest number of Asians (15,3 per cent).

"Of the black population, the largest number (about 7,2 million or 22,9 per cent) live in KwaZulu-Natal, followed by 5,7 million (18,1 per cent) in the Eastern Cape and 5,1 million (16,3 per cent) in Northern Province.

"Most of the coloured people live

in the Western Cape (2,1 million or 60,8 per cent), Eastern Cape (12,5 per cent) and Northern Cape (11,3 per cent).

"The highest concentration (52,1 per cent) is in the south-west Cape (the area around Cape Town comprising the five statistical regions of Peninsula, Boland, Overberg, Breede River and West Coast), which in March 1995 accommodated 1,8 million coloureds."

The bureau said Gauteng had the largest number of whites (2,1 million or 41,2 per cent of the total), followed by the Western Cape (16,8 per cent) and KwaZulu-Natal (11,7 per cent).

Since 1991 the black population rose by 2,4 per cent a year, from 28,4 million to 31,2 million, compared with annual growth figures of 1,3 per cent for Asians, 1,4 per cent for coloureds and 0,7 per cent for whites, the bureau said.

Illegal immigrants were not included in the bureau's calculations. — Sapa

## Zaire Aids crisis 12/94

KINSHASA — As Zaire's economic crisis deepens, with 8 500 per cent inflation, more women are turning to casual prostitution, providing a fertile breeding ground for Aids.

Researchers estimate that seven to eight per cent of the general population and up to 40 per cent of prostitutes are now infected with the Aids. — Sapa-RNS

## Warning on Zim Aids orphans

HARARE — More than 100 000 children living on large commercial farms in Zimbabwe may be orphaned in the next five years because of the Aids pandemic, Agriculture Minister Dennis Norman said yesterday.

The children might by then have lost both parents to the disease, he told a seminar on foster care for or-

phans.

Mr Norman called on farmers to draft a national programme to deal with the problem. More research was needed and the views of farmers were essential to tackling the problem.

About 15 per cent of Zimbabwe's 10,5 million people live on commercial farms. — Sapa 25/8/95

## Minister: 500 HIV cases daily 7.3.95

CAPE TOWN — At least eight per cent of South Africa's population was HIV-positive with about 500 becoming infected daily, the Minister of Health, Dr Nkosazana Zuma, said yesterday.

When statistics were first tabled in 1991, about 1,2 per cent of the population was infected. The figure had almost doubled annually, she said.

Dr Zuma said at an international HIV and Aids conference here that KwaZulu-Natal had the highest infection rate in the country, with at least 20 per cent of the population there being HIV-positive.

"Women are more affected than men — almost double the rate of men," she said.

The government would not discriminate against HIV-positive people, setting an example to business and the public, she said.

Social awareness was necessary to break the stigma attached to the "mystery disease".

The Deputy President, Mr Thabo Mbeki, told the conference the international community had a major responsibility to help under-developed countries create the social and economic capacity to join the fight against Aids. — Sapa

ABIDJAN — With more than 8.5 million people infected, sub-Saharan Africa is the most Aids-affected region on earth, according to the World Health Organisation (WHO), but the worst is yet to come.

In urban areas in Botswana adult infection rates of more than 20-30 per cent were observed. In Nairobi, more than 30 per cent of hospital beds are filled by Aids patients. In Malawi, where 10 per cent of the 10 million inhabitants are HIV-positive, authorities believe there will be some 800 000 people orphaned by Aids by the year 2000.

# Worst still on continent Africa's Aids epidemic

A lack of testing resources makes it very likely that official figures fall far short of reality.

Women are more affected than men by a ratio of six to five. In 1994, 14,35 per cent of pregnant women in KwaZulu-Natal, home to one in four South Africans, were HIV-positive.

A million children in sub-Saharan Africa have been infected in the womb or through breastfeeding, according to

WHO. 1-12-95

Poverty and ignorance play a major role in the spread of the epidemic. In Ivory Coast, where 12 per cent of the population — 1.5 million people — are infected, sidewalk pharmacies sell fattening pills because plumpness is equated with health while skinny people are often ostracised. Some African countries have nicknamed the disease "slim".

In countries such as

Rwanda and Burundi, the movement of large numbers of people and the density of displaced persons camps has given rise to fears of an exacerbation of the epidemic.

In Rwanda, some of those who escaped last year's massacres reported Hutu militias raped Tutsi women to deliberately spread Aids to help wipe out the ethnic group.

Demonstrations and programmes are on the

increase, often organised by the government. In "co-sev-twe-nex-20(wei-E-gra-cou-aga-fo-1) Ais-pri-olc-asl-on-bo-po-AF

**Zim HIV cases rocket**

GUTU — The incidence of Aids cases in Zimbabwe's Gutu district with a population of about 200 000 people has reached alarming levels as up to 3 000 people are dying of Aids-related diseases annually, the Zina news agency reported yesterday.

A doctor at Gutu mission hospital, Dr Henk Buddingh, said current estimates were that 20 to 30 per cent of adults are HIV positive. — Sapa 17-10-95

2A-11-95

## New HIV strains revealed in report

PARIS — American soldiers returning from missions abroad are responsible for bringing the first documented cases of new strains of the deadly Aids virus to the United States, according to a US study published in The Lancet.

The British medical journal said there are nine known genetic subtypes of the Aids virus — HIV-1 — worldwide.

The predominant strain found in Europe and North and South America is sub-type B.

But two US research teams, led by Drs Andrew Arstein and Stephanie Brodine, said they had isolated three

new strains — A, D and E — from soldiers returning from overseas.

The researchers know that the servicemen were infected while overseas because they were all tested for HIV before leaving home and found to be negative, the journal said.

Dr Brodine, of the US Naval Health Research Centre in San Diego, examined US sailors and marines who had been infected with HIV while on duty in Thailand (three cases), Ke-

B and the first reported introductions of subtypes A and E into the US."

Another six cases, reported by Dr Arstein and a team of researchers from the Walter Reed Army Institute, were Uruguayan soldiers and marines who had served in Cambodia with the United Nations.

Five harboured sub-type E and the sixth was infected with sub-type B.

The findings suggest that, given the frequency of international travel, the whole world might eventually have cases infected with multiple subtypes of HIV-1, hampering efforts to neutralise it. — Sapa-AFP

## 260 new HIV sufferers in EL

Daily Dispatch Reporter EAST LONDON — There are 260 new known cases of HIV positive sufferers in East London every month.

These were the figures obtained from public and private laboratories from tests done on high risk people, the manager at the Aids Training Centre (Atic) here, Ms Rose Hegner, said yesterday.

"It is scary to think there are many more people infected out there showing no signs of the disease, and we cannot help them," she said.

The infection rate in the Eastern Cape was thought to be between five to eight per cent, although it was difficult to reach the exact figure, she said.

A national ante-natal survey carried out on pregnant women in October last year showed an 8,7 per cent infection rate. This was expected to double to between 16 and 17 per cent this year

and the shared right of people living with Aids — their families, friends, employers, and the general public.

Atic in East London has planned an extensive programme leading up to December 1.

A symposium for domestic workers will be held at the Trinity Methodist Church hall tomorrow, and on Thursday a youth parade will take place in the central business district.

A fun run, starting from and ending at Cecilia Makiwane Hospital, will follow on Friday.

In Bisho, a youth march will proceed to the city centre where a petition will be handed to the Department of Education.

In Zwelitsha, a full programme will strongly bring home the frightful message of Aids. Accompanied by a band, drum majorettes will march from the taxi rank in Zone 4 to Zwelitsha hall, followed by a float.

10-10-95

## HIV cases increase in EL

EAST LONDON — At least 240 new cases of HIV infection are reported each month in the Greater East London area, the manager of the Aids Training and Information Centre, Ms Rose Hegner, said yesterday.

Ms Hegner claimed private laboratories reported about 200 new cases each month, while public laboratories recorded at least 40 new cases.

With a present infection rate in the Eastern Cape of 4,5 per cent, Ms Hegner estimated that some 337 500 people were infected with the HIV virus.

Reacting to a Sapa news report which claimed the HIV infection rate in the Eastern Cape had doubled during the first nine months of this year, Ms Hegner said: "The doubling period is generally accepted as 14 months, but it's not unheard of for figures to double in nine months."

She added that by the year end, the national rate of infection would be 17,4 per cent. — DDR

## HIV cases on increase

JOHANNESBURG — More than three per cent of children born in Gauteng tested HIV-positive, the MEC for Health, Mr Amos Masondo, said yesterday.

More than 10 per cent of people between the ages of 15 and 35 had the virus, Mr Masondo told the opening ceremony of the Ethembeni House of Hope, Johannesburg's second home for HIV-positive infants. — Sapa 17-11-95

More than half of the Eastern Cape's 6,7 million inhabitants live in rural settlements. Of these, at least 65 per cent, or more than 2,6 million, are women.

In June this year, tests at hospitals in the former Ciskei revealed 71 per cent of women tested were HIV positive, as opposed to 29 per cent of men. Thirty women who tested positive, were pregnant.

at risk. 1-12-94

National Aids figures, correct as at November 24, show the Eastern Cape to have the third highest number of Aids cases of all nine provinces, after the more-highly populated KwaZulu/Natal and the PWV provinces.

The Eastern Cape, with the second highest number of rural women of all the provinces, has 382 confirmed Aids cases. The number of HIV infections, even in conservative estimates, affects at least 3 per cent of the provincial population.

In the Eastern Cape, this amounts to more than 200 000 people.

The timebomb ticks on.

In June this year, tests at hospitals in the former Ciskei revealed 71 per cent of women tested were HIV positive, as opposed to 29 per cent of men. Thirty women who tested positive, were pregnant. 12-1-94

# Great scope for Aids prevention

by John Daniszewski in Johannesburg

WHEN Theresa Mokhesi puts to bed 20 abandoned Aids babies each night in a Soweto hospice, she knows she is looking into the faces of South Africa's future.

When Dr James McIntyre bears the news to another new mother at Baragwanath Hospital in Soweto that she has tested HIV-positive, he can only grimace in frustration at the growing frequency of the painful scene.

These days, 10 per cent of the mothers delivering babies at Baragwanath, Africa's largest hospital, already have the virus that causes Aids.

By the time their newborns will be ready for school, most of these mothers will have died of Aids. In Soweto alone, McIntyre expects 50 000 mothers will die in the next six years — meaning more funerals in his corner of South Africa than resulted from political upheaval across the country over the past two decades.

South Africa was a latecomer to Aids. But instead of using the time to prepare, the former white-led government neglected the problem. Now Africa's most prosperous country is waking up to find the scourge has arrived.

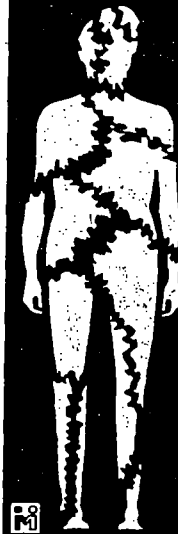
"You were warning us," McIntyre recalled a doctor telling him. "But we weren't listening."

The country was far from the vortex of the disease in central Africa. Political isolation that limited the number of foreign visitors helped slow the arrival of the mass of Aids cases until the mid-1990s, researchers say.

In 1990, just 5 000 cases of HIV infection were reported in South Africa. Today, the number of people with the virus has exploded to 1.2 million. By 2000, the figure will be around 8 million — or 20 per cent of the population.

Health Minister Nkosazana Zuma delivered the statistics to Parliament in June, and announced an emergency quadrupling of govern-

## A history of HIV/AIDS



©1981: Aids recognised in gay men in US

©1982: Aids recognised in Zaire in heterosexuals

©1984: HIV confirmed as cause of Aids; first antibody tests

©1987: Drug AZT licensed for treating Aids

©1994: Aids cases rise 60%; WHO estimates 4m have the disease

©1995: Brazil, Uganda and Thailand to launch trials for HIV vaccine

ment money devoted to Aids prevention and care to R84 million.

The government has obtained 97 million male condoms and 90 000 female condoms for free distribution, she told Parliament, and billboards nationwide will carry anti-Aids messages.

But in a sense, it's too late. Activists say hundreds of thousands of South Africans have already, unknowingly, been marked for death, and predict the disease will start to drag down the economy that many had seen as the continent's best hope.

"Currently we estimate 500 new infections a day, one infection every three minutes. Certainly we are going to be seeing a lot more," said Quarraisha Abdool Karim, the epidemiologist appointed by President Nelson Mandela's government to combat Aids.

"Just in terms of economic impacts, it's going

to be very alarming," she said. Many victims will leave behind young children — perhaps hundreds of thousands of Aids orphans.

Mrs Mokhesi, a nurse, operates the country's first hospice for abandoned infants with Aids. She started with one baby about two years ago. Now the home funded by the Salvation Army cares for 20 babies, and a new centre for 100 children is being built.

Aids activists believe the conservative rulers of apartheid-era South Africa were unwilling to rouse themselves to fight a disease associated mainly with blacks and homosexuals.

And the country's political elite was so focused on bringing about last year's peaceful transition to black-majority rule that they did little to address the Aids threat.

Apartheid's migrant labour practices worsened the epidemic, Karim said. Blacks could work in white areas but usually had to leave their spouses in tribal "homelands".

This disrupted family life: Men away from home went to prostitutes or found girlfriends. Women struggling to fend for themselves and their children in the impoverished homelands would find boyfriends or turn to occasional prostitution.

Poverty and lack of political and social stability also are risk factors. KwaZulu-Natal, the part of the country most wracked by political violence, has the country's highest infection rate. Condoms are expensive for people who must struggle even to feed themselves, and are estimated to be used in less than one per cent of sexual encounters.

Blacks are 10 times as likely to be infected as whites, with the coloured and Indian populations in the middle.

Karim said an estimated 7.6 per cent of adult South Africans are now infected.

"That means we still have 92.4 per cent not infected, so there still is great scope for prevention." — Sapa-AP

## Zim children die of Aids

BULAWAYO — Aids-related illnesses were the main cause of death among children and the "productive age group" in Zimbabwe's second city, Bulawayo, health authorities said yesterday.

The city health services deputy director, Dr Rita Dlodlo, said her department recorded 100 to 150 HIV and Aids-related deaths every month.

She warned the economy would in the next few years suffer as more workers succumbed to the disease, causing a reduction in investment, production levels, product quality, and social security. — Sapa 9-2-96

## Men blamed for Aids 29-2-96

MANZINI - Swaziland's nurses have blamed polygamous men for the rapid spread of Aids and HIV, estimated to have infected 20 per cent of the country's population.

At a meeting here on Tuesday, nurses blamed unfaithful husbands for contracting the HIV virus that causes Aids and spreading it to their wives. They said long-distance lorry drivers practised sexual habits that also led to the spread of the virus. — Sapa

## Aids moves up market

Daily Dispatch Correspondent 3-1-96

JOHANNESBURG — HIV is finally making its presence felt among "highly respectable, upper economic strata" married couples, the Health Department's HIV/Aids programme director, Ms Quarraisha Abdool Karim, said yesterday.

The perception is that Aids is largely a black disease, but it is no longer an issue just of poverty.

"It is passed on through sex and anyone who has unprotected sex is open to it, no matter what their economic status," she said.

Along with this trend, a new group was emerging as one of the most "at risk" groups — monogamous married women. "They are the most unsuspecting group," she said.

Thinking that their husbands were faithful, they would not consider using condoms.

As HIV infection was starting to shift to the northern suburbs, so the closet behaviour of married people there began to emerge.

From these cases of married people who had contracted HIV, and from reports of organisations working with male and female prostitutes, there emerged a lot of closet bisexuality among the upper income groups, and of heterosexual couples renting prostitutes together.

## Youth called to help fight spread of Aids

Daily Dispatch Reporter

EAST LONDON — Knowledge of the deadly Aids virus did not necessarily change the sexual behaviour of young people and it was critical that young people took a stand to protect themselves against the deadly disease, the MEC for Health and Welfare, Dr Trudy Thomas, said here yesterday.

Dr Thomas said at the opening of a two-day workshop on life-skills education that the availability of protective measures against the virus did not guarantee that people were using them.

"The government can make things like condoms available, but it cannot be in the bedrooms of society," she said.

Life skills were about giving young people the ability to cope with their lives personally, socially, physically, and otherwise, Dr Thomas said.

However, health aspects were emphasised during discussions on what could be done to prevent the spread of the Aids virus.

The chairman of the National Aids Convention of South Africa, Mr Malibongwe Puzi, said young people should devise means of fighting the spread of Aids instead of making excuses about its growth.

"The implication of what we do now will form the basis for our future — young people must develop the ability to say no," he added.

A guidance officer from the provincial department of education, Mr Bubele Mfenyana, said the education department fully supported the move towards a school-based life skills programme.

He said most schools in the province were in rural areas where many people were either illiterate or semi-literate. Such people put a lot of trust in teachers, which made it more important for teachers to be trained to impart life skills. 25-11-95

## SA population to grow to 65,7 million by 2020

JOHANNESBURG — South Africa's population is expected to increase by one third from 44,7 million to 65,7m by the year 2020, a Development Bank of Southern Africa report said yesterday.

The population of Gauteng is expected to double to 14,7 million by 2020.

The report, released by the bank's centre for policy and information, is based on the results of official population censuses, other secondary sources, and the centre's own estimates based on statistical and

demographic techniques.

"The expected increases will have a significant impact on the delivery of public services and infrastructure especially in urban areas," the report said.

In 1995, South Africa's population was 61,8 per cent urbanised but up to 82,4 per cent can be expected to live in towns and cities by 2020.

While 18,4 per cent of the population is currently under the age of 14 and 2,3 per cent over 65, this will by 2020 have changed to 12,5 per cent and 3,8

per cent respectively. "While such structural changes could result in less pressure on the country's education budget it could result in greater demand for health and welfare services.

The present rate of HIV infections in South Africa would only start having a noticeable effect on mortality levels towards the end of the projection period.

However, Aids-related illnesses such as pneumonia and tuberculosis could affect population growth before this. — Sapa

## HIV infection scare in blood banks

million people. No documents are maintained for the remaining 30 per cent.

Most of the blood comes from poor people who sell it to blood banks. Voluntary donation has yet to catch on in India, and despite warnings by various experts, most people here don't take seriously the threat posed by HIV.

NEW DELHI — Almost 30 per cent of blood in India's blood banks is suspected to be infected by the Aids virus, hepatitis or malaria, a study has found.

The National Aids Control Organisation says that records are kept for only 70 per cent of two million blood units collected in India, home to 900

## Rights of HIV-infected workers outlined

Daily Dispatch Reporter

EAST LONDON — A symposium aimed at educating domestic employers and employees about the workplace rights of a person infected with the Aids virus was held here yesterday.

The manager of the Aids Training and Information Centre (Atic), Ms Rose Hegner, said the workshop was aimed at educating people about employees who had tested HIV positive but could still perform their duties.

She said although it was illegal to fire an infected employee still able to work, most employers tended to do so.

The workshop was hosted jointly by delegates from Life Line, Lawyers for Human Rights, Border Family Life Centre and Atic.

A delegate from Lawyers for Human Rights, Mr Wesley Pretorius, talked about the rights and duties of a domestic worker and employer affected by Aids.

He said it was illegal for employers to in-

sist on pre-employment HIV testing and added workers infected with the disease could not be dismissed only because they were HIV positive while they were still healthy.

Mr Pretorius said it was only legal to dismiss workers if they could not be accommodated to perform other duties.

Participants were told that about 260 people in East London, mostly women, were being diagnosed every month for HIV. 30-11-95

# EC population faces alarming Aids levels

27-2-96  
Daily Dispatch

ReportersBISHO — Up to 40 per cent of the provincial population will have contracted the Aids virus by the year 2 000 if the current rate of infection prevails, the MEC for Health, Dr Trudy Thomas, said here yesterday.

Addressing a group of 'teenagers' and health care workers at the launch of an Aids media strategy, Dr Thomas said an estimated five per cent of the Eastern Cape population had already been infected.

Urging the use of condoms, Dr Thomas said her department would support the supply of condoms for women, but challenged men to further South Africa's new culture of human rights by giving up sexual control.

"Controlling someone through sex is merely a sign of immaturity and proof that you have to control someone else because you cannot control yourself," she said.

In keeping with a culture of human rights, Aids sufferers and people infected with the HIV needed to be treated with dignity and love, and not isolated.

# Zim HIV infection more widespread than reported

29-12-95

HARARE — The Zimbabwean National Aids Co-ordination Programme yesterday said estimates showed up to 25 per cent of sexually active adults in the 15-to-49 age group may be infected with the human immunodeficiency virus (HIV) which causes the deadly illness.

"Almost all those with HIV are expected to develop Aids in time," the NACP said. "Average life expectancy may be shortened by perhaps 20 years, with a shortage of young and middle-aged productive adults and huge numbers of orphans, possibly one in three of all children, by the year 2010."

"Sex ratios will change as women die younger than men, and dependency ratios will worsen. All sectors of society and of the economy will be affected."

The NACP said population growth would slow down and the population might even contract for a period, although it would gradually recover.

By mid-1995 there were 40 000 reported Aids cases in Zimbabwe. It is generally believed about two-thirds of cases go unreported. — Sapa

## 80pc of prostitutes have HIV

ABIDJAN — As many as 80 per cent of the prostitutes in this West African nation are infected with the virus that causes Aids, according to government figures.

Health Minister Maurice Kakou Guikahue also announced that the country has recorded 25 036 cases of the deadly disease, up from 18 670 in 1994. The Ivory Coast is one of the African countries hardest hit by Aids, according to figures provided by the World Health Organisation. — Sapa-AFP

18-3-96

Protest favours immigrants

# WHO warns of parallel HIV, TB epidemics

GENEVA — The World Health Organisation (WHO) warned of possible parallel epidemics yesterday, saying interaction between tuberculosis and HIV, the virus that leads to Aids, was lethal.

Over the next four years, the spread of HIV will result in more than three million new TB cases in both HIV-

positive and HIV-negative people, the WHO said in a statement here, before World Tuberculosis Day starts tomorrow.

The WHO called on states and aid organisations to use a single strategy to fight TB and Aids.

The TB germ can spread through the air. Individuals with tu-

berculosis are contagious to those with whom they come in close contact.

Millions of TB carriers who would otherwise have escaped active tuberculosis are now developing the disease because their immune system is under attack from HIV, said the report. — Sapa-DPA

23-3-96

## Aids Prisoners to be integrated

17-5-96

ed and stigmatised, he said at a press briefing.

So too should the distribution of condoms be accompanied by a strong HIV/Aids-education programme.

This should be aimed not only at prisoners, but also at prison staff at all levels.

It was crucial that

prisoners could be assured of confidentiality if they chose to make use of condoms.

He also welcomed Correctional Services Minister Dr Sipo Mzimela's commitment to scrap antiquated legislation which criminalised homosexual relations.

Such legislation was in conflict with the new Constitution which provided for freedom of choice of sexual orientation.

The Correctional Services transformation forum had already established a sub-committee to discuss the implementation of the new policies. — Sapa

# 2 000 infected with Aids daily in South Africa

JOHANNESBURG — South Africa has one of the fastest growing Aids epidemics in the world, with up to 2 000 people being infected daily, it was revealed yesterday.

The director of the Alexander Forbes Aids consulting and support unit, Dr Clive Evian, told a convention at Sun City in North-West that two million South Africans were infected by the end of last year.

About 100 000 Aids cases were reported, but the official figures were under-representative as reporting was not mandatory, Dr Evian said.

"The results of the latest survey by the Department of Health confirm some of our worst predictions and indicate a massive and potentially devastating epidemic," Dr Evian said.

The average doubling time of the infection rate in South Africa is between 20

and 24 months, but in the Western Cape it is a mere six months and about a year in Gauteng.

Dr Evian said this implied that about 2,4 million South Africans were HIV-positive, and the figure would double in 30 months.

"The South African epidemic is one of the fastest growing in the world."

"In broad terms, by 2005, South Africa could expect to have accumulated five million to seven million HIV infections and about 1,5 million cases of Aids."

He said workplace leaders should give attention to the implication of the epidemic to health care funds, employee benefits, potential absenteeism and potential loss of employees.

They should also help in promoting strategies to prevent the spread of the virus. — Sapa

24-10-96

# 1,8 million HIV positive by end of '95 — survey

15-5-96

**PRETORIA** — More than 10 per cent of women who attended ante-natal clinics during 1995 were HIV-positive, said the Department of Health. The figures were based on a departmental survey, the sixth in a series conducted anonymously among pregnant women since 1990. Health Minister Nkosazana Zuma said yesterday. The survey shows that 10,44 per cent of women who attended public health sector clinics were infected with HIV.

"This survey is used as a barometer to watch HIV infection," Dr Zuma said. It showed an increase in HIV infections in all provinces. KwaZulu-Natal and Mpumalanga had the highest rating with 18,23 per cent and

16,18 per cent respectively. Northern Cape showed an increase from 1,81 per cent in 1994 to 5,34 per cent in 1995 while Gauteng doubled from 6,44 per cent to 12,03 per cent in a year. Western Province had the lowest infection rate of 1,66 per cent, a slight increase from 1994.

The Health Department said in a statement that from the results of the survey it could be estimated that 4,3 per cent of the country was infected by the end of 1995.

This represented about 1,8 million people.

HIV infection had increased among all age groups with the highest rates recorded in the 20 to 24 age group at 13,12 per cent. — Sapa

Official estimates say India will have five million Aids sufferers by the end of the century. — Sapa-AFP

7-11-96

## Zim considers law against spreading Aids

25-7-96

**HARARE** — Grappling with one of the highest HIV infection rates in the world, Zimbabwe may pass legislation that would make it a crime for a person to spread the HIV virus.

Justice Minister Emmerson Mnangagwa said yesterday he hoped the Criminal Law Amendment Bill would be approved by Parliament later this year.

The bill would criminalise the deliberate transmission of HIV or other sexually transmitted diseases (STD).

Those convicted could be jailed for a maximum of 15 years under the proposed leg-

islation.

"We are going to introduce a new legislation which makes it a criminal offence for people infected with Aids or an STD to have a sexual relationship when they know that they have the disease," Mr Mnangagwa said.

If a person was accused of raping someone or spreading a disease, he or she would be tested for viruses before a court hearing.

More than a quarter of Zimbabwe's population is said to be HIV positive, with an estimated 300 people dying weekly from Aids-related illnesses. — Sapa

## HIV hits a third of young Zim women

**HARARE** — A third of women in their twenties here are infected with the Aids virus, HIV, a local newspaper quoted Health Minister, Dr Timothy Stamps, as saying yesterday.

"In Harare, one in every three women of age 20 to 29 is estimated to be HIV-positive," Dr Stamps told a group of German parliamentarians.

Dr Stamps said that just 10 per cent of women had the "knowledge, status and facility to prevent infections," and just one per cent had the opportunity to establish whether or not they were infected.

He said, however, that awareness of the disease was high because people were dying of Aids almost every day and there were few people in Zimbabwe who had not lost a relative to the disease.

Dr Stamps said that some of the responsibility for the high rate of infection lay with those involved in fighting the virus. "One minute we say 'let's stick to one partner' and in the same message we say use a condom when having multiple sex — that's very confusing," he said. — Sapa-AFP 28-10-96

## Nkomo halts Aids awareness singing

11/94 from MICHAEL HARTNACK

**BULAWAYO** — The theme tune for Bulawayo's Aids Awareness Week seems to have become "the song is ended but the malady lingers on" after the indignant Vice President, Mr Joshua Nkomo, 77, silenced a schoolgirl choir's condom cantata.

Mr Nkomo "could not contain his disgust" and "signalled to the girls to stop singing," Ziana news agency reported at the weekend.

"Let us meet as adults only and I will reveal the facts to you about

Aids and how things were done during our time," stormed the burly elder statesman, who was guest of honour at the Aids Awareness Week launch featuring choirs from Nkulumane High School.

Experts say more than one in seven of Zimbabwe's 10,7 million people are already infected with the HIV disease.

The former Minister of Health, Bulgarian-trained Brigadier Felix Muchemwa, once claimed there was "no connection between testing positive for HIV and Aids".

His successor, Dr Timothy Stamps, has repeatedly accused traditional healers who claim to have Aids 'cures' of fostering false public complacency.

Mr Nkomo angrily told organisers the problem stemmed from "moral decay in society".

"Even Adam and Eve used leaves to conceal their nudity and I don't understand why our women are wearing trousers," he said.

Dr Stamps revealed in October that 25 in every 1 000 babies brought into hospitals now die of Aids-related conditions.



MR NKOMO

## Aids in Kenya on the up

**NAIROBI** — Aids will cause a 10 per cent reduction in Kenya's annual per capita income in the next decade, and the number of HIV-positive workers in the East African nation will rise to one in four by the year 2000, a report said yesterday.

"Unless a comprehensive programme of HIV prevention is implemented, the number of Kenyans infected with HIV could reach 1,8 million by the year 2000."

Of the 8,5 million HIV-infected people alive in sub-Saharan Africa, more than a million are Kenyan. Here, as in the rest of sub-Saharan Africa, Aids is transmitted through heterosexual contact and intercourse.

The prevalence of the HIV virus among pregnant women in urban areas is as high as 30 per cent. The report stresses the long-term impact of Aids in Kenya on medical costs, economic productivity and family structure. — Sapa-AP 18-10-96

## NEWS IN BRIEF

### Chinese Aids figure doubles

26-6-96

**BEIJING** — The official number of Chinese infected with the virus that causes Aids nearly doubled last year, the state-run Xinhua News Agency reported yesterday.

Some 1 567 new HIV carriers were reported last year, bringing the total to 3 341, a 46 per cent increase. One hundred and seventeen Chinese have full-blown Aids, with 52 of the cases reported last year.

Public health officials acknowledge that the figure is too low and estimate the total number may be as high as 90 000. — Sapa-AP

# Some whites have genes that resist Aids virus

A SURPRISING number of people — perhaps one in 100 white Americans — have genes that can enable them to escape Aids infection despite having risky sex thousands of times, scientists have discovered.

The finding answers one mystery of the Aids epidemic — how some people get away with breaking all the safe sex rules — and opens new possibilities for treating and preventing the disease.

If scientists can find a way to mimic the effects of this inborn genetic shield, it may be possible to create a pill that will keep people from becoming infected with the Aids virus.

The key is a mutation in the genes that direct the body's defences against disease.

In this case, one of the genes is missing a chunk of information, so the body fails to produce a particular protein.

This protein is one of the docking points that the Aids virus needs to invade cells.

Those who are born with two copies of the mutant gene — one from Mom, one from Dad — appear to be highly resistant to Aids infection, although experts are not sure if their protection is absolute.

"All over the world, wherever people look, there is a small fraction of people who seem not to get infected" despite multiple exposure, said Dr Robert W. Doms of the University of Pennsylvania Medical Centre.

"For whites, it is often going to be because of this mutation. But this may just be the beginning of an interesting story."

In a report scheduled for publication in the August 22 issue of the journal *Nature*, Doms and colleagues describe looking for the mutant gene in people of European, African and Asian heritage. Only whites had it.

But Doms and others suspect that people of other ethnic origins will turn out to have other protective genes.

"What's very surprising is how common this mutation is. We originally thought people with this would be one in a million. Actually, it's more like one in 100 white people," said Dr Nathan R. Landau of the Aaron Diamond Aids Research Centre in New York City.

In addition, a surprising 20 per cent or so of whites were found to have one copy.

The effects of having one copy are still unclear. But the researchers believe it makes people somewhat less likely to get infected and may help them survive much longer once infection occurs.

Experts believe there soon will be a simple blood test to reveal whether people have one, two or no copies of the gene.

Already, some experts worry that people will throw away their condoms if they learn they have two copies.

"That would be folly. We are just on the threshold of understanding all of this," said Dr Anthony Fauci, head of the National Institute of Allergy and Infectious Diseases.

Landau and colleagues studied two gay men who had watched 40 or 50 of their friends and lovers die of Aids.

They volunteered because they wondered why their own high exposure to the virus had not led to infection too.

In a report in a recent issue of the journal *Cell*, Landau's team reported the answer: Both men have two mutant copies of a newly discovered gene called CCR5.

Landau's and Doms' groups were among five to report the discovery of CCR5, also known as CKR-5, in June.

Ordinarily, CCR5 acts as a hitching post on blood cells for chemokines, chemical messages that summon help to the site of inflammation.

However, when HIV gets into the body, they found it latches onto CCR5 as well as CD4, another protein that has long been recognised as an Aids docking point.

The latest work shows that without CCR5, infection with the most common sexually transmitted varieties of HIV is unlikely, although experts caution that some forms of the virus may still be able to get in by attaching to other spots on blood cells.

Aids researchers have long wondered why some people who got infected at the epidemic's start in the early 1980s are still alive and healthy, while others die quickly.

Having one mutant CCR5 gene may provide at least part of the answer.

The Diamond researchers found that infected cells with one copy of the gene produce four to 10 times less HIV than usual.

Landau said drug companies are already working on drugs to block CCR5 as a way of keeping HIV out of cells. — Sapa-AP

# A ticking timebomb

WOMEN, more specifically those living in rural and peri-urban areas, are emerging as the HIV virus' "red border" group, or the group most at risk of HIV infection.

In October this year, a Nigerian Aids specialist, Dr Eka Williams, noted that African women between the ages of 15 and 25 were contracting the virus at a rate far beyond that of other high-risk groups, including both hetero- and homosexual men.

This is further corroborated by monthly World Health Organisation (WHO) reports, which show women are contracting not only the HIV virus, but full blown Aids, at close to twice the rate of men.

But unlike other high-risk groups, there is little these women are able to do to protect themselves.

They are targeted as high-risk groups not because of their choice of sexual practices, but rather their very lack of choice when it comes to sex.

"Women just don't have that much power in their sexual relationships" the head of the East London Aids Training and Information Centre, Ms Rose Hegner, says.

"Rural women especially are unable to insist on fidelity from their sexual partners, and find it impossible to introduce condoms into their sexual relationship." Because of this, conventional Aids prevention programmes, of which only a rare number manages to filter through to the more desolate rural settlements, are proving largely ineffective.

mate the rate of infection in this area to be, at the very least, equal to that of Ciskei, but most probably much higher.

The biggest tool these women have in safeguarding themselves from the HIV infection is not the tons of literature being distributed by field workers, nor the horror statistics stapled to notice boards in Aids centre reception areas.

Rather it is the encouragement of their sexual emancipation; fostering a new culture of assertiveness and restoring the balance of power in their sexual relationships.

"The alarming rate of HIV infections among women, particularly women in rural areas, hinges largely on their lack of power

in their sexual relationship," Rose Hegner says.

"They have to be educated about their rights in their sexual relationships; that it's permissible, even essential, to demand honesty and fidelity in their partners."

The importance of unshackling African women from a culture of sexual enslavement in the fight against Aids has only recently been awarded the im-

portance it deserves.

This recognition comes in the form of the National Aids Convention of South Africa's National Aids Plan, formally adopted

by the national minister of health, Dr Nkosazana Zuma, in July this year.

Effective regional implementation of this plan will, says Eastern Cape MEC for Health, Dr Trudy Thomas, allow health authorities here to control the dis-

ease in the province.

"We can still control the disease without it becoming catastrophic if we put an effective programme in place soon," she has noted.

Ms Hegner agrees: "The plan, which is only now filtering down to the regions, covers a large spectrum. It also makes specific reference to the culture of subordination in women. But its still going to be our responsibility to implement it effectively."

One aspect of the plan provides for the de-criminalisation of prostitution to be investigated as a way to curb the spread of the HIV virus.

"If they do de-criminalise commercial sex work, women in this trade will be more

The timebomb of Aids, the outfall of which threatens to surpass even our most gruesome predictions, ticks loudest in the lap of the African continent. Its fuse? The millions of women, predominantly rural, in whom a culture of sexual submission, rather than promiscuity, has propelled them into the group most at risk of HIV infection. **TANYA JONKER** reports

12/1/94



mp

likely to come forward for regular examinations, which will help us halt the spread of the disease.

"But at the moment, like most industries which have been forced underground, we have no means of either regulating or controlling it."

Another potentially controversial aspect of the National Aids Plan, also to be investigated, refers to the right of abortion for pregnant women who have tested HIV positive.

What it boils down to — finally — is legal recognition of women's rights.

Ms Hegner sums it up: "Most rural women are powerless in their sexual relationships. This all but eliminates safe sex practices, and fuels the spread of HIV infection and Aids."

"It's all about re-educating women about their rights. Never has this been more important than with the rampant spread of this disease, of which they are most

"Rural women especially are unable to insist on fidelity from their sexual partners, and find it impossible to introduce condoms into their sexual relationship." — head of the East London Aids Training and Information Centre, Ms Rose Hegner.

# 300 new H V infections reported monthly in EL

By Simphiwe Pillso

**EAST LONDON** — About new HIV infections were reported monthly in East London, the manager of the East London Aids Training Centre and regional co-ordinator, Ms Rose Hegner, said yesterday.

"The infection rate in East London alone is about 10 percent, which means one in 10 people could be infected," she said.

Ms Hegner said the number of HIV infected people could not be properly determined because "a fully developed surveillance system has not yet been developed in the

province.

"The only way of getting information and figures of the number of people infected is through blood tested at public health service centres.

"So a whole section of people, who could feel and look healthy, are actually living with the infection," she said.

The head of the public health department in the Eastern Cape, Dr Costa Gazi, said the number of people infected with the virus and who had Aids in East London "is steadily going up".

He said the number of people infected with HIV is "anywhere between 300

to 500 a month in East London".

In his capacity as Pan Africanist Congress health spokesman, Dr Gazi said his party "does not feel that the government is addressing this problem seriously enough.

"The increasing number of HIV infections needs to be addressed as seriously as the increasing number of crimes committed in this country."

Eastern Cape Health MEC Trudy Thomas has predicted that up to 40 percent of the population will have contracted the HIV virus by the end of 1999 if the current rate of infection prevails.

## Europe reports Aids 'stabilised'

**BRUSSELS** — The number of known Aids cases in Europe has "stabilised" except in Spain, Italy and Portugal, says a European Commission report based on data for last year.

In the January to September 1996 period, 17 778 new cases of the fatal syndrome were declared in the 15-nation European Union (EU), bringing the total number of known cases to 167 021 since Aids was discovered.

Intravenous drug users made up the biggest proportion of Aids patients at 45 per cent, followed by homosexuals

at 28 per cent and heterosexuals at 19 per cent.

The proportion of female Aids patients has meanwhile grown, from 12 per cent in 1986 to 20 per cent in 1995.

Forty-seven per cent of the women were infected by drugs needles, and 43 per cent through heterosexual contacts. In one-third of the latter cases, the women's partners used drugs.

Some R80 million was earmarked in 1994-95 for trans-border Aids prevention campaigns across the EU. — Sapa-AFP

## Man stoned for being thin

**ADDIS ABABA** — A skinny man travelling along a rural road in Ethiopia was stoned to death by six young people who suspected him of being an Aids carrier.

The attack occurred in the Gayant Woreda district of north-western Ethiopia earlier this week.

The victim, Mr Andargie Zewde, was seen walking alone in the neighbourhood of Tamie when a girl cried out for help "out of fear" of his unusually skinny appearance, the paper reported.

Six young people — two of them girls — rushed to the scene and stoned him to death without asking any questions, the paper quoted police as saying.

The six were arrested along with the girl who cried for help.

Police were now urging elders and community leaders in Tamie to contact health workers to educate locals on how the HIV virus that leads to Aids is spread. — Sana-

## WORLD IN BRIEF

### 30 pc mums-to-be have HIV

**HARARE** — One in every three pregnant women in the Zimbabwe capital has HIV, the virus that causes Aids, a recent survey has revealed.

The survey carried out by the University of Zimbabwe medical school showed that 30,2 per cent of 1 068 pregnant women tested at various pre-natal clinics in Harare were HIV-positive.

An average 500 people die of Acquired Immune Deficiency Syndrome and HIV-related diseases in Zimbabwe every week.

An estimated one million people, or 10 per cent of the 10,4 million Zimbabweans, are infected with HIV, the precursor to Aids. — Sapa-AFP

10-11-96

# 's a ns r i ' ig over drugs for HIV prisoners

**JOHANNESBURG** — The DP yesterday expressed concern at the Cape Town High Court ruling that HIV-positive prisoners should be supplied with expensive anti-viral drugs if prescribed by a doctor.

Gauteng health spokesman Jack Bloom said the costs would be "astronomical" and unaffordable if all HIV-positive prisoners took advantage of Judge Fritz Brand's ruling.

"There are 2 500 diagnosed HIV-patients at Johannesburg Hospital alone who receive no anti-viral drugs whatsoever, as this would be completely unaffordable for the hospital and would severely prejudice the treatment of other patients."

Mr Bloom said haemophiliacs were currently the only HIV patients in Gauteng state hospitals who receive anti-viral drugs.

Only small amounts of the expensive, anti-viral drug AZT were kept in stock, usually for immediate preventive treatment for medical staff who accidentally came into contact with HIV-infected blood. There was no state tender for large quantities of the latest drugs.

• The IFP said in Cape Town yesterday that South Africa's health services were set to decline rather than improve if the ANC implemented Health Minister Nkosazana Zuma's proposals.

Implementing Dr Zuma's proposals to regulate the drugs and private medical schemes' industries and imposing additional tax on working people to fund public hospitals would lower health services rather than improve them, IFP health spokeswoman Dr Ruth Rabinowitz said in a statement.

Dr Rabinowitz said providing an essential drug list would not stop shrinkage at public clinics and hospitals, nor would it improve supplies or bring down the price of privately sold medicines.

"Lower prices in the private sector would be achieved through increased competition brought about through medicine sales at any outlet, dispensed by a qualified pharmacist and encouraging, not enforcing, the use of generics," she added. — Sapa

## 8 new EL victims get Aids daily

the infection rate was about seven per cent.

"The number of people with this deadly infection is doubling and even tripling every month."

Government and non-government organisations had been "working overtime" trying to implement new and more effective measures and projects to try to control the rapid spread of Aids.

Ms Hegner pointed out that there were presently five major projects to try to control the spread of the disease. 19-11-96

These include: The management of other sexually transmitted diseases; life skill projects for youth; condom distribution; counselling and mass communication with people from both rural and urban areas.

"According to statistics, the Eastern Cape is only number five or six, in the provinces with the highest number of people infected by Aids.

"Kwazulu-Natal is the highest and the Western Cape the lowest," Ms Hegner said.

She stressed that it was important for people to learn and be aware of the danger of Aids and know how to prevent its spread.

The Eastern Cape deputy director for communicable diseases, Ms Marlene Polman was unavailable for comment. — Ecna

## Dec's on soo i o i school for Aids child

JOHANNESBURG — The plight of an eight-year-old boy who wants to learn to read and write but cannot attend school because he has Aids has highlighted the lack of policy regarding education of HIV-infected children.

Red-faced education officials in Gauteng were forced to admit last week that they had no policy on how to deal with Aids in schools following the controversy caused by Nkosi Johnson's application to join the Melpark Primary School in Mellville.

Although guidelines were still being drawn up, the Gauteng Education Department indicated yesterday that a decision on Nkosi's fate could be expected by tomorrow.

An application by Nkosi's foster mother, Mrs Gail Johnson, for the boy to be admitted to Melpark Primary sparked panic among parents and caught education bosses unawares.

Parents voted on the issue, but this ended in deadlock. They turned to the Gauteng Education Department for guidance, only to be informed that guidelines on how to deal with Aids at schools were still being drawn up.

The Education Ministry also said it had no policy on the issue, intimating that it was up to individual provinces to draw up regulations.

Gauteng Education MEC Mary Metcalfe said yesterday the child's constitutional rights had to be taken into consideration. Her department and the school were working together to find a "just and compassionate response" to the dilemma. — Sapa 24-2-97

## HIV workers deported to SA

KUWAIT CITY — Kuwait's Public Health Department said yesterday Kuwait has deported four South African labourers found to be infected with HIV.

The chief of al-Jahra public health office, Dr Yousef al Rakhawi, said the four men were deported after health authorities discovered last month they were carriers of HIV — the

virus responsible for Acquired Immune Deficiency Syndrome (Aids). 25-2-97

The men were labourers working for South Africa's Grinaker System Technology, a company hired by Kuwait's Ministry of Defence to design and build a new electrified fence along Kuwait's 212 km border with Iraq. — Sapa-DPA

23-12-96

## HIV mutations cause alarm

LONDON — Professor Robert Gallo, the American who co-discovered the Aids virus HIV, is "very concerned" about the growth of mutant strains of the virus which are resistant to protease inhibitors, the British newspaper The Observer reported yesterday.

Protease inhibitors are used in treating Aids.

"Resistant mutations are spreading very rapidly," the paper quoted Prof Gallo, who heads the Institute of Human Virology in Baltimore, as saying.

He said the most recent information he had suggested between 20 and 30 per cent of patients were infected with the mutant strains. — Sapa-AFP

## Aids boy can go to school

JOHANNESBURG — The Gauteng Education Department confirmed yesterday eight-year-old Nkosi Johnson, who has full-blown Aids, would be admitted to the Melpark Primary School in April.

Nkosi's application sparked panic among some parents, who said they feared their children might contract the disease.

For Nkosi, believed to be longest surviving child with Aids, his only ambition is to learn and write.

His foster mother, Ms Gail Johnson, hailed the Gauteng decision.

"I'm mad about it.

"This school is going to be progressive. It's great," Ms Johnson said. — Sapa 27-2-97

# Conce'n ove new SA Aids drug claims

JOHANNESBURG — The national Aids-HIV and sexually transmitted diseases advisory committee said yesterday it had serious concerns about Aids drug claims made by three local researchers on Wednesday.

The chairman Professor H M Coovadia, said in a strongly-worded statement that in their view it was "entirely irregular and of dubious ethical merit" for such an important scientific announcement to reach the world through the media.

In a special presentation to the Cabinet on Wednesday, three University of Pretoria scientists said results of preliminary trials conducted there on about a dozen persons with Aids over the past several months, using a formula patented as Virodene P058, suggested a major breakthrough in the fight against Aids.

Some of the committee's objections included the manner in which the claims had been made, the scientific basis of the claims and the raising of expectations.

Pointing to the rigorous process of review of scientific findings by peers, Prof Coovadia said: "It appears to us that these claims from Pretoria by-passed the well-established route." 1-24-97

Prof Coovadia added: "We are amazed that such large claims can be made for a drug which is not registered with our medicines control council, has been tested on an extremely small number of people, has been employed in a trial which appears to have been conducted in a less than stringent manner, and has not been independently evaluated or monitored."

● The medicine control council (MCC) had been unable to supply information on the supposed new Aids medicine, Dr Stephen Miller, a member of the Africa HIV/Aids Information Centre.

"There seems to have been no approval" for the research, Dr Miller said yesterday, adding that if the MCC had not approved the research project through the normal procedures, then it should have been approved by the University of Pretoria's ethics committee.

To his knowledge, this had not happened.

Dr Miller said should the research prove to be a failure in the long run, it would be "extraordinarily disastrous" for future medical research in the country.

South Africa could also become the laughing stock of the world. — Sapa

## Bosses to pay Aids costs

2-20-97

JOHANNESBURG — Employers should prepare for a dramatic increase in the cost of their employee benefits arrangements as the incidence of Aids and HIV in the workplace increased, an insurance official said on Tuesday.

Old Mutual Employee Benefits consultant Steve van Wyk said the Actuarial Society of South Africa estimated Aids deaths per 1 000 to rise from around 2,2 in 1996 to 18,3 by 2005.

"These figures are supported by the Department of Health statistics based on women attending ante-natal clinics and Old Mutual experiences in South Africa, Malawi and Zimbabwe," Mr Van Wyk said in a statement.

He said the current cost of death and disability benefits was expected to rise by between three and five times by the year 2005.

"The increased cost of these risk benefits, together with an impact of the virus on medical schemes, means that spon-

soring companies can expect the potential cost of their employee arrangements to rise from 18 to 30 percent of the payroll," he said.

Companies should respond to the Aids threat by focusing on employee education and restructure benefits in a way which would help contain costs while continuing to provide meaningful financial protection for workers.

Old Mutual said an effective solution would be for the defined benefit fund to outsource its pensioner responsibilities by purchasing a with-profit pension from an insurer.

"The main advantage of this approach is that the fund's liability in respect of pensioners is capped.

"Under certain circumstances, a surplus can be released to the fund following the purchase of pensions and, thereafter, investment strategy can focus on active members." — Sapa

**JOHANNESBURG** — While the World Health Organisation reports that the global tuberculosis epidemic is levelling off the first time in decades, the South African health Department's analysis of TB in this country presents a far gloomier outlook.

A Health Department report released to coincide with World TB Day yesterday paints a frightening picture of South Africa's situation.

The report, entitled TB in South Africa: The People's Plague, released by health director-general Dr Olive Shisana, details the seriousness of the epidemic, the causes of the disease and the alarming rate at which it spreads.

According to the report, TB kills about 10 000 people in South Africa every year and the country has an infection rate of 20 people an hour.

"Incidence of TB cases in South Africa averages at more than 300 per 100 000, well over the average of 200 per 100 000 found in other TB hotspots."

And in the absence of better management of the disease, the number of annual TB cases in South Africa is expected to quadruple over the next 10 years.

In 1996, more than 160 000 people were infected with TB, 2 000 of them with multidrug resistant (MDR) TB, said to be almost impossible to cure.

The department also says the Aids epidemic is magnifying the TB problem.

"In South Africa in 1996, about one out of every four people who become sick with TB did so because they were HIV-positive. As more and more HIV-positive people get sick with TB, the spread of TB inevitably increases."

Half of all new TB cases are contagious, and each results in the infection of about 10 new sufferers every year.

The report estimates that by the year 2005, there will be 3,5 million new TB cases in South Africa unless a new strategy called Dots (Directly Observed Treatment, Short-course) is implemented properly.

"We are releasing this report to raise awareness of the severity of TB in this country and to indicate our commitment to eradicate TB, which is the biggest infectious killer in South Africa," says Dr Refiloe Matji, manager of the National TB Control Programme.

She recently started training health workers, including doctors and nurses, from all nine provinces. They will return to their areas and in turn train others to fight the epidemic.

Dr Matji says TB patients can be treated at all clinics and hospitals, but says the new Dots strategy is not yet in place

countrywide. Complete coverage is not expected before 2000.

She says one of the biggest problems in the treatment of TB has been that some patients stop their treatment after a few weeks because they feel better and think they are cured.

"These people will not have been cured in such a short period and would need to continue treatment, under supervision of health workers, friends or relatives, for at least six months before they can be cured," says Dr Matji.

National Tuberculosis Research Programme leader Dr Bernard Fourie says South Africa faces a TB epidemic about 60 per cent bigger than is currently seen in the US or Western Europe, according to research by the Medical Research Council.

"The current TB rate of three cases in every 1 000 persons will increase to 13 in every 1 000 by 2004. Of these nine will also be HIV-infected," he says.

"The financial implications are staggering. In 1995 state expenditure on TB control cost R500 million. At current trends, total expenditure over the next 10 years will require R10 billion."

He says only one in three patients who develop multidrug resistant TB is cured. It costs R60 000 per year to treat an MDR patient, as opposed to R3 000 for an uncomplicated case of TB.

Dr Fourie said the reasons for the sorry state of affairs regarding TB in South Africa were inadequate and poor management systems, and the epidemiological consequences of the HIV-epidemic which are now taking effect.

The Health Department is optimistic that 85 per cent of TB patients can be cured by the year 2000 with the help of communities, greater awareness of the disease in communities, and if there is a proper strategy to fight it.

"With Dots you prevent multidrug resistant TB, you cure TB patients the first time around, you effectively treat HIV-positive people, and you prevent the spread of TB in the community. In addition, you use your resources in the wisest way possible," says Dr Matji.

The South African National Tuberculosis Association's Mr Hylton Smith emphasises that a partnership of government, non-governmental organisations, business, the media and society as whole is required if any progress is to be made in the fight against TB.

Dr Shisana said the quicker the Dots strategy was implemented country-wide, the more visible the goal to eradicate the disease would become. — Sapa

## Aids set to cost 29-8 97 2 pc of SA's GDP

**NELSPRUIT** — By the year 2007, up to two per cent of South Africa's gross domestic product (GDP) would be spent on Aids-related activities, the Aids co-ordinator for the Mpumalanga Health Department, Dr Kelvin Billinghurst, said yesterday.

Warning that millions of rands of tax money would be spent on medical expenses of people with Aids, Dr Billinghurst said equivalent losses would also be incurred through the resulting sick leave and lost productivity.

Addressing an award ceremony for an Aids competition, Dr Billinghurst said the impact of HIV-Aids on the economy of South Africa was going to be "phenomenal".

"Already in some Mpumalanga hospitals, up to 50 percent of medical admissions have the HIV-virus or Aids symptoms," he said.

● In Blantyre Malawi's national Aids control programme warned in a draft report yesterday that half of the country's professional people could be dead from Aids by the year 2007. — Sapa

## Farmers can prevent spread of rural Aids

**STUTTERHEIM** — Farms were an obvious distribution point for condoms to combat the growing threat of HIV and Aids in rural areas of the Eastern Cape, Mr Johan Hendriksz, senior manager at the Eastern Province Agricultural Union, said yesterday.

"We therefore ask the farmers of the province to consider making condoms available on a continuous basis to those workers who want to use them."

He said the spread of HIV and Aids presented a serious threat to agricultural labour and it was important farmers be part of the solution by arranging for the distribution of condoms at their farms.

"Farm labourers, particularly in remote areas, seldom move far from the farm. They are fed there, they buy other supplies on the farm, so farm-owners are ideally placed to assist in preventing the spread of the virus," Mr Hendriksz said.

An independent Aids training centre in Port Elizabeth, Attic, offers workshops on HIV and Aids designed for rural workers. Any interested farmers' union may contact them on (041) 5061911.

## Zambian Aids crisis at 26 pc

**LUSAKA** — An Aids crisis should be declared in Zambia to effectively address the rapid spread of the disease, an expert on Aids said at the weekend.

Statistics indicate 26 per cent of the population in the capital of Lusaka was HIV positive, an alarming figure in a city of about 1,4 million, Profesor Nkanandu Luo, a microbiologist, said.

"Remedial measures to halt the spread of this dreaded disease have become imperatively necessary," Prof Luo said.

Addressing a media workshop on HIV-Aids here, Prof Luo said research had revealed that 10 per cent of pregnant mothers who attended ante-natal clinics were HIV positive. — Sapa-DPA 9-3-96

## Aids kills 400 000 Ugandans

**KAMPALA** — About 400 000 Ugandans have been killed by Aids-related illnesses since the disease was first diagnosed in the country 13 years ago, according to reports yesterday.

"Currently one-and-a-half million people, or 10 per cent of the population, are known to be living with the virus that causes Aids," the director of Uganda's Aids Commission told Parliament.

Uganda also has around 400 000 people currently suffering from full-blown Aids, the commission had earlier reported. — Sapa-DPA 15-4-97

# Perh stats show HIV on increase in SA

By André Martin  
Parliamentary Correspondent

CAPE TOWN — The Eastern Cape is one of seven provinces in the country where the number of people infected with the HIV virus has increased since last year, an annual Health Department survey shows.

Health Minister Nkosazana Zuma released the results of the seventh national ante-natal HIV survey yesterday, saying that, despite the department's efforts to curb it, the disease was still on the increase and cause for "great concern".

The department carried out the survey during October-November last year among pregnant women attending ante-natal clinics in the nine provinces.

Fourteen percent of the 15 000 women whose blood samples were analysed were found to be HIV positive, as opposed to 10,4 percent in 1995 — a 3,6 percent increase.

Dr Zuma said the survey is used as a marker for the spread of HIV among South Africans and, by using a mathematical model, it showed that 2,4 million South Africans are now HIV positive.

Year, the estimated figure was 1,8 n.

Survey shows that the level of HIV infection in the Eastern Cape was an estimated 8,1 percent, compared to six percent last year.

In 1991, the estimated level of HIV infection in the province was just 0,58

percent.

Only Mpumalanga and the Western Cape showed decreases in the estimates.

Dr Zuma said the most alarming feature of the results was the sharp rise in HIV infection in the North West Province. Here, 25 percent of pregnant women are HIV positive, contrasting sharply with 8,3 percent in 1995.

A more detailed analysis into the causes of the dramatic increase in the North West is to be the subject of further epidemiological investigation, she said.

HIV infection had increased among women of all age groups, but not uniformly.

Women aged 20 to 24 had the greatest increase with a rate of 17,5 percent compared to 13 percent in 1995.

Second were women between 25 and 29 years with a prevalence of 15 percent as opposed to 11 percent last year.

Dr Zuma said the department has estimated that 90 000 of the 2,4 million people infected with HIV would progress to full-blown Aids this year, with 20 000 of them being children.

She called on representatives of the labour movement, the media, and to help the department HIV and Aids.

"We will be conducting a review of our HIV- June to determine its nesses," Dr Zuma said

25-4-97

## Aids to cut 'nto GD'

HARARE — Aids is expected to slow Africa's gross domestic product (GDP) growth, reverse hard won development gains on the continent, and make its nations worse off for decades to come, a leading South African economist said in Harare yesterday.

In a paper on Aids delivered by Professor Alan Whiteside of Natal University's economic research unit, he warned that the more sophisticated and industrially-based economies of South Africa and Zimbabwe were vulnerable to the pandemic.

One study, suggested that in the 35 years between 1990 and 2025, GDP growth in sub-Saharan Africa could be cut by 1,47 percent, largely out of the cost of diverting savings into treating Aids.

He said policy makers had not responded to the implications of the epidemic, while the private sector's response had been patchy, misdirected and unsustainable.

People involved in Aids prevention "are baffled by the apparent inability to plan for the inevitable increase in illness and death", Prof Whiteside said. — Sana

## Aids surgeon gets R4,5m

VERSAILLES — A French court ordered the state to pay almost R4,5 million in damages to a surgeon who contracted the Aids virus during an operation, his lawyer said yesterday.

In addition, the state and the hospital in Saint-Germain-en-Laye, outside Paris,

where the operation took place, will have to pay a further R117 000 to each of Patrick Cohen's four children, lawyer Sabine Paugam said, following the verdict delivered here last Thursday.

The surgeon was contaminated by a needle while operating on a patient on May 20, 1983. — Sapa-AFP

# Parts of EC show 2% rise in HIV rate

1-5-97

By Ephraim Mackina.

EAST LONDON — An estimated 230 000 out of a population of about two million people are infected with the HIV virus in the region C districts of East London-Mdantsane, Bisho-King William's Town, Fort Beaufort, Butterworth and Albany.

This is an increase of about two percent on last year's figures gleaned from women attending ante-natal clinics, Mrs Rose Hegner, of the Aids Training and Information Centre, said yesterday.

She was commenting on the results of the latest HIV survey released by Health Minister Nkosazana Zuma in Parliament recently.

The survey showed the Eastern Cape was one of seven provinces where the number of people infected with the Aids virus has increased since last year.

"Clearly there is a need for mass communication to popularise strategies to spread the Aids message," Mrs Hegner said.

"These can be through life skills programmes for youth in and out of school, effective management of classic sexually

transmitted diseases (STDs) and increased accessibility to barrier methods like the use of condoms," she said.

Commenting on the upsurge of HIV infections nationwide, Mr Peter Doyle, of Metropolitan Life, appealed to the Health Department to verify the results as they were based on sample surveys.

"If the results are confirmed, the underlying causes should be explored.

"Assuming an incubation period of eight to nine years on average, we estimate that there will be about 90 000 new cases in South Africa during 1997, 20 000 of those among children born to HIV-infected mothers," he said.

Ms Rose Smart, director of HIV-Aids and STDs based in Pretoria, said there appears to be an assumption that by allocating money and resources to a problem, the current trend will be reversed.

"HIV-Aids with its specific modes of transmission and long asymptomatic period, coupled with as yet no effective vaccine or cure and an almost invariably fatal outcome, cannot be likened to other outbreaks which can be controlled by tried and tested public health measures," she said.

## Aids decimates Kenyan teachers

NAIROBI, Kenya — More than 2 700 teachers are dying each year from Aids-related illnesses in just one of Kenya's eight provinces, a newspaper quoted a provincial official as saying. 21-5-97

The Standard quoted Ms Roselyne Onyuka, director of education in western Nyanza province, who told a seminar on Aids that the disease is claiming an average of four teachers in each of the province's 57 divisions.

Ms Onyuka said awareness of the dangers of Aids was much higher among students than among teachers.

Mr E O Wanga, managing director of the Muhoroni Sugar Company who participated in the seminar, said 90 percent of deaths among his staff were Aids-related.

Public discussion of Aids is not widespread in Kenya, in comparison with neighbouring Uganda, which has taken a much more aggressive approach — and has seen overall Aids cases fall in the past five years. — Sapa-AP

## Aids decimates Malawians

BLANTYRE — Nearly a quarter of Malawi's population, some 2,5 million people, will have died of Aids within 25 years, according to a UN report.

The United Nations Development Programme said that already four people die of Aids and 13 others are infected every hour in Malawi.

The report on poverty and human development says Malawi has one of the world's highest rates of HIV infections, with 13,8 percent of the adult population affected.

It says 18 percent of all deaths in the country are caused by Aids. — Sapa-AFP

THE ANN HIV survey, the results of which were presented last week by Health Minister Nkosazana Zuma, confirms the need for greater effort and resources to be put into methodical and intelligent educational and preventive work to minimise the spread of the disease.

The survey results are cause neither for greater alarm nor for complacency. A few years ago the incidence of HIV infection was doubling every eight-and-a-half months. The latest figures show a 33 percent increase over a year. That is in line with equivalent countries — mostly in sub-Saharan Africa — where the incidence has spread ultimately to 25-30 percent of the sexually active population before stabilising or tapering off.

A common model is that of Uganda which was at this stage of the epidemic five or six years ago and which has recently seen, thanks to a highly successful public programme led by the president himself, the beginnings of a

30-5-97

## ED TONAL OP N ON Targeting Aids

decline in the rate of infection.

For South Africa, the top rate of infection that the disease reaches, and the rate at which it begins to decline, will depend on the effect of the country's education and preventive efforts. So far, neither this government nor the previous one has been as successful as they could have been. Put the R10m spent on the Sarafina play next to the increase in the Gauteng health department's Aids budget from R17m to R27m this year and the enormity of that wastage becomes apparent. But some of the work in progress has saved lives, and will continue to do so.

It will always be impossible to quantify pre-

cisely how effective those efforts are. They are necessarily multi-faceted and social conditions are a key contributing factor.

This is not to put it crudely, as Zuma did recently, that the spread of HIV is caused by people being too poor to go to the cinema for entertainment. But the dislocations caused to family life and structures; the unequal power relationships that traditionally exist between the sexes in many parts of society; and the high incidence of sexual abuse are factors which have to be addressed by educational work.

That sexual activity begins too early in life is another factor. That is why teenagers are among the most vulnerable to infection. But this cannot effectively be addressed purely on

the basis of religious or other morality. So another step of the process is dealing with parents who, as the Gauteng health department put it in its enlightening comment on the survey, "equate any programme that deals frankly with sexual choices and sexual behaviour with encouraging promiscuous behaviour".

Leading personalities — like the president and those trying to promote Masakhane — need to take a higher profile on the issue of promoting safer sex and the use of condoms. Aids will, after all, soon kill more people than motor accidents and violent crime combined.

The horror of HIV infection trends is that all the intense educational efforts seem to have their greatest effect only when people become conscious of the deaths around them caused by the disease. The number of Aids-related deaths is beginning to reach the level of tens of thousands a year, so this factor will increasingly come into play.

□ Adapted from *Business Day*.

## Combating the effects of HIV/Aids on the workplace

WITH AN estimated two million South Africans currently infected with the HIV virus, and a further 700-800 contracting the disease every day, the potential impact on business productivity and profits is devastating.

So says HIV/AIDS doctor, Prof Ruben Sher.

Sher says there are a number of considerations for business people in the face of the HIV/AIDS epidemic.

● **Current workforce** — a high percentage of people in the top categories form part of South Africa's Economically Active Population (EAP), which means absenteeism and the resulting drop in productivity, increased burden on private medical aid schemes for patients, and potential increased training costs as vital members of the workforce are replaced.

● **IR issues** — our new Constitution prohibits discrimination in any form, including against HIV/Aids patients. The individual business must bear the burden and cost of treatment.

● **Pension schemes** — if existing pension schemes are forced to pay life benefits to families whose principal member should realistically still be contributing for a number of years (but died as a result of Aids-related illness), there will be increasing pressure on that fund. This could lead to increased premiums for other members employers.

Says Sher: "I believe that a significant commitment from the business sector can go a long way towards alleviating the HIV/Aids problem in South Africa, and ensuring that employees continue to live relatively healthy and productive lives."

Sher says it is imperative for businesses to commit to fighting HIV/Aids:

- With limited political commitment to the epidemic and the Department of Health's limited resources, the private sector must take the initiative of waging a campaign against HIV/Aids.
- Business must use its resources, skills, know-how, experience, creativity and financial muscle to play a leadership role.
- By forming partnerships and becoming involved at all levels, business can ensure its financial contributions are wisely spent, transparent and accounted for.
- Businesses need to be empathetic and helpful towards HIV-positive people and take the first steps towards reconciliation in the workplace. Employers must be understanding and encourage HIV-positive co-workers to come out into the open and receive assistance and treatment from assistance insurance schemes that will cater for HIV/Aids sufferers.
- Business must provide Aids education programmes in the workplace.

● **Business must lead the way in promoting an image of understanding and caring and institute a humanitarian policy, together with unions, to achieve success.**

● **Business should provide for HIV/Aids cover that is low cost yet effective, and that can be included in employee benefits for all levels of staff.**

"By the turn of the century we anticipate an HIV/Aids population of over five million in South Africa. Business cannot ignore this, and Human Resources officials must be given the necessary education and products to manage HIV/Aids in the workplace," concludes Sher.

# Zuma admits dept not coping with Aids

18-8-97

PRETORIA — South African medical schools still practise an apartheid admission policy and the outcry from white doctors against serving in rural areas reflect their unpatriotic attitude, Health Minister Nkosazana Zuma said at the weekend.

She also admitted her department was not coping with the problem of Aids, and described South Africa as a "sick country" for portraying efforts to discover a drug to control the disease as a scandal.

Dr Zuma was speaking before the Presidential Review Commission (PRC) here in the fourth round of the commission's hearings on transformation within the public service.

In a statement yesterday, PRC chairman Dr Vincent Maphai said Dr Zuma told the commission the outcry over the proposal that qualified doctors and specialists do a term of office in under-served areas came mainly from "the white medical schools".

Questioned by the PRC on incentives for doing rural service, Dr

Zuma pointed out that the training of a single medical student cost the taxpayer R600 000. She said that should be regarded as the incentive.

Another option was to make doctors who were not prepared to serve in the rural areas pay for their own studies in full without any state subsidy, Dr Zuma said.

She said people should heed President Nelson Mandela's call to be patriotic and to serve their country without expecting additional rewards.

Dr Zuma accused medical schools of still practising an "apartheid admission policy" because the majority of first-year medical students were still white.

She also complained to the PRC that the curriculum of medical schools did not reflect the national priorities of South Africa. It needed to be changed.

The recruitment drive for doctors from Cuba was well publicised, Dr Zuma said, but less well known was that the Health Department had concluded a contract with Germany to

address the shortage of doctors, especially in the under-served areas of the country.

By doing this, the Northern Province had increased its doctor population by a third.

However, the recruitment of foreign doctors was only a short-term solution as South Africa had to produce its own doctors to serve the sick.

On the struggle to control Aids, Dr Zuma said that despite the media outcry she still supported the Virodene research programme, even if it did not produce a cure.

The government needed a co-ordinated strategy to deal with the problem. By the year 2006, an estimated three million people would suffer from Aids and creative ways had to be found to change people's behaviour.

Therefore, said Dr Zuma, she still believed that the Sarafina Aids play was a useful way of getting the Aids prevention message across to the youth. — Sapa

# Aids victims spread virus deliberately

25-8-97

JOHANNESBURG — Aids-stricken teenagers in KwaZulu-Natal are deliberately infecting others in order not to have to suffer and die alone, the Sunday Independent newspaper said yesterday.

Quoting the results of a study conducted by a lecturer in biological and medical anthropology at the University of Durban-Westville, the report said some teenage males are even resorting to rape to spread the disease.

"You know you'll be rejected, you know you're going to die. All you can do is go off and spread (Aids). It's your only hope, knowing you won't die alone," one youth told researchers.

KwaZulu-Natal has more than two-thirds of the estimated 1,8 million cases of HIV-Aids in South Africa, the report said.

The lecturer, Ms Suzanne Leclerc-Madlala, said she and her team of researchers had come across attitudes and behaviours "quite opposite to what Aids educators would

hope for".

Contracting the virus, which destroys the body's immune system, was seen as part of growing up, an almost inevitable consequence of being a sexually-active adult, she said.

Aids has become "the new scourge of the townships", taking the place of the political struggle in black townships in the province, where youths in the 1980s and early 1990s fought bloody battles against political rivals and apartheid police.

Many of those polled during the research said they were convinced they were carrying the HIV virus but did not want to go for tests as it "did not really matter".

Most felt that if they were not already infected, it was only a matter of time before they would be.

Being told that he or she had tested positive, Ms Leclerc-Madlala said, tended to be accepted as a death sentence as well as a passport for sexual licence.

One doctor working in rural areas

told researchers she no longer told patients if they tested HIV positive unless they specifically asked, which they never did.

"They just go out and spread it anyway," the doctor said. "Even if they say they're not, they're lying. It's how they cope. I don't tell them anymore."

Women described how they had been raped by laughing teenagers who told them to relax and not to cry because "everyone has Aids now".

Fear that men would respond to an HIV-positive diagnosis by raping women is cited as a main factor by medical authorities for not determining the HIV status of a patient.

Ms Leclerc-Madlala said it was possible that the sense of peer group affiliation, forged during their years in war-ravaged townships, could explain the youths' desire to pass the virus on to others.

"By spreading the virus, one is sharing the burden, the anger, the hopelessness and, ultimately, the death," she said. — Sapa-AFP

# Aids slashes Southern African life expectancy

LIFE expectancy in eastern and southern African countries with severe Aids epidemics will decline by 2010 to half that originally projected before the virus spread, experts predict.

The result, according to recent estimates by the US Bureau of the Census, is that average life expectancy in Malawi will drop to 29,5 years, the lowest in the world, instead of 57 otherwise.

In 1996 life expectancy in Malawi stood at 36. Without the ravages caused by the acquired immune deficiency syndrome it would have been around 50.

Zambia, life expectancy is slated to fall to 30 years by 2010 while in Botswana it will go down to 33 years, both 50 percent of that originally expected.

In the absence of Aids, life expectancy in Zambia would have been 57,5 years in 1996 but has been reduced to about 36, while Botswana was projected to be at 60 years but was down to 46 years.

The average Zimbabwean born in 2010 could have expected to reach 70, but now he will be lucky to reach 33. Life expectancy last year was put at 42, but without Aids it would have been 64.

East Africa is better off, because although Aids is still rife there the epidemic is not as severe.

Kenya's life expectancy for 1996 had been estimated at 65 but fell as a result of Aids to 56, while Uganda's dropped from 53 to 40. In 2010 it will be 44 instead of 68, and 35 instead of 54 respectively.

The national percentage of adults infected with the HIV virus that causes Aids is about 15 percent in Zambia and

By SUSAN NJANJI  
In Harare

Zimbabwe and about 14 percent in Uganda.

The unprecedented decline in life expectancy will have an important demographic impact, said Geoff Foster, a Zimbabwean doctor and head of the Mutare Family Aids Caring Trust.

"Many years of life will be lost due to the Aids epidemic," he said.

Foster, who is a paediatrician, said lowered life expectancy due to Aids necessarily implies dramatic increases in the numbers of orphaned children.

UNAIDS, a UN agency dealing with the HIV/AIDS epidemic, estimated that in 1996 the world had nine million motherless children because of Aids, and at least three million children carrying the virus.

Experts say at least 30 million children are likely to be orphaned in the next few years since they currently live with HIV-positive parents.

The Geneva-based UNAIDS projections for Zimbabwe and Zambia indicate that child mortality rate may increase nearly threefold by the year 2010 due to Aids.

Set up in January 1996, UNAIDS has 22 UN member states, both donors and recipients, sitting on its programme co-ordinating board. It advocates global action on preventing transmission and alleviating the impact of the epidemic.

Although populations will generally continue to grow in most African countries due to high fertility rates, Aids will selectively affect the economically active groups.

The impact on labour will not be uniform, depending on whether skilled or unskilled workers are affected.

The Harare-based Southern Africa Aids Information Dissemination Service (SAFAIDS), in its latest review of social and economic effects of HIV/AIDS in southern Africa, says studies show that the estimated labour force in Tanzania will shrink by 20 percent by the year 2010.

SAFAIDS says preliminary data based on 51 countries indicate that HIV/Aids has so far had only a small and statistically insignificant impact on macro-economic indicators like the GDP (Gross Domestic Product), but it will probably reduce the rate of economic growth by as much as 25 percent over a period of 20 years.

Zambia, for example, is projected to experience a nine percent fall in GDP below what would have been expected by the year 2000, if there was no Aids.

"The Aids pandemic is like a carcinoma; no section of the economy will remain untouched," Marvellous Mhloyi, a respected Zimbabwean demographer, said of the impact of Aids on the sub-continent.

With 14 million people living with HIV/Aids, sub-Saharan Africa accounts for about 63 percent of the world's total cases.

People in the region have learnt to live with Aids and tolerate death, said Mhloyi.

"It becomes a silent conspiracy of complacency. Life gets trivialised," she said at a recent regional economic summit. — Sapa-AFP

## Aids cost R450bn so far

MANILA — The global cost of Aids has been estimated at more than R450 billion since 1981, a US expert said here yesterday.

Ms Margaret Johnson, science director of the US-based International Aids Vaccine Initiative, said she expects Aids to cost another R81bn a year globally in terms of medical costs, lost opportunities and lost markets. One of the focuses in the

drive against Aids is the search for a vaccine, which one expert said was being hampered by the lack of support from the private sector.

"As a very rough estimate, the world community so far has spent a few hundred million dollars a year over the past five to 10 years" to develop a vaccine, said Ms Johnson. — Sapa-AFP

## Congo Aids deaths mushroom

KINSHASA — A half-million Congolese could die of Aids annually starting in the year 2000, Health Minister Jean-Baptiste Sondji says.

Mr Sondji told a news conference on Thursday his prediction was based on current rates of infection in the country. 15-11-97

Already, 20 000 women die annually in Congo from the disease and the number of people affected was expected to reach three million in the next five years. Aids prevention programmes and other health care were neglected for years under former dictator Mobutu Sese Seko's regime. — Sapa-AFP

## World Aids Day activities organised

EAST LONDON — Monday, December 1, has been internationally designated as World Aids Day, on which Aids organisations and people with Aids around the world will embark on large scale education and awareness programmes to alert society about the dangers of the disease.

The Aids Training and Information Centre here said about 2,5 million people living in South Africa are already HIV-infected and South Africans in general "can no longer escape" the devastating socio-economic implications.

It is estimated that by the year 2003, 25 to 35 percent of the South African public will be infected.

# Aids for children

By Zama Mpondwana

**EAST LONDON**— Each year throughout the world December 1 is recognised as World Aids Day.

The day is meant to mobilise action by governments, organisations and individuals in response to HIV.

This year's theme is Children Living in a World with Aids.

It was chosen by the United Nations Joint Programme on Aids and is designated for the entire year.

The Eastern Cape has already started with its Aids awareness campaigns and will run through to the week.

Last week the East London Aids Training and Information Centre, Cecilia Makiwane Hospital and Red Cross marked World Aids Day with a colourful display at the Gomo Welfare Society for the Aged.

The two-day event started off with a display of drum majorettes from Aspiranza Primary School then praise singers, dancing and music followed.

East London Aids Training and Information Centre manager Rose Hegner said the objective was to target school children.

She said there were many children younger than 15 who were HIV positive in South Africa as a result of child abuse and early sex.

Transitional National Development Trust project officer Nomtuse Mbere said they recognised the impact HIV will have on development.

She said the trust fund's community-based projects work towards minimising the spread of HIV.

According to HIV infection statistics in South Africa drawn from a study conducted every year in hospitals and clinics across the country, the Eastern Cape lies in sixth position on the list of provinces with 8,1 percent.

The highest percentage of 25,1 is in the North West province followed by KwaZulu-Natal with 19,9 percent, Free State with 17,5 percent, Mpumalanga 15,8 percent, Gauteng 15,5 percent, Eastern Cape 8,1 percent, Northern Province 7,9 percent, Northern Cape 6,5 percent, and Western Cape with 3,1 per-

cent. 1-12-97

The total average for South Africa is 14,2 percent.

Meanwhile, the national Health Department has officially launched a new logo for the expanded national response to Aids.

The logo incorporates the red ribbon, the international symbol for the fight against Aids as well as the Aids help line number.

Director for the national Aids programme Rose Smart said "the logo was a starting point for our united response to the HIV epidemic in this country".

Ms Smart encouraged all media producers to make use of the new logo and to help popularise the help line.

Research has shown that in spite of most people having a good general knowledge about Aids, most people have specific questions about their own lives and would like to have someone to ask.

A new approach to national Aids communications was started in July when the national Health Department announced the awarding of a R7 million Beyond Awareness tender to an non-governmental organisation (NGO).

The NGO consortium was formed especially to tackle the task of moving South Africa's population beyond just an awareness of the Aids epidemic to taking action to prevent it.

The Society for Family Health is the lead organisation in the consortium and has been working in the Aids field since 1993.

The consortium is responsible for communications and social marketing programmes which distribute the subsidised condom, Lovers Plus, and promote reproductive health.

The Beyond Awareness Campaign, although running only for the duration of a year, sets out to lay a strong foundation to build capacity in the country to be able to implement effective Aids communications.

The Aids Day activities are hoped to better the understanding of the magnitude and diversity of the impact of HIV on children, their families and communities.

committee wants issues investigated as a matter of urgency by the Minister of Justice, with a view to introducing legislation.

In order to give such people "peace of mind", testing of those charged with sexual offences should be made obligatory.

## KZN could get 200 000 Aids orphans

**DURBAN** — Aids-related deaths could orphan up to 200 000 children in KwaZulu-Natal by the year 2000, provincial Health MEC Dr Zweli Mkhize said yesterday.

At the launch of the KwaZulu-Natal executive committee's Aids initiative at Clairwood Race Course, Dr Mkhize said: "It is estimated that in KwaZulu-Natal, more than 200 000 orphans by the year 2000 will be as a result of the Aids infection."

In officially launching the initiative, Premier Dr Ben Ngubane said the threat of HIV and Aids was probably the most severe facing South Africa.

"Wars, famine, drought and even

the horrendous experience of the apartheid years could fade into insignificance when compared to the potential for destruction that this dreaded condition holds for our society."

Dr Ngubane stressed that women were particularly disadvantaged because many were subjected to violent situations.

"Rape inside and outside marriage, incest, forced prostitution, sexual bartering, harmful traditional practices — indeed any kind of coerced sex and sexual violence — put women and girls in danger of becoming infected."

He said it was essential that the "conspiracy of silence" surrounding

HIV and Aids be broken.

"As a demonstration of our commitment in the cabinet to end the conspiracy of silence and also in solidarity with the 20 million people in the world who live with HIV-Aids and those who support them, we now launch this campaign to draw all sectors into the fight against Aids," Dr Ngubane added.

In a presentation the head of the University of Natal's virology department, Professor Alan Smith, said more women than men were infected with HIV. — Sapa

# Sex offenders may face Aids HIV screening

By Patrick Cull

## Botswana faces major Aids threat

**GABORONE** — Thirty percent of Botswana's population will be HIV positive by the year 2021.

In some age groups annual growth will then be negative and in the others close to zero. Overall, the country will start to experience negative population growth.

The projections, released by Botswana's Central Statistics Office (CSO) this week, are based on a high Aids-HIV scenario — an increase of 5,2 percent annually until half the adult population is infected.

Forecasts by the Aids-Sexually Transmitted Disease Unit of the Ministry of Health in July gave an even worse scenario.

The report said in the 20-24 year age group annual growth by the year 2021 will be 0,5 percent, dropping from 18,6 percent at the turn of the century.

In that group, the population will be 76 percent of what it would have been without the Aids factor. In the older working age group of 45-64 years, annual growth will drop from 19,2 percent in the year 2000 to 3,7 percent.

By the year 2021, the overall population of Botswana is projected to be 2 012 000, with 30 percent of citizens HIV positive. The population will drop 0,1 percent from the previous year.

A national policy on HIV-Aids was established by a presidential directive in November 1993, eight years after the first confirmed case of Aids. The disease was given the status of a national crisis. — Sapa

# Ch'ldren left a one as Aids kills parents

1-12-97

phraim Mackina and Gemini News Service report on World Aids Day today.

LAST year, in my tribute to my twin sister Joy who died a painful death after contracting Aids, I affirmed with the deadly disease.

Joy had lived an exemplary lifestyle and everybody wondered how she could have got Aids.

She left behind a husband and three children aged from two to 16 years.

A couple of months ago, a work colleague of mine was the first person to be informed that my brother-in-law in Saldanha Bay had succumbed to the ravages of the disease leaving behind orphaned children as a result of parental death from Aids.

This has become a global problem and is getting worse.

Although the other two children tested negative, two-year-old Chido was born HIV-positive, but became negative when the antibodies she was born with — her mother's — withdrew naturally from her system.

According to the joint United Nations Programme on HIV/Aids (UNAids) up to 92 percent of children world-wide who are at risk of being orphaned by Aids are HIV negative.

"The crisis of children being orphaned from the HIV/Aids virus is really going to kick in by the year 2001," noted Philip Hilton of the Black Leadership Commission on Aids (BLCA) in America.

"Right now, there is really not much of a safety net for children who are in this situation. Too many are entering a foster-care programme that is overburdened and, in many ways, broken."

Be fittingly, the theme of this

year's World Aids Day is Children Living in a World with Aids, highlighting the often forgotten victims who are particularly vulnerable.

My sister's two children, aged between 10 and 16, have inevitably come to terms with their parental loss with the latter campaigning fiercely wherever possible on the dangers of unprotected sex.

Two-year-old Chido remains adamant that her mother and father will walk through the door one day.

"The biggest problem is the prejudice, the fear and the ignorance that still surround this nightmare," noted a social worker, Reginald Jenkins.

"When I bring a client with full-blown Aids to a hospital for the emergency care and I tell the lay people about her condition, they don't want even to shake your hand any more. They think you get the virus through osmosis," he said.

Joy's children are, however, not alone with their loss.

Benita (not her real name) has tested HIV positive but has not yet told her youngest child about her illness.

"But I will," she says. "Young children are especially perceptive and always tell the truth."

Her eight-year-old son told her the other day: "Mummy, I am worried about you. I don't want you to die."

Joy's eldest daughter Debra argued that attitudes towards the disease are not changing.

Taking the debate to 14 technikon teenagers staying together in one boarding house in Southernwood, I was dismayed to find out the majority dismissed the use of condoms for safe sex.

"What's the scare about? We all have to die one day whether it be Aids, accident or any other disease," said Noma (not her real name).

"Personally, I do not allow my boyfriend to use condoms because I

won't feel the real thing," commented Mary (not her real name).

"How can I bath in a raincoat or chew a sweet wrapped in paper?" said another student.

Sadly, such ignorance of the deadly disease comes at a time when World Health Organisation (WHO) officials have urged governments, health officials and families to make use of education to prevent the spread of Aids in children.

According to a report prepared by WHO, while more than 2 million HIV-infected children were born to mothers with the virus, hundreds of thousands of other children have acquired HIV from blood transfusions or through sexual contact.

A case study of HIV and children in developing countries shows that after the death of parents of Aids, the elderly children take up responsibility of running the family.

The girl-child, in particular, is the most susceptible as she normally turns to prostitution to support the family and keep the younger children in school.

"In addition, cases of assault to minors by men looking for safe sex cannot be overshadowed. The rise in drug abuse by minors, mostly orphans who reside especially in poverty stricken areas, also increases the chances of children getting HIV infection and needs to be looked into depth," noted the report.

"Children, in particular, need to be protected by the law especially as far as their HIV status is concerned. They do not have to be infected in order to be affected by it," commented Kenyan writer Pendo Muninzwa.

"There is an urgent need to legally protect orphans of HIV/Aids and provide for their needs, ranging from education to economic, social and public health including rights to inheritance."

Africans don't know they have Aids virus

ABIDJAN, Ivory Coast — More than 20 million people in sub-Saharan Africa carry the virus that causes Aids, and most of them don't even know it, an expert on the disease said yesterday.

Dr Peter Piot, executive director of the Joint UN Programme on HIV/Aids, or UnAids, was addressing the opening session of the five-day 10th International Conference on Aids and Sexually Transmitted Diseases in Africa.

Of the world's 30 million known Aids cases, more than 20 million are in sub-Saharan Africa, according to UnAids and World Health Organisation figures, Dr Piot said. One in every 13 men and women between the ages of 15 and 49 are carriers of HIV.

But he said nine out of 10 people don't know they are infected and therefore never seek medical assistance or arrange future care for themselves and their children when they become ill.

— Sapa-AP 8-12-97

MAZERU, Lesotho — The Lesotho National Aids Prevention and Control programme said there will be 40 000 cases of full-blown Aids in the country within four years. The report, timed to coincide with World Aids Day today, said the disease could have devastating consequences on social and economic development. 1-12-97

The programme attributed the high increase in the number of cases to migrant labourers. It said the movement of men from Lesotho to South Africa in search of jobs had increased the risk.



## Children and AIDS

By December 1997, 1m children under the age of 15 are expected to be living with the virus

|                                               |         |
|-----------------------------------------------|---------|
| Number of children infected every day         | 1,000   |
| Children newly infected with HIV in 1996      | 400,000 |
| Children living with HIV/AIDS in 1996         | 830,000 |
| Child deaths from AIDS in 1996                | 350,000 |
| Children who lost mothers to AIDS by mid-1996 | 9m      |



YAOUNDE, Cameroon — The government has expressed alarm at the increase of HIV infection in Cameroon and urged women to take precautions to prevent the spread of Aids. 1-12-97

Cameroon Link, a non-governmental aid group, said the percentage of the population infected with the HIV virus had increased from 0.5 percent in 1993 to more than 6 percent in 1996.

Its report said women were the most vulnerable and that 23 percent of those infected were pregnant women.

At a week-long seminar in Douala, Cameroon's economic capital, Health Minister Charles Etoundi urged women "not to remain indifferent to actions used to fight the aids virus ... because they are very vulnerable".

# AFRICAN AIDS STATISTICS

Do you want to edit this? State wants to use this as part of its press materials.

### HIV/AIDS IN AFRICA

More than 90% of all adult HIV infections are in developing countries. Two-thirds of total world number of people living with HIV live in Sub-Saharan Africa. Heterosexual transmission accounts for most infections. At least 43% of all infected adults in developing countries are women. Nearly all (over 97%) of infected Africans do not know they are infected, mainly because they lack awareness of or access to confidential HIV testing.

As AIDS mortality rises, growing number of children will be orphaned as result; this will exacerbate poverty and inequality. By the year 2010, AIDS will have made orphans of almost 40 million children in Sub-Saharan Africa. Compounding effect is that very young orphans whose mothers are infected or die of AIDS have higher mortality rates than other orphans because roughly one-third of them are themselves infected with HIV at or around the time of birth. Also, AIDS orphans are more likely to become two-parent orphans because HIV is transmitted sexually.

In Sub-Saharan Africa, 7.4% of all those aged 15-49 are infected with HIV. This contrasts with 0.5% of adults infected in the United States. Potential for political and economic destabilizing effects are profound. Only a small number of individuals with HIV-related disease can afford life-saving new drug regimens and most will die within 5-7 years after becoming infected. Further, HIV/AIDS causes illness and death among adults in the most productive age groups, resulting in significantly slower growth of labor force and burden on education system. Most Sub-Saharan African countries face dual challenge of lowering HIV prevalence and of coping with impact of existing high prevalence on the health system and society.

Early government commitment and intervention can slow the spread of AIDS. While incidence is still high, recent trend data in Uganda show encouraging results of government efforts. In 1997, 5-9% of Ugandan adults were infected, compared to 7-12% in 1996. This decrease in new infections is most pronounced in Ugandan youth, confirming studies that they are adopting safer sexual behavior, including later sexual initiation, fewer partners and increased condom use.

To combat spread of HIV/AIDS, there remains continued need for heightened public awareness and support for programs that change risky behavior through education, motivation and innovation.

## NEWSLETTERS & ARTICLES



online

# The Star

June 26, 1998

## 21-m south of Sahara HIV-infected

**A UNAIDS and World Health Organisation report says that, unless a cure is found, or life-prolonging therapy made more widely available, the majority of those now suffering with the disease will die within the next decade**

**By Anso Thom**  
**Health Reporter**

The tiny little hand blows a kiss. His glands, just below his ears, look like little pumpkins, but the smile is wide enough to make any visitor want to hug him.

David (not his real name) is three years old. He is quite stocky and if it wasn't for the protruding glands, nobody would suspect he is not well.

He was admitted to Cotlands Aids Hospice when he was six months old. He was thin, covered in sores and an orphan.

It is suspected that his mother had died of Aids.

But David is "lucky". He has received excellent medical treatment, picked up weight and is now attending a creche.

According to a UNAIDS and World Health Organisation report of the global HIV/Aids epidemic, to be released this weekend, 8,2 million children under the age of 15 have been orphaned since the outbreak of the epidemic.

In rural areas of east Africa, four out of every 10 children who have lost one of their parents by the age of 15 have been orphaned by HIV/Aids. (The report classifies an orphan as a child who has lost a mother or both parents to the disease).

It is almost incomprehensible to try and visualise the figures presented by the report which will be tabled at the World Aids Conference in Geneva on Sunday. It is estimated that last year, 5,8 million people were newly infected with HIV, 590,000 of them children.

The number of people living with Aids/HIV is estimated to be 30,6 million, of which 12,2 million were women and 1,1 million children.

Aids accounted for at least 2,3 million deaths, of which 800,000 were women and 460,000 children.

Since the beginning of the epidemic, the report estimates that Aids has caused the death of 11,7 million people. And this is just the start.

Unless a cure is found or life-prolonging therapy made more widely available, the majority of those now living with HIV will die within the next decade, the report stated.

But the report paints a bleak future: "These deaths will not be the last; there is worse to come. The virus continues to spread, causing nearly 16,000 new infections a day," it says.

During 1997, that meant 5,8 million new infections, despite the fact that more is known now than ever before about what works to prevent the spread of the epidemic.

Today, although only one in every 100 adults in the most sexually active bracket (15 to 49 years) is living with HIV, only a tiny fraction know about their infection.

Nearly 600,000 children were infected with HIV last year, mostly through their mother before or during birth or through breastfeeding.

The report makes it clear that infection rates are rising rapidly in much of Asia, Eastern Europe and southern Africa.

The picture in Latin America is mixed, with the prevalence of the disease in some countries rising rapidly. In other parts of Latin America and many industrialised countries, infection is falling or close to stable.

This is also the case in Uganda, one of the earliest countries to record epidemic growth in HIV infection; in Thailand where the rapid spread of HIV has been checked by active prevention programmes; and in some West African countries.

The report deals extensively with Aids/HIV orphans. As the number

of orphans grows and the number of potential care givers shrinks, traditional coping mechanisms stretch to breaking point.

The report goes on to warn that the point may be reached much more rapidly in countries such as Thailand, where the nuclear family is increasingly the norm, and in Cambodia, where decades of war and civil strife have already taken a heavy toll on family structures and social coping mechanisms.

These two countries already have the highest proportion of Aids orphans in Asia.

In subSaharan Africa the epidemic has shifted firmly south. Over two-thirds of all people now living with HIV in the world - nearly 21 million men, women and children - live in Africa south of the Sahara.

At least 83% of the world's Aids deaths have been in this region. Four out of five HIV-positive women in the world live in Africa. An even higher proportion of the children living with HIV in the world are in Africa, an estimated 87%. HIV was a latecomer to Asia, but its spread has been swift. Until the late 1980s, no country in Asia experienced a major HIV epidemic. The virus is now well established across the continent, but its prevalence is not as common as in subSaharan Africa.

The countries of south-east Asia, with the exception of Indonesia, the Philippines and Laos, are comparatively hard hit, as is India.

While prevalence is low in China, that country too has been recording an increasing number of cases.

Moving across to the industrialised world, the report quotes dropping infection rates in Western Europe, with new infections concentrated among drug injectors in the southern countries of the continent, particularly Greece and Portugal.

Unlike in developing countries where the cost of drugs is still unaffordably high, anti-retroviral drugs given to women during pregnancy, and the availability of safe alternatives to breastfeeding, has kept mother-to-child transmission low. It is estimated that fewer than 500 children were infected with HIV in the Western world last year.

North America estimated it had around 44,000 new HIV infections last year, close to half of them among injecting drug-users.

In the United States, Aids case reports indicate that the first ever decrease in new cases, 6%, occurred in 1996, and an even larger

reduction was expected in 1997.

The biggest improvement, a drop of 11%, was in homosexual men.

The report makes it clear that many people who have tested positive for HIV in industrialised nations have access to combination anti-retroviral therapy which reduces the amount of HIV in the body and delays the onset of Aids.

In other countries, such as South Africa, this therapy is also used, but by a very small proportion of HIV-infected people.

The Chris Hani Baragwanath Hospital in Soweto is one of five clinical trial centres in the world licensed to investigate the development of HIV and Aids vaccines. But trials are few and far between.

Dr Glenda Gray, director of the Peri-Natal HIV Research Unit at the hospital, says a woman infected with the virus needs "luck" more than anything else to get any treatment whatsoever.

"We try to get them on to drugs if they can afford it. If they're lucky we get them on to a trial."

One of the main problems seems to be that just too many women going to the

clinic are HIV-positive and cannot afford the drugs.



online

# The Star

*June 26, 1998*

## Helping and training communities to cope with the pandemic

When the Cotlands Aids Hospice was opened three years ago, it was capable of caring for 20 children.

But social workers soon realised that there were too many children they could not reach, and they started presenting a five-day course on paediatric HIV/Aids care.

"We needed to empower communities to care for children either affected or infected with the virus," said Reva Goldsmith, the assistant director for Community Outreach and Development at Cotlands.

In an effort to take the course wider, Cotlands teamed up with the National Institute for Public Administration Management, which has for the past three years been involved in innovative community-based programmes.

"We need to take the course to the Gauteng area and then nationally, through the local government structures," said Goldsmith.

A standard curricula was developed, ensuring that the same message reached the communities.

The HIV Infant Care Programme (HICP) "aimed at creating opportunities for communities to take responsibility for the HIV and Aids pandemic through training and education" will be launched within the new few weeks with pilot projects.

The programme will initially target under-developed and economically disadvantaged communities.



A preliminary agreement was reached with the Khayalami Metropolitan Council to assist with funding and implementation of the programme in the Khayalami area. This would serve as a pilot project in an urban environment.

The first community of a peri-urban nature to be trained will be within the Lanseria area of Gauteng. This region has a high incidence of HIV and few resources, but a community that wants to become actively involved in the project.

A second site was identified on the grounds of Santa, next to Chris Hani Baragwanath hospital in Soweto. A third site was being secured at Orange Farm.

"Where children are left orphaned, communities can be educated to care for them, and can also be taught how to cope with the pandemic," said Goldsmith.

Anyone interested in becoming involved can contact Cotlands on (011) 683-7200.



INDEPENDENT online

SATURDAY, AUGUS

AIDS  
clippings file

## AIDS crisis in SA stuns US doctors

William Barker

Abidjan South African doctors and AIDS workers stunned visiting North American scientists here with an account of the AIDS crisis in South Africa.

They were attending the 10th international conference on AIDS and sexually transmitted diseases.

The South Africans were meeting Michael Stek, senior medical director of a drug company based in New Jersey, and Christos Tsoukas, director of the Clinical Aids Centre at McGill University in Montreal, Canada.

Both men are involved in developing ideal long-term treatment for those with the HIV virus, using "cocktails" of three and sometimes four different drugs.

At a specially arranged satellite symposium, Dr Stek asked the South Africans how they handled the pandemic in Southern Africa.

Among those present were Liz Floyd, director of HIV/AIDS and communicable diseases for Gauteng, and Rose Smart, responsible for national policies for HIV/AIDS and sexually transmitted diseases.

Dr Floyd confirmed that the disease was primarily heterosexual in South Africa. After early cases of homosexual infection in the early 1980s, the disease had rapidly developed into a heterosexual plague.

Doctors described the difficulties in treating rape cases for HIV infection. Adrian Myburgh of Gauteng said that rape, and often gang rape, was horrifyingly prevalent.

Typically such attacks were accompanied by abduction, so that survivors frequently could not receive prompt medical attention.

Ideally victims should be treated immediately after being raped, when the virus was still circulating in the bloodstream and before it had a chance to hide in the body "sanctuary" of the lymphocytes.

Even if survivors had early access to treatment, said Dr Myburgh, appropriate drugs were often simply not available.

Alisdair Reid, a doctor working in a remote KwaZulu Natal hospital, told how he suffered a needle injury, with blood from a patient who later proved to be HIV-positive.

He had difficulty in getting hold of supplies of the anti-retroviral drug AZT, which, it was believed, could reduce the chance of blood infection by 80%. He developed shingles two weeks later and it was feared that this was because he was infected.

But later tests proved negative.

Dr Myburgh pointed out that of all health workers, senior medical students and housemen were possibly

most at risk of such infection, because of their inexperience and because many had to work shifts of 24 hours to 36 hours non-stop.

Dr Reid asked: "If we cannot supply drugs to health-care workers whose work puts them at risk of infection, what hope have we of helping mothers in preventing mother-to-child infection?"

The Americans were told of attempts at anonymous, random, mass testing of blood samples.

"Why test if you cannot treat?" asked Professor Tsoukas.

He said that in America even costly anti-retroviral drugs had been shown to be cost-effective, because they kept patients out of hospitals and reduced the need to treat opportunistic infections.

South African AIDS victims, however, usually died at an early stage, of TB or a pneumonia-type infection, Professor Tsoukas was told. These diseases were not as difficult to handle as the diseases that occurred later in advanced AIDS cases overseas.

All Material © copyright Independent Newspapers 1997

|                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |
| Survey                                                                             | What's<br>New                                                                      | eMail to<br>saturday<br>argus                                                      | Help                                                                               | Info                                                                               | Search                                                                             | saturday<br>argus                                                                  |

Reproduced with permission of publisher. Fowke K., Nagelkerke N., Kimani J., Simonsen J., Anzala A., Bwayo J., MacDonald K., Ngugi E., and Plummer F. Resistance to HIV-1 Infection among Persistently Seronegative Prostitutes in Nairobi, Kenya. *Lancet* 1996; 348(9038):1347-1351.

## Resistance to HIV-1 infection among persistently seronegative prostitutes in Nairobi, Kenya

Keith R Fowke, Nico J D Nagelkerke, Joshua Kimani, J Neil Simonsen, Aggrey O Anzala, Job J Bwayo, Kelly S MacDonald, Elizabeth N Ngugi, Francis A Plummer

### Summary

**Background** There is indirect evidence that HIV-1 exposure does not inevitably lead to persistent infection. Heterogeneity in susceptibility to infection could be due to protective immunity. The objective of this study was to find out whether in highly HIV-1-exposed populations some individuals are resistant to infection.

**Methods** We did an observational cohort study of incident HIV-1 infection among 424 initially HIV-1-seronegative prostitutes in Nairobi, Kenya, between 1985 and 1994. 239 women seroconverted to HIV-1 during the study period. Exponential, Weibull, and mixture survival models were used to examine the effect of the duration of follow-up on incidence of HIV-1 infection. The influence of the duration of exposure to HIV-1 through prostitution on seroconversion risk was examined by Cox proportional hazards modelling, with control for other known or suspected risk factors for incident HIV-1 infection. HIV-1 PCR with *env*, *nef*, and *vif* gene primers was done on 43 persistently seronegative prostitutes who remained seronegative after 3 or more years of follow-up.

**Findings** Modelling of the time to HIV-1 seroconversion showed that the incidence of HIV-1 seroconversion decreased with increasing duration of exposure, which indicates that there is heterogeneity in HIV-1 susceptibility or acquired immunity to HIV-1. Each weighted year of

exposure through prostitution resulted in a 1.2-fold reduction in HIV-1 seroconversion risk (hazard ratio 0.83 [95% CI 0.79–0.88],  $p < 0.0001$ ). Analyses of epidemiological and laboratory data, show that persistent seronegativity is not explained by seronegative HIV-1 infection or by differences in risk factors for HIV-1 infection such as safer sexual behaviours or the incidence of other sexually transmitted infections.

**Interpretation** We conclude that a small proportion of highly exposed individuals, who may have natural protective immunity to HIV-1, are resistant to HIV-1.

*Lancet* 1996; **348**: 1347–51

### Introduction

The widely accepted beliefs that all HIV-1-exposed individuals are equally susceptible to infection and that an individual once infected, remains so for life have been challenged. Indirect evidence that not all HIV-1-exposed individuals become persistently infected had come from studies demonstrating HIV-1-specific cellular immune responses in exposed seronegative individuals. Several studies have shown that peripheral-blood mononuclear cells from presumably HIV-1-exposed, but apparently uninfected individuals, proliferate<sup>1-3</sup> and secrete interleukin-2<sup>3,4</sup> on exposure to T-helper-cell-epitopes. This observation led Clerici, Shearer, and others<sup>5,6</sup> to postulate that some exposed but uninfected individuals had had a Th1 immune response to HIV-1, which eliminated the virus and provided subsequent protection. Uninfected children of mothers with HIV-1 infection, can have MHC class I restricted cytotoxic T-lymphocytes (CTL), which suggests that replicating HIV-1 was eliminated.<sup>7,8</sup> Similarly, *nef*-specific CTL in regular heterosexual partners of HIV-1-infected individuals have been reported.<sup>9</sup> CTL to HIV-1 peptides have also been found among HIV-1-uninfected prostitutes in the Gambia.<sup>10</sup> CD8-mediated suppression of HIV-1 replication can occur in such individuals.<sup>11</sup> These studies

**Departments of Medical Microbiology** (K R Fowke PhD, N J D Nagelkerke PhD, J N Simonsen MD, A O Anzala MB, K S MacDonald MD, Prof F A Plummer MD), and **Medicine** (J N Simonsen, K S MacDonald, F A Plummer), **University of Manitoba, Winnipeg, Manitoba, Canada; and Departments of Medical Microbiology** (N J D Nagelkerke, J Kimani MB, A O Anzala, J J Bwayo MB, K S MacDonald, F A Plummer), and **Community Health** (E N Ngugi PhD), **University of Nairobi, Nairobi, Kenya**

**Correspondence to:** Prof Francis A Plummer, Department of Medical Microbiology, University of Manitoba, Winnipeg, Manitoba R3E 0W3, Canada

indicate that some individuals have encountered HIV-1 antigens which primed a cellular immune response but did not cause the development of HIV-1 antibodies or of any apparent infection. Whether these responses are protective on subsequent exposure is not known and cannot be studied experimentally. The existence of protection against HIV-1 infection in some circumstances is suggested by the finding that HIV-2-infected prostitutes are partially protected against HIV-1 infection,<sup>12</sup> although the mechanisms mediating protection are not known.

If protective immunity to HIV-1 can develop after exposure to the virus or, if there is another mechanism of heterogeneity in susceptibility to infection, the risk of infection would be expected to decrease with increasing exposure. As the proportion of individuals who have either protective immunity or relative resistance increases, so the risk of infection will fall. Cross-sectional studies of HIV-1 infection among prostitutes, in which the risk of HIV-1 infection has been found to decrease with the duration of prostitution,<sup>13,14</sup> suggest that this process may occur. Since cross-sectional studies are sensitive to many forms of selection biases, we explored the relation between HIV-1 exposure and the incidence of HIV-1 in a cohort of highly HIV-1-exposed prostitutes in Nairobi, Kenya, in a prospective study.

## Methods

Since 1985 we have studied risk factors for HIV-1 seroconversion in a community-based cohort of prostitutes in a slum area of Nairobi, Kenya.<sup>15</sup> All female prostitutes in the area were eligible for participation in the study. At enrolment women were asked in a standard interview about demographic information, sexual behaviour, duration of prostitution, number of sex partners per day, number of regular partners, condom use, and reproductive history. A physical examination, including a genital examination, was also done. Endocervical swabs were obtained to test for gonococcal and chlamydial infection and samples of peripheral blood were taken for HIV-1 and syphilis serology, T-cell-subset determinations, and isolation of peripheral-blood mononuclear cells. Women were followed up every 6 months,<sup>15</sup> but they were free to attend the study clinic for any acute conditions. At each visit, information on sexual behaviour, contraception, and condom use during the previous 6 months was collected. Physical examinations and laboratory studies for sexually transmitted infections and HIV-1 were repeated. In 1985, an initial cohort of 600 women was enrolled. Enrolment continued to the end of 1994 and by that time, 1666 women had been enrolled in the study cohort. At enrolment 1046 (62.8%) of 1666 women were HIV-1 positive. The remaining 620 women initially HIV-1 seronegative were enrolled in a nested study of risk factors for HIV-1 seroconversion, of whom 424 were followed up for 1 to 10 years. Data on seroconversion collected through to the end of 1994 are included in this analysis.

All individuals in the study were tested for the presence of HIV-1 antibodies with commercial enzyme immunoassays (HTLV-III Elisa [DuPont] from 1985 to 1988; Vironostika [Organon Technika] from 1988 to 1990; Detect HIV [IAF Biochem] from 1990-1992; and Enzygnost HIV-1/2 enzyme immunoassay [Behring] from 1991 onwards. All seroconversions were confirmed by immunoblot (Novapath Immunoblot, BioRad) until 1991 and then by Recombigen HIV-1/2 ELA (Cambridge Biotech). All women who were negative by enzyme immunoassay were confirmed negative by immunoblot on at least one occasion. Tests for other sexually transmitted infections were as previously described.<sup>15</sup>

Novel primers and probes were developed to the regulatory genes *vif* and *nef*. For comparison, primers SK68' (AGCAGCAGGAAGCACIATGG) and SK69' (CCAGACIGTGAGTTGCAACAG) based on published sequences, were used to amplify part of the *env* gene.<sup>16-18</sup> The limit

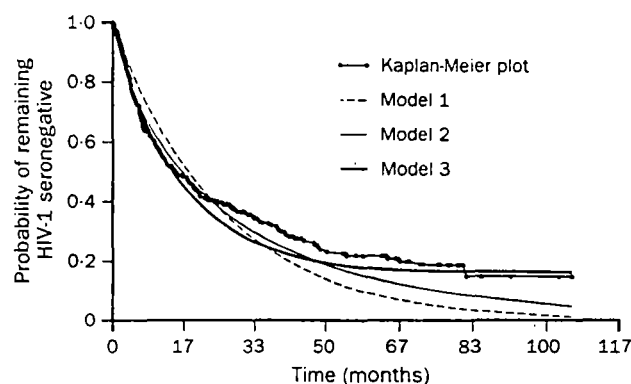


Figure 1: Survival modelling of time to HIV-1 seroconversion

Model 1=expected time to seroconversion if seronegative survival time is exponentially distributed; model 2=expected time to seroconversion under a Weibull distribution; model 3=expected time to seroconversion from a mixture model.

of detection of these primer pairs is 3.8 viral copies per 150 000 cells. Peripheral-blood mononuclear cells from persistently HIV-1-seronegative women were tested on one or more occasions with this assay.

Seroconversion was defined as a positive HIV-1 enzyme immunoassay and a positive immunoblot or confirmatory enzyme immunoassay for women who were previously seronegative. For survival analysis, the time of seroconversion was estimated as the mid-point between the last seronegative test result and the date of the first seropositive test result, except for survival modelling where interval censoring was used.

We defined persistently seronegative women as women who worked as prostitutes for 3 or more years during the study period and who remained seronegative and PCR negative for HIV-1.

## Data analysis

Data on sexually transmitted diseases were based on laboratory tests for syphilis and gonococcal and chlamydial infections as well as on clinical observation for genital ulcers. Since the time of HIV-1 infection is not known precisely (only the times of first seropositive HIV-1 tests are known) and neither the exact duration of each sexually transmitted disease episode nor the length of time for which a sexually transmitted disease alters susceptibility to HIV-1 infection are known, each episode of sexually transmitted disease was assumed to operate as a risk factor for 6 months after its occurrence. For similar reasons, oral contraceptives and pregnancy were assumed to confer an effect for 12 months after cessation of contraceptive use or childbirth. Data on condom use was collected as a semiquantitative estimate and as the proportion of clients per week who used condoms. In the final analysis only the semiquantitative condom-use data were used. The number of unprotected sexual exposures to HIV-1 per year was estimated by multiplying together the average number of clients per day by the estimated work days per year, the HIV-1 prevalence among clients, and proportion of clients who did not use condoms. Cox proportional hazards modelling with time-varying covariates was used for analysis of risk factors for HIV-1 seroconversion.

| Calendar year | Number of women seroconverting/number in category |                        | Odds ratio for seroconversion (95% CI) | p       |
|---------------|---------------------------------------------------|------------------------|----------------------------------------|---------|
|               | >3 years' prostitution                            | <3 years' prostitution |                                        |         |
| 1989          | 8/30                                              | 13/34                  | 1.70 (0.60-4.84)                       | 0.33    |
| 1990          | 7/38                                              | 18/41                  | 3.50 (1.26-9.45)                       | 0.02    |
| 1991          | 3/41                                              | 7/27                   | 4.43 (1.10-17.5)                       | 0.03    |
| 1992          | 4/54                                              | 8/29                   | 4.76 (1.36-16.5)                       | 0.01    |
| 1993          | 6/62                                              | 11/19                  | 12.8 (3.81-43.3)                       | <0.0001 |

Table 1: Risk of HIV-1 infection according to duration of prostitution by calendar year

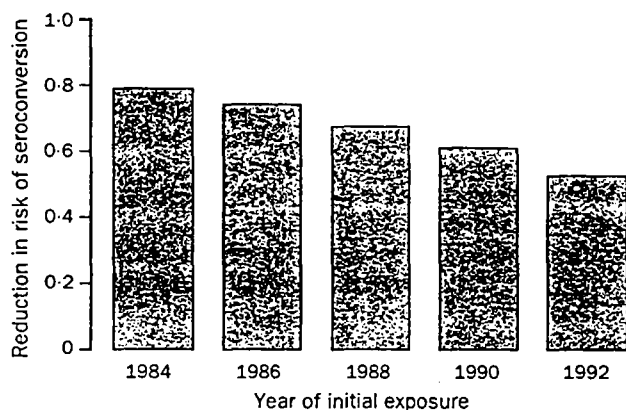


Figure 2: Protective effect of exposure to HIV-1 through prostitution on subsequent risk of seroconversion

We used two statistical approaches to find out how the risk of HIV-1 infection changes with exposure. In the first, we used the duration of follow-up, ignoring other co-variables, to test the hypothesis that risk of infection decreases with duration of follow-up. Three models commonly used in survival analysis<sup>19</sup> were fitted to the data by a maximum likelihood approach with interval censoring. These models were: the exponential model ( $S(t)=e^{-\lambda t}$ ), which models the null hypothesis of constant risk of infection; the Weibull model  $S(t)=\exp(-at^b)$ , in which infection risk is a function of follow-up time; and a mixture model  $S(t)=f+(1-f)e^{-\lambda t}$ , which postulates that a fraction of the population ( $f$ ) is resistant to infection. Since the exponential model is a special case of the former two models, Wilks' maximum likelihood ratio test was applied to compare the fit of these two models to the exponential.

In the second, multivariate, approach we used Cox's proportional hazards model with time-varying covariates. The postulated heterogeneity in susceptibility implies that the risk of infection declines with exposure as a result of the negative selection of more susceptible individuals. To quantify this effect some estimate (proxy variable) of previous HIV-1 exposure is needed. For the exposure estimate we used the duration of prostitution. We initially used the time-varying crude duration of prostitution. However, since both the HIV-1 seroprevalence of clients and the use of condoms by clients has increased over time, the crude duration of prostitution would be a poor measure of exposure. To account for these trends, we used Cox's model on a transformed time scale as follows: each year of prostitution was weighted by  $e$  to the power  $\pi \times \text{calendar year}$ ,  $\pi$  being a measure of the increase in the infection pressure per year. Cox's proportional hazards model, with weighted years of exposure (duration of prostitution) to HIV-1 seroconversion or censoring as the dependent variable and the weighted duration of prostitution as a time-varying independent variable, was used to analyse the relation between previous exposure and HIV-1 incidence. Cumulative exposure was calculated for a range of values of  $\pi$  and

|                                | Hazard ratio (95% CI) | p       |
|--------------------------------|-----------------------|---------|
| Adjusted years of prostitution | 0.83 (0.79-0.88)      | <0.0001 |
| Condom use                     | 0.90 (0.79-1.03)      | 0.13    |
| Genital ulcers                 | 2.0 (1.48-2.68)       | <0.0001 |
| Gonococcal infection           | 1.4 (1.03-1.9)        | 0.03    |

Table 3: Multivariate Cox proportional hazards modelling of risk factors for HIV-1 seroconversion

the multivariate Cox model, which was chosen from univariate Cox modelling and multivariate analysis with no weighting ( $\pi=0$ ), was fitted, with the weighted duration of prostitution to HIV-1 seroconversion or censoring (for the chosen value of  $\pi$ ) as the dependent variable. Comparison of the likelihoods then yields the best value of  $\pi$ . Calendar years of prostitution were then weighted by  $\pi$  for use in final univariate and multivariate Cox's proportional hazards modelling with time-dependent covariates. Subsequently, we used the estimate of  $\pi$  to calculate the protective effect provided by each calendar year of seronegative exposure for women beginning prostitution at different time points.

## Results

Of 620 initially seronegative women enrolled in the study, 424 were followed up for 1 to 10 years. 239 women seroconverted to HIV-1, despite prevention efforts.<sup>20</sup> The overall HIV-1 seroincidence was 42 per 100 person-years. In 1986, 12% of clients were HIV-1 seropositive;<sup>21</sup> the prevalence has since increased substantially. The average minimum number of unprotected sexual exposures to HIV-1 per year for women in the cohort was estimated to have increased from 24 in 1984 to 64 in 1994. Women followed up for the entire 10-year period of our study would have experienced about 500 unprotected exposures to HIV-1. This intense exposure is reflected in the very high rate of seroconversion during the first 2 years of follow-up (figure 1). As the number of HIV-1 exposures has increased over time, the risk of seroconversion should also have increased. However, after the first 2 years of follow-up, HIV-1 prevalence seems to reach a plateau and the incidence declines greatly and a fraction of women remain seronegative for as long as 10 years.

The three survival models fitted to the observed time to seroconversion are shown in figure 1. The exponential model, yielded  $a=-0.0013$  with a log-likelihood of 1772.9. The Weibull model yielded parameter estimates of  $a=-0.00589$  and  $b=0.77$  with a log-likelihood of 1758.6. The mixture model yielded parameter estimates of  $f=0.164$ ,  $a=-0.0021$  with a log-likelihood of 1753.7. Thus, both the mixture and Weibull models fit the data significantly better than the exponential model, with the mixture model yielding the better fit ( $\chi^2$  38.4,  $p<0.00001$ ). The observed plateau in HIV-1 prevalence is therefore not simply a chance finding. It may be indicative of heterogeneity in either exposure or susceptibility of HIV-1 infection.

If the risk of HIV-1 infection declines over time as a result of the selection of resistance, the degree of protection should be related to the extent of exposure. To examine this possibility, we compared the incidence of HIV-1 infection among women with different durations of prostitution ( $>3$  vs  $<3$  years), for calendar years 1989 to 1993. An increasing protective effect for each seronegative year of prostitution was observed (table 1).

The extent of exposure is proportional not only to the duration of prostitution, but also to HIV-1 prevalence among clients (increasing), the number of clients (constant), and condom use (increasing). We estimated  $\pi$ ,

|                                   | Hazard ratio (95% CI) | p       |
|-----------------------------------|-----------------------|---------|
| Age                               | 0.95 (0.93-0.98)      | <0.0001 |
| Years of prostitution             | 0.92 (0.89-0.96)      | <0.0001 |
| Adjusted years of prostitution    | 0.81 (0.77-0.85)      | <0.0001 |
| Sexual partners/day               | 0.98 (0.93-1.3)       | 0.54    |
| Number of regular sexual partners | 0.65 (0.1-4.1)        | 0.65    |
| Pregnancy                         | 0.94 (0.86-1.03)      | 0.2     |
| Oral contraceptive use            | 1.35 (0.93-1.9)       | 0.12    |
| Cervical ectopy                   | 0.99 (0.36-2.7)       | 0.98    |
| Condom use                        | 0.88 (0.78-0.99)      | 0.03    |
| Genital ulcers                    | 2.4 (1.84-3.16)       | <0.0001 |
| Gonococcal infection              | 2.1 (1.32-2.79)       | <0.0001 |
| Chlamydia infection               | 1.3 (0.55-3.3)        | 0.52    |
| Syphilis seroconversion           | 1.2 (0.9-1.7)         | 0.2     |
| Genital warts                     | 1.9 (0.71-5.2)        | 0.2     |

Table 2: Univariate Cox proportional hazards modelling of risk factors for HIV-1 seroconversion

the trend in HIV-1 infection pressure in the study cohort, as 0.12, which was significantly larger than 0 ( $p < 0.001$ , Cox maximum likelihood); thus the net effect of these trends is an increase in overall pressure of infection on the study cohort over the 10 years of follow-up. This value of  $\pi$  corresponds to a doubling in infection pressure every 5.8 years ( $\ln 2$  of 0.12) or an increase in the number of unprotected sexual exposures to HIV-1 by three fold; thus the estimates by this approach roughly agree with our direct estimates given above. Risk of HIV-1 seroconversion decreased with each calendar year of exposure (figure 2). For example, women who started to work as prostitutes in 1984 and who had not been infected with HIV-1 by the end of that year had a relative risk of HIV-1 seroconversion during 1985 of 0.79, compared with women who began prostitution in 1985. Similarly women who had 1 year of seronegative exposure at the beginning of 1993 had a relative risk of seroconversion during 1993 of 0.53 compared to women who started to work as prostitutes in 1993. The estimated cumulative protective effect, for women practising prostitution from 1984 to 1993 and remaining seronegative, compared with women who began prostitution in 1994, is very large (greater than 100 fold by the  $\beta$  coefficient from the Cox modelling in tables 2 or 3).

Although the risk of HIV-1 infection decreases with the duration of exposure, this decrease could be partly or wholly due to differences in sexual behaviour or immunity to sexually transmitted diseases that facilitate HIV-1 transmission. To examine this possibility, we did Cox proportional hazards modelling of the time to seroconversion with known and potential risk factors for HIV-1 infection and the weighted duration of prostitution as time varying covariates. The results of univariate Cox modelling are shown in table 2. Covariates significantly associated with increased or decreased risk of seroconversion by univariate Cox modelling or which are known to affect HIV-1 exposure risk (such as numbers of sexual partners and the number of regular sexual partners) and potential confounders were used in multivariate Cox modelling. Age, the weighted duration of prostitution, number of sexual partners, number of regular sexual partners, condom use, gonococcal cervicitis, and genital ulcers were included as independent variables in Cox modelling of the risk of HIV-1 seroconversion. Genital ulcers and gonococcal infections were significantly associated with an increased risk of HIV-1 seroconversion, whereas the weighted duration of prostitution was independently associated with a decreased risk of seroconversion (table 3). Each weighted year of exposure resulted in a 1.2-fold decrease in the risk of seroconversion. Other covariates were not significantly associated with HIV-1 seroconversion risk; thus the protective effect of increasing exposure is not explained by these factors. We examined separately the number of regular partners and condom use with regular partners among seroconverting and persistently seronegative women. Women who seroconverted were more likely to report one or more regular partners than women who remained seronegative (85 vs 71%, odds ratio 1.8 [95% CI 1.02–3.03],  $p = 0.048$ ) and were slightly more likely to report the use of condoms with regular partners than persistently seronegative women (26 vs 16%, 1.9 [0.7–5.0],  $p = 0.23$ ).

Having shown that the risk of HIV-1 infection decreases with time, we identified a group of 60 women, enrolled

into the study between 1985 and the end of 1990, who remained persistently seronegative for 3 or more years (range 3–10 years). PCR for HIV-1 proviral sequences was done on peripheral-blood immunonuclear cells from 43 of these women on one or more occasions (12, five, and two women were tested on two, three, and four occasions, respectively, with intervals of 9 months to 7.8 years) after they had been identified as persistently seronegative. All women were negative for all three primers. We classify these 43 women HIV-1-antibody and PCR-negative women resistant to HIV-1 infection. All 43 remain healthy with no clinical evidence of HIV-1 infection or immunodeficiency, and they have normal CD4 T-cell counts.

## Discussion

In our study, the incidence of HIV-1 seroconversion declined significantly with exposure to the virus and new seroconversions have become increasingly rare despite continued exposure, which is increasingly frequent. A small group of women have remained persistently seronegative. Survival modelling of the time to HIV-1 seroconversion indicates that this is not a chance phenomenon and that if all women were equally susceptible to infection, statistically, these seronegative women should be infected with HIV-1. There are three possible explanations for this phenomenon. First, these women may have escaped HIV-1 infection because they differ from women who seroconvert to HIV-1 with respect to sexual behaviours or susceptibility to transmission cofactors,<sup>15,22</sup> such as other sexually transmitted diseases. However, differences in condom use, the number of sexual partners, or the number of regular sexual partners did not explain the effect of cumulative exposure (weighted duration of prostitution) on the reduced risk of HIV-1 seroconversion. Although other sexually transmitted diseases were associated with an increased risk of HIV-1 infection, cumulative exposure (weighted duration of prostitution) was independently associated with a decrease in the risk of HIV-1 infection. Variation in HIV-1 susceptibility with respect to age is a possible confounder of the association between cumulative exposure and risk of infection. However, although age was associated with a decreased infection risk on univariate analysis, there was no independent association on multivariate analysis.

A second explanation for persistent seronegativity is that these women have seronegative HIV-1 infection.<sup>23</sup> In our experience,<sup>24</sup> as well as that of others<sup>25,26</sup> seronegative HIV-1 infection is infrequent and of finite duration. All women in this study whom we define as persistently seronegative are negative by HIV-1 PCR, some on multiple occasions, with normal CD4 cell counts. Although these women could have a cryptic HIV-1 infection in lymph nodes or some other site, undetectable by available methods, this possibility seems unlikely.<sup>27</sup> If these women are indeed infected they seem to have controlled HIV-1, whereas women in this study who do seroconvert to HIV-1 show rapid progression to immunodeficiency and AIDS.<sup>28</sup>

The third possibility, that these seronegative women are resistant to HIV-1 infection on some biological basis, seems to be the logical conclusion. Potential mechanisms mediating resistance can be postulated to be either immune or non-immune. Although evidence indicates that mutation in the CKR-5 HIV-1 co-receptor (the

receptor for chemokine RANTES and co-receptor for macrophage tropic HIV-1 strains) occurs with excess frequency in HIV-1 exposed uninfected white people and mediates cellular resistance to macrophage tropic viruses,<sup>30,31</sup> this mutation has not been found in African populations (R Koup, personal communication). Several studies have detected HIV-1 specific immune responses among HIV-1-exposed but uninfected individuals. Similar studies of HIV-1-resistant women show that a high proportion have HIV-1-specific cellular immune responses.<sup>29</sup> Since several different strains of HIV-1 (A, D and C, unpublished) are found in Kenya and since prostitutes are exposed to many variants within these strains through exposure to multiple partners, the epidemiological data suggest that, whatever the mechanisms of protection, they are broadly cross-protective. Elucidation of the protective mechanisms and factors mediating their development may be important in further study of protective immunity against HIV-1 and ultimately in the development of HIV-1 vaccines.

This work was supported by grants from the Medical Research Council of Canada and the Rockefeller Foundation. KRF is the recipient of a fellowship from the National Health Research Development Program (Canada), FAP a Senior Scientist award from the Medical Research Council of Canada, JNS a scholarship from the Manitoba Health Research Council and an American Foundation for AIDS Research Scholarship, and KM a fellowship from the Medical Research Council of Canada.

## References

- Borkowsky W, Krasinski K, Moore T, Papeavangelou V. Lymphocyte proliferative responses to HIV-1 envelope and core antigens by infected and uninfected adults and children. *AIDS Res Hum Retroviruses* 1990; 6: 673-78.
- Ranki A, Mattinen S, Yarchoan R, et al. T-cell response towards HIV in infected individuals with and without zidovudine therapy, and in HIV-exposed sexual partners. *AIDS* 1989; 3: 63-69.
- Clerici M, Giorgi JV, Chou C-C, et al. Cell-mediated immune response to human immunodeficiency virus (HIV) type 1 in seronegative homosexual men with recent sexual exposure to HIV-1. *J Infect Dis* 1992; 165: 1012-19.
- Barcellini W, Rizzardi GP, Velati C, et al. In vitro production of type 1 and type 2 cytokines by peripheral blood mononuclear cells from high-risk HIV-negative intravenous drug users. *AIDS* 1995; 9: 691-94.
- Clerici M, Shearer GM. A  $T_H1 \rightarrow T_H2$  switch is a critical step in the etiology of HIV infection. *Immunol Today* 1993; 14: 107-11.
- Salk J, Bretscher PA, Salk PL, Clerici M, Shearer GM. A strategy for prophylactic vaccination against HIV. *Science* 1993; 260: 1270-72.
- Cheyrier R, Langlade-Demoyen P, Marescot M-R, et al. Cytotoxic T lymphocyte responses in the peripheral blood of children born to human immunodeficiency virus-1-infected mothers. *Eur J Immunol* 1992; 22: 2211-17.
- Rowland-Jones SL, Nixon DF, Aldhous MC, et al. HIV-specific cytotoxic T-cell activity in an HIV-exposed but uninfected infants. *Lancet* 1993; 341: 860-61.
- Langlade-Demoyen P, Ngo-Giang-Huong N, Ferchal F, Oksenhendler E. Human immunodeficiency virus (HIV) *nef*-specific cytotoxic T lymphocytes in noninfected heterosexual contact of HIV-infected patients. *J Clin Invest* 1994; 93: 1293-97.
- Rowland-Jones S, Sutton J, Ariyoshi K, et al. HIV-specific cytotoxic T-cells in HIV-exposed but uninfected Gambian women. *Nat Med* 1995; 1: 59-64.
- Levy JA. HIV pathogenesis and long-term survival. *AIDS* 1993; 7: 1401-10.
- Travers K, Mboup S, Marlink R, et al. Natural protection against HIV-1 infection provided by HIV-2. *Science* 1995; 268: 1612-16.
- Simonsen JN, Plummer FA, Ngugi EN, et al. HIV infection among lower socioeconomic strata prostitutes in Nairobi. *AIDS* 1990; 4: 139-44.
- Fischl MA, Dickinson GM, Flanagan S, Fletcher MA. Human immunodeficiency virus (HIV) among female prostitutes in south Florida. II International Conference on AIDS Washington DC, June 3-5, 1987 (abstr W2-2).
- Plummer FA, Simonsen JN, Cameron DW, et al. Cofactors in male-female sexual transmission of human immunodeficiency virus type 1. *J Infect Dis* 1991; 163: 233-39.
- Dawood MR, Allan R, Fowke K, Embree J, Hammond GW. Development of oligonucleotide primers and probes against structural and regulatory genes of human immunodeficiency virus type 1 (HIV-1) and their use for amplification of HIV-1 provirus by using polymerase chain reaction. *J Clin Microbiol* 1992; 30: 2279-83.
- Ou C-Y, Kwok S, Mitchell SW, et al. DNA amplification for direct detection of HIV-1 in DNA of peripheral blood mononuclear cells. *Science* 1988; 239: 295-97.
- Fowke K, Mohammed Z, Plummer FA. detection of HIV-1 sequences in lymphocyte DNA from African specimens of the polymerase chain reaction (PCR). Presented at the Fifth International Conference on AIDS in Africa, Kinshasa, Zaire, Oct 10-12, 1990 (abstr FPC 29).
- Elandt-Johnson RC, Johnson NL. Survival models and data analysis. New York: John Wiley, 1980.
- Ngugi EN, Plummer FA, Simonsen JN, et al. Prevention of HIV transmission in Africa: effectiveness of condom promotion and health education among high-risk prostitutes. *Lancet* 1988; ii: 887-90.
- Simonsen JN, Cameron DW, Gakinya MN, et al. Human immunodeficiency virus infection among men with sexually transmitted diseases: experience from a centre in Africa. *N Engl J Med* 1988; 319: 274-87.
- Laga M, Manoka A, Kivuvu M, et al. Non-ulcerative sexually transmitted diseases as risk factors for HIV-1 transmission in women: results from a cohort study. *AIDS* 1993; 7: 95-102.
- Imagawa DT, Lee MH, Wolinsky SM, et al. Human immunodeficiency virus type 1 infection in homosexual men who remain seronegative for prolonged periods. *N Engl J Med* 1989; 320: 1458-62.
- Willerford DM, Bwayo JJ, Hensel M, et al. Human immunodeficiency virus infection among high-risk seronegative prostitutes in Nairobi. *J Infect Dis* 1993; 167: 1414-17.
- Pan L-Z, Sheppard HW, Winkelstein W, Levy JA. Lack of detection of human immunodeficiency virus in persistently seronegative homosexual men with high or medium risks for infection. *J Infect Dis* 1991; 164: 962-64.
- Bruisten SM, Koppelman MHGM, Dekker JT, et al. Concordance of human immunodeficiency virus detection by polymerase chain reaction and by serologic assays in Dutch cohort of seronegative homosexual men. *J Infect Dis* 1992; 166: 620-22.
- Pantaleo G, Graziosi C, Demarest JF, et al. HIV infection is active and progressive in lymphoid tissue during the clinically latent stage of disease. *Nature* 1993; 362: 355-58.
- Anzala OA, Nagelkerke NJD, Bwayo JJ, et al. Rapid progression to disease in African sex workers with human immunodeficiency virus type 1 infection. *J Infect Dis* 1995; 171: 686-89.
- Fowke KR, Rutherford J, Ball B, et al. Cellular immune responses correlate with protection against HIV-1 among women resistant to infection [5th Annual Canadian conference on HIV/AIDS Research]. *Can J Infect Dis* 1995; 6: 8B (abstr 138).
- Paxton WA, Martin SR, Tse D, et al. Relative resistance to HIV-1 infection in CD4 lymphocytes from persons who remain uninfected despite multiple high-risk sexual exposures. *Nat Med* 1996; 3: 412-17.
- Dean M, Carrington M, Winkler C, et al. Genetic restriction of HIV-1 infection and progression to AIDS by a deletion allele of CKR5 structural gene. *Science* 1996; 273: 1856-62.